



CURRENT AFFAIRS, 13TH TO 26TH SEPTEMBER, 2020

DreamIAS



TABLE OF CONTENTS

International	7
<i>No decision on Assange extradition before U.S. poll'</i>	7
<i>U.S. proposes changes to student, media visas</i>	7
<i>The law that Trump supporters want him to use if he loses Nov 3 elections</i>	7
<i>Trump's 1776 Commission to promote 'patriotic education' in the US</i>	8
<i>Why the US celebrates National Hispanic Heritage Month every year</i>	9
<i>This is Kim Kardashian is freezing her Instagram, Facebook accounts</i>	9
<i>A spectre is haunting Brexit</i>	11
<i>Why Barbados wants to remove Queen Elizabeth II as its head of state</i>	12
<i>Continuity in change</i>	14
<i>China vows to go carbon neutral by 2060</i>	14
<i>Labour scheme in Tibet has echoes of Xinjiang</i>	14
<i>Abraham Accords</i>	15
<i>Why has Iran executed wrestler Navid Afkari?</i>	17
<i>Why Peru President Martín Vizcarra is facing impeachment</i>	17
<i>Jerusalem Challenge</i>	19
<i>Paul Rusesabagina: Why the subject of movie 'Hotel Rwanda' faces terrorism charges</i>	20
<i>The birth of the United Nations, and its growth in the last 75 years</i>	21
<i>A push for reform</i>	22
<i>Great power, little responsibility (Sreeram Chaulia - Dean, Jindal School of International Affairs)</i>	23
Foreign Affairs	25
<i>U.S. keen on finalising BECA at 2+2 dialogue</i>	25
<i>The cost of peace</i>	26
<i>Another Afghan peace push and a role for India</i>	27



<i>Indus Water Treaty at 60</i>	28
<i>Why Nepal and China are measuring the height of Mt Everest again</i>	29
<i>As China, Nepal tensions rise, how Uttarakhand is upgrading defence infra on the border</i>	31
<i>The nature of the cyber security threat from China</i>	31
<i>Exploiting the Chinese exit (Siddharth Pai - founder of Siana Capital, a venture capital firm focused on Indian Deep Tech and Science)</i>	34
<i>Terms of disengagement</i>	35
Nation	37
<i>contemp of court</i>	37
<i>Truth Fund to provide legal aid in fight for free speech</i>	37
<i>new labour code</i>	38
<i>Roles, limitations of Select Committees and other parliamentary panels (Chakshu Roy - Head of Legislative and Civic Engagement at PRS Legislative Research)</i>	41
<i>history of Question Hour</i>	42
<i>A point of order</i>	43
<i>When can MPs be suspended from the House? What Rules are followed in the process?</i>	43
<i>Redefining essential items: Why it was needed, and who it will impact</i>	46
<i>Here's why the government has banned the export of onions</i>	47
<i>Foreign funds & NGOs</i>	48
<i>Amid Oppn. concerns, Lok Sabha passes FCRA Bill</i>	50
<i>The farmer — a field report</i>	51
<i>It's a no green signal from the farm world (Himanshu - Associate Professor, Centre for Economic Studies and Planning, School of Social Sciences, Jawaharlal Nehru University, New Delhi)</i>	52
<i>The basis of MSP: How is it fixed, and how binding is it?</i>	54
<i>Maharashtra govt's pre-season loan guarantee for 32 sugar co-op mills</i>	56
<i>What was Maharashtra's 70:30 system of medical admissions, and why was it scrapped?</i>	57
<i>Noida film city plans and UP govt's efforts to promote filmmaking</i>	58



<i>What is UP's new Special Security Force, and why has it been criticised?</i>	59
<i>700-plus places in India that bear the names of Mughals today</i>	61
<i>The reason of Mamata Banerjee's Rs 1,000 sop for Brahmin priests</i>	62
<i>Eggs or not: Why Madhya Pradesh is debating anganwadi meals again</i>	64
<i>Covid-19 reaches remote tribes of Odisha: why it's a matter of concern</i>	65
<i>INS Viraat final journey and what lies ahead</i>	67
<i>Science behind air-breathing scramjet engine</i>	68
<i>Women in armed forces: new strides, miles to go</i>	69
<i>How Indian Army is screening women officers for Permanent Commission</i>	70
<i>How NHAI plans to monetise its highways through InvITs</i>	72
<i>Internet connection in the rain</i>	73
<i>Paytm goes from Play Store, how are you affected?</i>	75
<i>Now, take a virtual tour of water lily fields in Kottayam</i>	76
<i>Centre opposes move to recognise same-sex unions</i>	76
<i>A keen look at groundbreaking inventions in ICT</i>	77
<i>Can a person be booked under NDPS Act based on WhatsApp chats?</i>	78
<i>Can data deleted from your phone be recovered using forensic cloning?</i>	80
<i>Won technically, lost morally (R.K. Vij - senior IPS officer in Chhattisgarh)</i>	82
<i>A neglected temple's transition over the centuries</i>	83
Business & Economics	84
<i>World Bank seeks 'universal eligibility'</i>	84
<i>For a different yardstick (Vinod Thomas - Distinguished Fellow, Asian Institute of Management, Manila; and former Senior Vice President, Independent Evaluation, World Bank)</i>	84
<i>Ease of doing business: how states are ranked, and what's different now</i>	85
<i>Govt. looks to spend ₹2.35 lakh cr. more</i>	87
<i>Cess pool</i>	87



Govt. extends IBC pause by 3 months	88
IRDAI lists LIC, GIC, New India as systemically important	88
One intermediary, many insurers (K. Nitya Kalyani - business journalist specialising in insurance & corporate history).....	89
Sebi's multicap directive — why are mutual funds unhappy?	90
Retrospective taxation: the Vodafone case, and the Hague court ruling	92
Country-of-origin: onus is on importers	93
The impending exit of Shapoorji Pallonji from Tata, and what happens now	94
Life & Science	96
Reading life signature on Venus	96
NASA is planning to send humans to moon again by 2024	98
Solar cycle 25: The scientific community's forecast about its intensity and peak.....	99
Rusty Moon.....	101
Why it is important to save a declining river species.....	101
How African Sahara amplified a drought in Asia.....	103
What is Blood Gold, and why is an ancient Amazon tribe talking to Indians about it?	103
Who is Magawa, the first rat to be awarded a gold medal for bravery?	105
Bacteria behind deaths of 330 Botswana elephants	105
Why have hundreds of whales died in Australia?.....	106
Will ruling against Caster Semenya see intersex athletes switching events?	106
What is #CancelNetflix all about?.....	108
The UN's guidelines on access to social justice for people with disabilities.....	109
Inhaling polluted air can lead to brain damage.....	110
Study links rice intake to diabetes.....	111
All you need to know about colon cancer	112
What is brucellosis, the bacterial disease that has infected thousands in China?.....	113



<i>What is serial interval, and how can it be managed to control Covid-19?</i>	<i>114</i>
<i>Need for caution</i>	<i>115</i>
<i>What is the reason for decreased influenza activity during the pandemic?</i>	<i>116</i>
<i>Sleep apnoea may increase risk for Covid-19 patients.....</i>	<i>116</i>
<i>Substance use disorders linked to Covid-19 vulnerability</i>	<i>117</i>
<i>How obesity impairs body's ability to fight Covid-19 infection.....</i>	<i>117</i>
<i>Graphene mask inactivates coronaviruses under sunlight</i>	<i>117</i>
<i>1 in 100 Covid-19 patients found to have punctured lungs</i>	<i>118</i>
<i>How steroids act in Covid-19 cases.....</i>	<i>118</i>
<i>Is COVID-19 setting off a bradykinin storm in the body?</i>	<i>118</i>
<i>Second case of confirmed coronavirus reinfection reported.....</i>	<i>119</i>
<i>A robot to measure Covid-19 patients' vital signs</i>	<i>121</i>

DreamIAS



INTERNATIONAL

NO DECISION ON ASSANGE EXTRADITION BEFORE U.S. POLL'

WikiLeaks founder Julian Assange will have to wait until after the U.S. election to find out whether he will be extradited to face espionage charges there, the British judge presiding over his hearing said on Friday. Mr. Assange faces 18 charges in the U.S. relating to the 2010 release by WikiLeaks of 5,00,000 secret files detailing aspects of military campaigns in Afghanistan and Iraq. Washington claims Mr. Assange helped intelligence analyst and whistleblower Chelsea Manning to steal the documents before exposing confidential sources around the world.

U.S. PROPOSES CHANGES TO STUDENT, MEDIA VISAS

In line with the Trump administration's progressive restrictions on visas, the U.S. Department of Homeland Security (DHS) has proposed a rule limiting the duration of initial admission for foreign media (I visas), students (F visas) and exchange visitors (J visas). The rule proposes fixed time periods and extension periods for the three visa categories, which currently operate under the "duration of status" framework. Under the present system, visa holders in these categories are allowed to remain in the U.S. for as long as the conditions of admission are met (for example, as long as an F visa holder is enrolled in a university and meeting other conditions). This rule, if finalised, will change that. Under the new proposed rule, F and J students would be admitted for an initial period of four years only (the normal duration of an American undergraduate degree). This rule is likely to mean that Ph.D. students — who typically need more than four years to complete their programme in America — will need to apply for extensions. There are some exceptions to the four-year rule. The duration of stay will be two years for those from countries with visa-overstay rates greater than 10% and those non-U.S. citizens either born in or holding citizenship of a country on the State Sponsors of Terrorism list. F and J students already admitted will have their "duration of status" (i.e., "D/S" is stamped at the port of entry in travel documents) terms converted to a term ending with the end of their programme (not to exceed four years) if and when the proposed DHS rule becomes final. Most countries with the highest over-stay rates are from Africa and none are in Europe (U.S. fiscal year 2018), according to a analysis done by immigration firm Boundless. As per the proposal published in the federal register, the rule would help limit fraud in the F-1 programme. For the media visas, under the proposal foreign journalists would have to apply again at the end of their limited duration of stay for an extension "at which point immigration officers can review their activities in the United States," the proposed rule says. **President Donald Trump has had a strained relationship with the media and the current rule could theoretically place journalists who have written critical pieces on the president or administration in a vulnerable position.** Foreign media visa holders will initially be admitted for a period not exceeding 240 days with "an opportunity to extend their stay for a maximum of 240 days based on the length of relevant activities," the statement said. The proposed rule is open to the public for comments until October 26, 2020.

THE LAW THAT TRUMP SUPPORTERS WANT HIM TO USE IF HE LOSES NOV 3 ELECTIONS

Republican strategist and convicted felon Roger Stone, whose 40-month prison sentence was commuted by President Donald Trump in July, suggested last week that Trump should enforce martial law in the US and seize power if he loses the November-3 election. Trump, who is trailing



Democratic presidential candidate Joe Biden in the presidential polls, has repeatedly cast uncertainty on whether he would accept the election results. “The only way we’re going to lose this election is if the election is rigged,” he said last month. Stone, who calls himself a “dirty trickster” and an “agent provocateur”, is a long-time ally of Trump, and was sentenced in November 2019 for trying to help Trump evade taking responsibility in allegations that his 2016 presidential campaign conspired with Russia. Speaking to the conspiracy theory website InfoWars last week, Stone said that Trump should invoke the Insurrection Act of 1807 and arrest Hillary and Bill Clinton, Democratic party heavyweight Harry Reid, Mark Zuckerberg of Facebook, Tim Cook of Apple and “anybody else who can be proven to be involved in illegal activity”. Trump echoed the sentiment during a Fox News interview, saying that if left-wing protests sweep the US in the event of his winning re-election, he would use the Act to “put down” the demonstrations and unrest “within minutes”.

What is the Insurrection Act of 1807?

Under the US Constitution, the governors of states are responsible for maintaining law and order within state boundaries. A law called the Posse Comitatus Act, which reflects this principle, restricts the federal military’s participation in domestic law enforcement. *The Insurrection Act creates an exception to the Posse Comitatus Act, according to Reuters. The Insurrection Act was framed during the era of Thomas Jefferson, the third US President, to prevent a suspected rebellion by Aaron Burr, his former vice-president, according to The Washington Post.* The law has since been amended several times, and now consists of a group of statutes that empower the US President to use the National Guard or the military to deal with domestic crises, in certain circumstances. The President does not require the state governor’s approval to send troops under some scenarios laid down by the law, as per an expert who spoke to Reuters. A successful legal challenge to such use of the law is also “very unlikely”, the expert said. Although the Act has been enforced on numerous occasions in US history, its use in recent decades has been widely seen as unpopular. It has been used sparingly since the 1960s, and was last invoked during the Rodney King unrest of 1992.

Has Trump ever tried to use the Act?

The Trump administration did contemplate using it for dealing with nationwide protests following the death of George Floyd this year. The plan received pushback from several quarters, including the military establishment, and was eventually dropped. In July, however, Trump did send federal agents to deal with protests in Portland, Oregon, against the wishes of state and local officials, and did not rely on the Insurrection Act to do so. Some analysts see the controversial decision as a trial run by Trump, who they say would act similarly on a much larger scale should things not turn out in his favour after November 3.

TRUMP’S 1776 COMMISSION TO PROMOTE ‘PATRIOTIC EDUCATION’ IN THE US

In a move aimed at pleasing his conservative voter base less than two months before the November 3 election, US President Donald Trump signed an executive order to set up a “national commission to promote patriotic education” in the US. The initiative, dubbed the ‘1776 Commission’, is an apparent counter to The 1619 Project, a Pulitzer Prize-winning collection of essays on African American history of the past four centuries, which explores the Black community’s contribution in nation-building since the era of slavery to modern times. Trump announced the move at a history conference celebrating the 233rd anniversary of the signing of the US Constitution (on September



17, 1787); the document being written in the decade after the original 13 colonies declared independence from the British Empire in 1776.

WHY THE US CELEBRATES NATIONAL HISPANIC HERITAGE MONTH EVERY YEAR

The National Hispanic Heritage Month began in the US. The annual event, which honours the history, culture and contributions of American citizens whose ancestors hailed from Spain, Mexico, the Caribbean and Central and South America, is marked every year from September 15 to October 15. The observation was started by President Lyndon Johnson in 1968 as Hispanic Heritage Week, and was extended to an entire month by President Ronald Reagan in 1988, the year it was enacted into law. According to its official website, the Hispanic Heritage Month “pays tribute to the generations of Hispanic Americans who have positively influenced and enriched our nation and society.”

Significance of the Hispanic Heritage Month

The Hispanic Heritage Month begins in the middle (and not at the beginning) of September, because of the significance September 15 holds in Latin American history — being the Independence Day of Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua. The five Central American nations declared their independence from Spain together on September 15, 1821. The next two days— September 16 and September 18— are also important, being the Independence Days of Mexico and Chile, respectively. Both became free from Spanish rule in 1810 at the height of the Napoleonic Wars (1803-1815). Another nation on the American continent, Belize, became independent from Great Britain on September 21, 1981. Columbus Day or Día de la Raza, a culturally important celebration, also falls on October 12 during the 30-day period. Every year, events honouring Hispanic American art and culture are organised by several institutions, including The Library of Congress, National Archives and Records Administration, National Endowment for the Humanities, National Gallery of Art, National Park Service, Smithsonian Institution and United States Holocaust Memorial Museum, according to a TIME report.

Hispanics in the US

With a population of over 5.7 crore, Hispanic Americans are currently the largest minority group in the US, making up a fifth of the total US population, according to the Pew Research Center. More than half— 3.5 crore— are of Mexican origin, followed by Puerto Rican (53 lakh), and about 10 lakh each of Salvadorans, Cubans, Dominicans, Guatemalans and Colombians. The community is referred to as Hispanic, Latino or Latinx— terms that refer to a person’s origin or culture, without considering their race. According to History.com, in the US Census of 2020, those who could identify their origin as Mexican, Mexican American, Chicano, Puerto Rican, Cuban, or “another Hispanic, Latino, or Spanish origin”, were counted as Hispanic or Latino or Spanish.

THIS IS KIM KARDASHIAN IS FREEZING HER INSTAGRAM, FACEBOOK ACCOUNTS

Reality TV star and businesswoman Kim Kardashian West has joined a slew of Hollywood celebrities who have pledged to boycott Facebook and Instagram for 24 hours to protest against the spread of misinformation and hate speech on the platforms ahead of the US presidential election. The boycott is part of the ‘Stop Hate for Profit’ campaign, which was started by a coalition of US-based civil rights groups in June to urge businesses — both big and small — to stop running ads on Facebook and



Instagram. Some of the world's most prominent corporates, including global consumer goods giants Unilever and Coca-Cola Co., added their names to the list of nearly 100 companies that have pulled their advertising dollars from both platforms in recent months. Now the campaign has been endorsed by dozens of top celebrities, who have participated in the stand-off by freezing their social media accounts on Wednesday in order to raise awareness.

What did Kim Kardashian say?

With over 188 million followers on Instagram and 29 million likes on her official Facebook page, Kim Kardashian West is one of the most popular celebrities on social media. On Tuesday, Kim made waves online when she announced that she would be suspending her accounts for a day to protest against disinformation and hate speech on both Facebook-owned platforms. "I love that I can connect directly with you through Instagram and Facebook, but I can't sit by and stay silent while these platforms continue to allow the spreading of hate, propaganda and misinformation — created by groups to sow division and split America apart," her tweet read. "Misinformation shared on social media has a serious impact on our elections and undermines our democracy. Please join me tomorrow when I will be "freezing" my Instagram and FB account to tell Facebook to #StopHateForProfit," she added. The businesswoman has previously revealed that she earns up to \$1 million for a single Instagram post promoting a brand or product. Many critics have slammed Kim, calling the move a mere publicity stunt.

What is the 'Stop Hate for Profit' campaign?

In the wake of nationwide anti-racism protests sparked by the custodial killing of unarmed African American George Floyd in Minneapolis, a coalition of some of the US' most prominent civil rights groups accused Facebook of doing little to contain the spread of racist content online. "(Facebook) allowed incitement to violence against protesters fighting for racial justice in America in the wake of George Floyd, Breonna Taylor, Tony McDade, Ahmaud Arbery, Rayshard Brooks and so many others," a statement on the campaign's website reads. "99% of Facebook's \$70 billion is made through advertising. Who will advertisers stand with? Let's send Facebook a powerful message: Your profits will never be worth promoting hate, bigotry, racism, antisemitism and violence," it says, urging businesses to pull their ads from the platform. The campaign gained significant steam with major brand names like US ice cream manufacturer Ben & Jerry's, movie distributor Magnolia Pictures, and outdoor apparel brand Northface joining the league of businesses boycotting ads on Facebook. However, it was when telecom giant Verizon announced that it was suspending advertising on the social media site that Facebook's content moderation issues really began to take centre stage. In the run-up to the 2020 US presidential election, the organisers of the campaign fear that a highly polarised audience on social media could increase the potential for spreading misinformation and discriminatory content. "In the run-up to the 2020 US presidential election, the organisers of the campaign fear that a highly-polarised audience on social media could increase the potential for spreading misinformation and discriminatory content," the group wrote in a recent statement, according to the BBC. "Facebook's unchecked and vague 'changes' are falling dangerously short of what is necessary to protect our democracy."

How has Facebook reacted to the campaign?

Amidst the growing pressure campaign, Facebook CEO Mark Zuckerberg in June announced that the social media platform was tightening its content moderation policies to better tackle hate speech and misinformation online. During a livestream, Zuckerberg announced a number of



initiatives that his company was introducing to quell growing concerns about hate speech. He claimed that both Instagram and Facebook will up its efforts to protect the interests of marginalised groups and minorities — immigrants, migrants, refugees, among others. Zuckerberg stressed that posts that “may lead to violence or deprive people of their right to vote” will be taken down regardless of who has shared the post or whether it is newsworthy. They will also introduce a link to its voting information centre on posts which mention voting — including those shared by politicians. *Following the boycott by major corporates, Facebook's shares fell dramatically. Soon after Unilever announced that it would stop spending ad revenue on Facebook, the social media platform's shares plummeted by 8.3% — the biggest drop it has seen in three months.* According to reports by US media, Zuckerberg's personal net worth reduced by approximately \$7.2 billion, BBC reported. However, experts have said that the campaign is unlikely to impact the company's bottom line in the long run. It will however, make a significant impact by raising awareness, particularly amongst the youth.

A SPECTRE IS HAUNTING BREXIT

The spectre of Britain's cliff-edge exit from the EU — which has loomed large almost since the June 2016 referendum — has returned, months before the country's scheduled departure on December 31. But this is not the most significant feature of this week's controversial legislation, which aims to override the Irish protocol to the U.K.'s EU withdrawal agreement. With the new Bill, the government seeks to overwrite parts of the withdrawal agreement, which Prime Minister Boris Johnson struck with his 27 counterparts last October. The agreement had sought to avoid a hard border coming up between Northern Ireland, which is part of the U.K., and the Irish Republic, an EU member. According to the Northern Ireland protocol, which is part of the agreement, the region is expected to follow some EU rules in trade with the Republic of Ireland. The new law, the Internal Market and Finances Bill, could override the legal force of the withdrawal agreement, which has triggered angry responses from Belfast.



Political integrity

A precise determination of the status of Northern Ireland after Britain's departure from the EU is most consequential at many levels. As a constituent territory of Britain, the region underpins the country's overall identity and constitutional and political integrity. Northern Ireland's relations with Great Britain and historical links with the Republic of Ireland to the south exert strong influence on the



future of the tenuous peace that has prevailed across the island of Ireland since the *1998 Good Friday agreement*. And, given the emerging geopolitical configuration after Britain's exit, the promotion of Dublin's interests within the EU are vital for the preservation of the centrepiece of European post-war integration, the lucrative single market. Ensuring the continuation of the existing soft border between the Republic of Ireland and Northern Ireland in the changed circumstances arising from Britain's exit from the bloc is thus paramount for overall stability. To this end, *London and Brussels initially negotiated a temporary Irish backstop in 2017-18 wherein, the whole of the U.K. would continue in the EU customs union until an alternative was in place*. Neither the trade-only-in-goods that this arrangement implied, nor the severe limits on concluding trade pacts with third countries was palatable for both hard Brexiters and even pro-remain politicians across parties. So contentious were the parliamentary debates over this withdrawal deal that three versions were defeated by massive margins in the House of Commons. The prolonged political turmoil pushed Britain's EU exit deadlines at least thrice and eventually forced former Prime Minister Theresa May to step down in June 2019.

Alternative plan

Mr. Johnson's alternative to the backstop was the establishment of customs checks on the Irish Sea to regulate the flow of goods in and out of Great Britain from Northern Ireland and vice versa. Dublin would have the best of both worlds, being brought under dual jurisdiction of the EU and the U.K. to safeguard Britain's constitutional integrity and sovereignty, as also that of the European single market. Following the massive majority Mr. Johnson secured in the December 2020 general election, which was evidently a vote for Brexit, any dissenting voice from Northern Ireland's hard-line Democratic Unionist Party were muted. The government now claims it was unaware of the onerous provisions in the Irish protocol requiring close regulatory alignment with the EU when the withdrawal deal was sealed during the tumultuous atmosphere in January. Accordingly, the amendments to the protocol tabled in the internal market Bill this week seek to empower authorities to sidestep EU jurisdiction in the areas of customs and state subsidies for industries. Mr. Johnson has defended the move as necessary to protect the country from external dangers. Although the government has refused to retract modifications to the Irish protocol, it is likely that this was an act of brinkmanship on the part of Mr. Johnson. The legislation could well be another ploy to secure relaxations on EU demands for greater access to Britain's fisheries market. But then the present government is dominated by members who strongly back Brexit even without a deal.

WHY BARBADOS WANTS TO REMOVE QUEEN ELIZABETH II AS ITS HEAD OF STATE

Queen Elizabeth II, who is the head of state in the UK and 15 other Commonwealth realms, including Canada, Australia and New Zealand, will be dropped as monarch by Barbados next year. Before it celebrates its 55th anniversary of independence from British rule in November 2021, the prosperous West Indies nation will make history by becoming the first country in almost three decades to sever ties with the British royal family and become a republic; Mauritius being the last to do so in 1992. Sandra Mason, the Governor-General of Barbados, said Tuesday in a speech written by Prime Minister Mia Mottley that "the time has come to fully leave our colonial past behind," and announced that the country would be fully transitioning to a republican system. Mottley, who has been prime minister since 2018, is the first female to hold the post.



Why Barbados wants to become a republic

After Barbados became independent in 1966 after 341 years of British rule, it chose to retain a formal link with the British royal family, as did other self-governing Commonwealth nations such as Canada and Australia. However, the decision to not sever ties completely was not without controversy, and even the first prime



minister of Barbados, Errol Barrow, said that the country should not “loiter on colonial premises”. In 1998, a constitutional review commission in the country recommended that Barbados become a republic. Before Prime Minister Mottley, the move was also championed by her predecessor Freundel Stuart. So, this week’s announcement does not come as a surprise to Britain, and both the British royal family and the UK foreign ministry have reacted by saying that the decision was up to the people of Barbados. *The Caribbean nation is, however, expected to remain a member of the Commonwealth of Nations, the 54-nation club of mostly former British colonies which is led by the queen, and includes India.* The Governor-General of Barbados, who represents the Queen at formal events, said in the Tuesday speech on behalf of the nation’s ruling government, “Barbadians want a Barbadian Head of State.”

What is the significance of the move?

When Barbados decided to retain the British monarch as head of state even after achieving independence, it was seen as a strategic move to maintain close ties with the United Kingdom. However, many thought of the link as a lingering symbol of imperialism and racism– a view that seems to have become overwhelmingly popular today. *Experts have also said that move could have received an impetus thanks to the Black Lives Matter movement and its worldwide anti-racism protests after the death of George Floyd in the US in May. In the Caribbean region, Barbados will now follow the lead of Guyana, who dropped the queen as head of state in 1970, Trinidad and Tobago in 1976 and Dominica in 1978. The decision could also have an effect on Jamaica, whose prime minister has pledged to hold a referendum on the topic.*

When the same royals were ‘Emperors’ of India

When the British ruled India, the Queen’s family, known as the House of Windsor, held the title of ‘Emperor/Empress of India’ from 1876 when Victoria was the ruling monarch. The last person in the family styled as ‘Emperor’ of India was George VI, Queen Elizabeth II’s father. The Windsors’ legal ties with India were severed after the country became a republic in 1950, but continued with Pakistan, which did not adopt its first constitution until 1956, and Elizabeth II officially served as the country’s ‘Queen’ for four years after her coronation in 1952.



CONTINUITY IN CHANGE

Less than a month after his sudden announcement that he would step down due to health reasons, Japan's longest serving Prime Minister, Shinzo Abe, 65, has passed on the baton to his long-term associate, *Yoshihide Suga, 71*. Mr. Suga promises continuity rather than change as he takes the reins. His choice is itself an indicator of that continuity: he has been Chief Cabinet Secretary since 2012, as well as the top spokesperson and a key implementer of Mr. Abe's policies. An elected MP since 1996, Mr. Suga was Minister of State for Internal Affairs and Communications during Mr. Abe's previous tenure in 2006-07. In his press conference after winning the leadership of the ruling Liberal Democratic Party this week, Mr. Suga said his goal is to continue with Mr. Abe's policies and complete his goals, particularly the tasks of reviving the economy and controlling the COVID-19 pandemic. He has also retained Mr. Abe's key cabinet choices which include the Finance, Foreign and Environment Ministers. Despite his best intentions to stay the course, he has taken charge at a crucial moment in a rapidly changing world and will need to steer through the outcome of the U.S. elections in November, China's growing aggressiveness, and a worldwide economic downturn. A main challenge will be to ensure the success of the Tokyo Olympics, now rescheduled for July 2021 due to the pandemic.

CHINA VOWS TO GO CARBON NEUTRAL BY 2060

The U.S. is guilty of "obstructing" the global fight against emissions, China said, as Beijing seized the climate agenda by vowing to go carbon neutral by 2060, a target welcomed by environmentalists despite its patchy detail. The goals, which include a pledge to reach peak emissions in 2030, are the most concrete ones yet announced by China, which is the world's biggest polluter and accounts for a quarter of the planet's greenhouse gas emissions. They also open a new divergence in relations with the U.S., which are already pinched by squabbles over trade, tech, defence and human rights. Speaking to the United Nations (UN) General Assembly, Chinese President Xi Jinping renewed his support for the Paris climate accord and called for a 'green focus' as the world recovers from the COVID-19 crisis. *Under President Donald Trump, the United States, the world's second-largest polluter, pulled out of the agreement, blaming China for the stalled momentum on tackling global emissions. "This clearly ... seriously obstructs the progress of reducing global emissions," China's Foreign Ministry spokesman Wang Wenbin said in a statement. "What qualifications does such a country have to criticise China," he asked, citing U.S.'s hunger for plastics and its export of waste. In his speech to the UN, Mr. Xi said China aims to have "CO2 emissions peak before 2030 and achieve carbon neutrality before 2060".*

LABOUR SCHEME IN TIBET HAS ECHOES OF XINJIANG

China is forcing Tibetan farmers and herders into labour programmes similar to those used in troubled Xinjiang, a U.S. research institute alleged on Tuesday. The moves risk a "loss of cultural heritage" in the politically sensitive region, the group's report warned. Authorities in Tibet, a predominantly Buddhist area, have touted the scheme — which puts rural workers to task in factories — as a tool for poverty alleviation. They say this is in line with President Xi Jinping's goal of eradicating extreme poverty by the end of 2020. But researchers at the Jamestown Foundation said "militarised vocational training" is also a form of ideological indoctrination and assimilation towards ethnic Tibetans, who make up 90% of the remote border region's population. It said more than 500,000 rural labourers — mainly herders and subsistence farmers — were trained in the



first seven months of 2020, with each county assigned quotas. It didn't cite any comparable figures for previous years. The training schemes aim to instil "work discipline, Chinese language and work ethics", according to a 2019 Chinese government action plan quoted in the report.

'Eliminate lazy people'

A 2018 report by the Nagqu city government also states that the purpose of the labour transfer scheme is to "effectively eliminate lazy people". Companies that fulfil the hiring quota for workers are offered up to 500,000 yuan (about \$75,000), the report said, while herders and farmers are also encouraged by the scheme to hand over their livestock and land to large state-run cooperatives. "In the context of Beijing's increasingly assimilatory ethnic minority policy, it is likely that these policies will promote a long-term loss of linguistic, cultural and spiritual heritage," wrote the report's author Adrian Zenz, a researcher at the U.S.-based Victims of Communism Memorial Foundation. The report claims there are similarities with labour schemes in the troubled Xinjiang region. The scale of the Tibetan work scheme is still dwarfed by that of Xinjiang — which trained an average of 1.29 million workers each year between 2014 and 2019, according to a government white paper released last week.

ABRAHAM ACCORDS

The so-called Abraham Accords, signed in the White House by the UAE, Bahrain and Israel, under U.S. President Donald Trump's mediation, clearly mark a new beginning in the relations between the Sunni-ruled Gulf kingdoms and the Jewish state. Under the agreement, the UAE and Bahrain would normalise ties with Israel, heralding better economic, political and security engagement. There are speculations that more Arab countries, from Morocco to Sudan and Oman, might follow the footsteps of the UAE and Bahrain. The agreements have the backing of Saudi Arabia, arguably the most influential Arab power and a close ally of the UAE and Bahrain. The ailing, octogenarian ruler of the Kingdom, Salman bin Abdulaziz, is treading cautiously for now, but Riyadh has opened its airspace for commercial flights between the UAE and Israel. *The accords, the first between Israel and Arab countries since the 1994 Jordan-Israel peace treaty*, also offer a rare diplomatic win to Mr. Trump, whose other foreign policy bets, be it Iran or North Korea, were either disastrous or stagnant. With less than 50 days to go before his re-election bid, he has called the agreements "the new dawn of a new Middle East".

Till the UAE-Israel deal was announced on August 13, the official Arab position on the question of Palestine was rooted in the Arab Peace Initiative, proposed by Saudi Arabia in 2002, and endorsed by the Arab League in the same year. The proposal calls for normalising relations between the Arab world and Israel, in exchange for full Israeli withdrawal from the territories it captured in the 1967 war, including the West Bank, Gaza and the Golan Heights, a "just settlement" of the Palestinian refugee issue and the establishment of an independent Palestinian state with East Jerusalem as its capital. "Since 2002, both the UAE and Bahrain have supported the Arab Peace Initiative. However, the recent agreements made by Bahrain and the UAE break with this consensus. The Abraham Accords [Israel-UAE deal] require Israel only to 'temporarily halt' its formal annexation of the West Bank [settlements]. The agreement between Bahrain and Israel dispenses with the pretence altogether, making no mention of Palestinian land," said Elham Fakhro, senior Gulf analyst at the Brussels-based International Crisis Group (ICG). This has angered the Palestinians, who have "strongly rejected" the agreements.



*Though of historical and geopolitical significance, it is too early to say whether the accords will have any meaningful impact on West Asia's myriad conflicts. Unlike Egypt and Jordan, which signed peace treaties with Israel in 1979 and 1994, respectively, the Gulf countries are not frontline states in the Arab-Israeli conflict. They had established backroom contacts with Israel years ago; what is happening now is their normalisation. Second, the agreements leave the Palestinian question largely unaddressed. With Arab countries signing diplomatic agreements with Israel bilaterally, the Arab collective support for the Palestinian movement for nationhood, which has been the basis of the 2002 Arab Peace Initiative, is crumbling. But it does not mean that the Palestinian question would fade away. **The vacuum left by the retreat of the Arab powers from the Israel-Palestine conflict is being filled by the non-Arab Muslim powers — Iran, Turkey and their allies.*** The geopolitical sands may be shifting but the core issue concerning Israel is unresolved. Three, the UAE-Bahrain agreements are in fact endorsing the region's emerging order. With the U.S. in retreat and Turkey and Iran pursuing more aggressive foreign policies, there is a three-way contest taking shape, in which Sunni-ruled Arab kingdoms, all American allies, are realigning their geopolitical interests with Israel. The Abraham Accords are likely to sharpen this contest. If Mr. Trump and the signatories to the accords want to bring peace here as they have claimed, they should address the more structural issues, which include the unresolved question of Palestine.

Implications for India

Geopolitically, India has welcomed the establishment of diplomatic relations between the UAE and Israel, calling both its strategic partners. In general, the Israel-Gulf Cooperation Council (GCC) breakthrough widens the moderate constituency for peaceful resolution of the Palestine dispute, easing India's diplomatic balancing act. However, nothing in West Asia is monochromatic: The Israel-GCC ties may provoke new polarisations between the Jihadi fringe and the mainstream. The possibility of the southern Gulf becoming the new arena of the proxy war between Iran and Israel cannot be ruled out, particularly in Shia pockets. India would have to be on its guard to monitor and even pre-empt any threat to its interests in the Gulf. Even more important for India is to manage the economic fallout of the Israel-GCC synergy. With defence and security cooperation as a strong impetus, both sides are ready to realise the full potential of their economic complementarity. The UAE and Bahrain can become the entrepôts to Israeli exports of goods and services to diverse geographies. Israel has niche strengths in defence, security and surveillance equipment, arid farming, solar power, horticultural products, high-tech, gem and jewellery, and pharmaceuticals. Tourism, real estate and financial service sectors on both sides have suffered due to the pandemic and hope for a positive spin-off from the peer-to-peer interactions. Further, Israel has the potential to supply skilled and semi-skilled manpower to the GCC states, particularly from the Sephardim and Mizrahim ethnicities, many of whom speak Arabic. Even the Israeli Arabs may find career opportunities to bridge the cultural divide. Israel is known as the start-up nation and its stakeholders could easily fit in the various duty-free incubators in the UAE. Israeli foray into the Gulf has the potential to disrupt the existing politico-economic architecture India has carefully built with the GCC states. India has acquired a large and rewarding regional footprint, particularly as the preferred source of manpower, food products, pharmaceuticals, gem and jewellery, light engineering items, etc. Indians are also the biggest stakeholders in Dubai's real estate, tourism and Free Economic Zones. In the evolving scenario, there may be scope for a profitable trilateral synergy, but India cannot take its preponderance as a given. It needs to keep its powder as dry as the shifting sands of the Empty Quarter.



WHY HAS IRAN EXECUTED WRESTLER NAVID AFKARI?

Iran executed wrestling champion Navid Afkari, who was convicted of stabbing to death a security guard during the anti-government protests of 2018. According to information released by the state media, Afkari, 27, was executed by hanging in the city of Shiraz.

What were the charges against Navid Afkari?

Afkari was arrested on September 17, 2018 and was given two death sentences – one for retribution in kind by a criminal court and another sentence for enmity against God, which was given by a Revolutionary Court. Both these death sentences were connected to the murder of a security agent that took place on August 2, 2018 in Shiraz. Afkari's brothers Vahid and Habib Afkari were sentenced to 56 years and six months and 24 years and three months in prison, respectively and 74 lashes each in connection with the same case. All three brothers have denied these allegations. Late in August, Iran confirmed Afkari's death sentence for participating in the protests. Iran saw massive anti-government protests that began in December 2017 in which protestors called for an end to the Islamic regime highlighting their inability to revive the economy and failure to address unemployment and inflation in the country. In a voice recording of Afkari from inside the prison, which was released by the group Amnesty International, Afkari said, "If I am executed, I want you to know that an innocent person, even though he tried and fought with all his strength to be heard, was executed." Further, as per Amnesty, Afkari made a call to his family on September 6, where he said that he was being held in a wing of the Adelabad prison in the city of Shiraz, before his call was cut off. On September 5, Afkari's forced confession was aired on Iranian state TV in a propaganda video that tried to justify his death sentence.

What has been the response to Navid Afkari's execution?

There was considerable international pressure on Iran to not go ahead with the death sentence. Following his execution, the International Olympic Committee (IOC) said in a statement that it was "shocked" by the news and mentioned that the IOC president had made personal appeals to the Supreme Leader and President of Iran to ask for mercy for Afkari. "It is deeply upsetting that the pleas of athletes from around the world and all the behind-the-scenes work of the IOC, together with the NOC of Iran, United World Wrestling and the National Iranian Wrestling Federation, did not achieve our goal," the statement read. Last week, US president Donald Trump asked Iranian leaders to not carry out the execution. He tweeted, "Hearing that Iran is looking to execute a great and popular wrestling star, 27-year-old Navid Afkari, whose sole act was an anti-government demonstration on the streets. They were protesting the 'country's worsening economic situation and inflation'". "To the leaders of Iran, I would greatly appreciate if you would spare this young man's life, and not execute him. Thank you!" he said. Iranian journalist and activist, Masih Alinejad took to Twitter after Afkari was executed and said, "We Iranian people are furious because the Islamic Republic killed one of us for the crime of protesting and this is not acceptable in 21st Century." She demanded that Iran be boycotted from sporting events.

WHY PERU PRESIDENT MARTÍN VIZCARRA IS FACING IMPEACHMENT

Peru's Congress has voted to begin impeachment proceedings against the country's president Martín Vizcarra for "moral incapacity" after he was accused of obstructing an investigation into a fraud case involving a little-known Peruvian singer named Richard Cisneros. The proceedings



began Thursday after the opposition-controlled Congress heard audio recordings of private conversations between Vizcarra and his close government aides, in which he allegedly admitted that he met with Cisneros and instructed his staff to downplay the meetings. *As many as 65 lawmakers in the 130-member body voted in favour of opening impeachment proceedings against Vizcarra on Friday. The President's opponents in Congress will debate and vote upon whether he should be removed from office next week. For Vizcarra to be impeached, at least 87 members will have to vote in favour of his removal*, the New York Times reported. Meanwhile, Vizcarra — who first came to power in 2018 — has vowed not to resign and accused the Congress of staging a political coup. “I am not going to resign,” he told reporters on Friday. “I have a commitment to Peru and I will fulfil it until the last day of my mandate.”



What is the case about?

The session on Friday was convened after the current president of Congress, Manuel Merino, received the three leaked audio recordings that allegedly implicate Vizcarra in the corruption case, BBC reported. The Peruvian president is heard telling members of his staff to cover up his role in awarding singer Richard Cisneros, popularly known as Richard Swing, government contracts worth 175,400 soles (\$49,500) to deliver pro-government motivational talks. The opposition has claimed that Vizcarra told his aides to downplay his two meetings with the singer. The government contracts and Vizcarra's links with Cisneros are currently being investigated by Congress and Peru's auditor general, Reuters reported. The Peruvian President has been accused of wasting resources while the country is grappling with a mammoth economic crisis, escalated further by the ongoing Covid-19 pandemic. Cisneros first stepped into the spotlight in May, when the press learnt that the Ministry of Culture had hired the singer as an entertainer and speaker in the midst of the economic crisis that had rendered several thousands of Peruvians jobless. If Vizcarra is removed from office, Congress president and right-wing businessman Manuel Merino will replace him as the interim leader of the



country until elections are held. The next general election is slated to take place in April and Vizcarra has already said that he will not be running again.

How has Vizcarra responded to the decision?

Denying all the allegations, Vizcarra claimed that the leaked audio clips had been manipulated. He acknowledged that he did know Cisneros, but said that he had no role to play in the contracts that were granted to him, AFP reported. Vizcarra's cabinet chief Walter Martos has said that his government will use every legal means possible to defend the president, Bloomberg reported. In an interview with RPP radio, he accused Congress of disturbing democratic order using an "arbitrary interpretation of the constitution".

Vizcarra's troubled history with the Congress

This is not the first time the Peruvian Congress and the country's current president have been at odds. In September last year, Vizcarra locked horns with Peru's top lawmakers when they blocked his anti-corruption proposal by announcing that he was dissolving Congress. No party won an overall majority in the election that took place in January, BBC reported. *Vizcarra's anti-corruption agenda has made him one of the countries' most popular leaders — 60 per cent of Peruvians have voiced support for his government, while the Congress' approval rating stands at merely 32 per cent, according to a survey by the Ipsos polling firm. At the very onset of the coronavirus pandemic, Vizcarra was widely praised for imposing strict lockdown measures and rolling out mass testing before any other Latin American country.* Despite this, due to Peru's ill-equipped healthcare system and a growing economic crisis, the country recorded the world's highest death toll per capita, according to the New York Times. Many fear that Vizcarra's impeachment at a time like this could only deepen the turmoil that the country is currently experiencing. In the past, accusations of corruption have been used to bring down multiple presidents in Peru. In fact, Vizcarra's predecessor Pedro Pablo Kuczynski resigned in 2018 following a similar corruption scandal. Critics say that instead of strengthening democratic functioning, the highly politicised corruption investigations destabilise the government further. Earlier this week, lawmakers also attempted to remove Finance Minister Maria Antonieta Alva, accusing her of not doing enough to prevent the economic slump observed since the pandemic began. Peru's GDP contracted by 30 per cent in the second quarter — the deepest slump recorded in any major economy, Bloomberg reported.

JERUSALEMA CHALLENGE

An internet rage during the Covid-19 lockdown has been the #Jerusalemchallenge, with people from across countries uploading videos dancing to Jerusalem song. The song by Kgaogelo Moagi, better known as DJ Master KG, featuring woman vocalist Nocembo Zikode, was released in October 2019 and became an instant hit. This was followed by a video release in December 2019. The dance challenge took off in February 2020, as Covid-19 caused lockdowns in African countries like in most parts of the world.

It was a group of six friends – four men and two women – in Angola who made a video of themselves dancing to the foot-tapping number, while taking bites of food from plates in one hand.



This was soon dubbed the #Jerusalemchallenge or #Jerusalemadancechallenge after similar videos surfaced from parts of Europe, North America and South America. *The song, in IsiZulu, one of South Africa's 11 national languages, is a prayer to God to take the singer to the holy city of Jerusalem.* With Jerusalema, Master KG became the first African artist to top the global charts on Shazam, the American music-identification App. The gospel-influenced song has seen health workers, construction workers, nuns and priests in Italy, police officers in uniforms and flash mobs in different parts of the world participate in the dance challenge, wearing masks and maintaining social distancing.

September 24 is celebrated in South Africa as Heritage Day, and ahead of it, President Cyril Ramaphosa urged his people to “take up this challenge and show the world what we are capable of”. Heritage Day is a celebration of South Africa’s multiple cultures, South African Tourism India said in its statement.

PAUL RUSESABAGINA: WHY THE SUBJECT OF MOVIE ‘HOTEL RWANDA’ FACES TERRORISM CHARGES

Paul Rusesabagina, the subject of the Oscar-nominated film ‘Hotel Rwanda’ who saved 1,200 Tutsi and moderate Hutu by hiding them in his hotel during the 1994 genocide, mysteriously “disappeared” from Dubai in late August, only to surface in the Rwandan capital of Kigali a few days later, handcuffed and slapped with terrorism charges. A Belgian citizen and US permanent resident, Rusesabagina is regarded as a human rights champion; honoured with America’s highest civilian honour by President George W. Bush in 2005. His arrest by Rwanda has been described as an “enforced disappearance” by Human Rights Watch, and comes after years of Rusesabagina criticising Rwanda’s President Paul Kagame — the country’s longstanding leader known for employing brute tactics for silencing opponents.



Who is Paul Rusesabagina, the ‘Hotel Rwanda’ star

Rusesabagina is known for his lifesaving efforts during the 1994 Rwandan genocide — a culmination of long-running ethnic tensions between the minority Tutsi community, who had controlled power since colonial rule, and the majority Hutu. Over the course of 100 days, the tragedy took the lives of over 8 lakh people, estimated to amount up to 20 per cent of Rwanda’s population. Hutu militias systematically targeted the Tutsi ethnic group, and used the nation’s public broadcaster, Rwanda Radio, for spreading propaganda. Military and political leaders encouraged sexual violence as a means of warfare, leading to around 5 lakh women and children being allegedly raped, sexually



mutilated or murdered. During the crisis, Rusesabagina, a Hutu whose wife is Tutsi, used the luxury hotel he was managing to shelter over 1,000 Tutsis and save them from being slaughtered. His heroics were brought to the silver screen in the 2004 film 'Hotel Rwanda, starring Don Cheadle and Sophie Okonedo. The film won international acclaim, being nominated for three Academy Awards — Best Actor (Cheadle), Best Supporting Actress (Okonedo) and Best Original Screenplay.

Rusesabagina's dispute with Kagame

Rusesabagina, now 66, did not set foot in Rwanda after the genocide, and was most recently living in the United States. In the past few years, he became a critic of President Kagame, whose two-decade-long rule has been credited for bringing stability and development to the mineral-rich nation, but who has been blamed for cultivating an environment of fear for his political opponents both at home and abroad. *Rusesabagina was in turn criticised by Kagame of exaggerating his role during the genocide and of exploiting the tragedy for monetary gain. Rusesabagina has denied these accusations. While in exile, Rusesabagina started the Rwandan Movement for Democratic Change (MRCD), an opposition group believed to have an armed wing called the National Liberation Front (FLN), which Rwanda has labelled a terrorist organisation. Rusesabagina has frequently expressed support for the FLN, and in a 2018 video suggested the use of "any means possible" to oust Kagame, whose government he has described as a dictatorship. Rusesabagina's alleged abduction, experts say, follows a pattern of repressive measures adopted by the Rwandan government to silence critics. In 2013, Patrick Karegeya, Rwanda's former spy chief and fierce Kagame critic, was strangled after being lured to a luxury hotel in Johannesburg in South Africa. Kagame had said after the murder, "Any person still alive who may be plotting against Rwanda, whoever they are, will pay the price."*

THE BIRTH OF THE UNITED NATIONS, AND ITS GROWTH IN THE LAST 75 YEARS

The United Nations completed 75 years this year. In order to commemorate the historic moment, world leaders come together on Monday, at a one-day high-level meeting of the UN General Assembly. The meeting, themed as *"The Future We Want, the UN We Need: Reaffirming our Collective Commitment to Multilateralism"*, is a landmark event, as *for the first time in 75 years, the 193-member body would be holding the session virtually on account of the Covid-19 outbreak.* The declaration adopted at the meeting looks back at the glorious years of the UN and remarked upon its achievements as well as failures. It also set out its goals for the next decade. The goals listed out for the next ten years include protection of the planet and environment, promoting peace, gender equality and women empowerment, digital cooperation, and sustainable financing. *The United Nations was born out of the horrors of World War II. At the time of its foundation, it was primarily tasked with the goal of maintaining world peace and saving future generations from the evils of war.*

The birth of the United Nations

The UN was born out of the ashes of yet another international organisation created with the intention of keeping war away. The League of Nations was created in June 1919, after World War I, as part of the Treaty of Versailles. However, when the Second World War broke out in 1939, the League closed down and its headquarters in Geneva remained empty throughout the war. Consequently, in August 1941, American president Franklin D. Roosevelt and British prime minister Winston Churchill held a secret meeting aboard naval ships in Placentia Bay, located in the southeast coast of Newfoundland, Canada. The heads of the two countries discussed the possibility of creating



a body for international peace effort and a range of issues related to the war. Together they issued a statement that came to be called the Atlantic Charter. It was not a treaty, but only an affirmation that paved the way for the creation of the UN. It declared the realisation of "certain common principles in the national policies of their respective countries on which they based their hopes for a better future for the world." The United States joined the war in December 1941, and for the first time the term 'United Nations' was coined by president Roosevelt to identify those countries which were allied against the axis powers. On January 1, 1942, representatives of 26 allied nations met in Washington DC to sign the declaration of the United Nations, which basically spelled out the war objectives of the Allied powers. Over the next couple of years, several meetings took place among the Allied big four — The United States of America, the Soviet Union, the United Kingdom and China — to decide on the post-war charter that would describe the precise role of the United Nations. The United Nations finally came into existence on October 24, 1945 after being ratified by 51 nations, which included five permanent members (France, the Republic of China, the Soviet Union, the UK and the US) and 46 other signatories. The first meeting of the General Assembly took place on January 10, 1946. The four main goals of the UN included maintaining international peace and security, developing friendly relations among nations, achieving international cooperation in solving international problems and being at the centre for harmonising the actions of nations in the attainment of these common ends.

Achievements and failures of the UN in the last 75 years

While at the time of its formation, the UN consisted of only 51 member states, independence movements and de-colonisation in the subsequent years led to an expansion of its membership. At present, 193 countries are members of the UN. The UN boasts of several significant achievements in the last 75 years. It has also expanded its scope to resolve over a large number of global issues such as health, environment, women empowerment among others. Soon after its formation, it passed a resolution to commit to the elimination of nuclear weapons in 1946. In 1948, it created the World Health Organisation (WHO) to deal with communicable diseases like smallpox, malaria, HIV. At present the WHO is the apex organisation dealing with the coronavirus pandemic. In 1950, the UN created the High Commissioner for Refugees to take care of the millions who had been displaced due to World War II. It continues to be on the frontlines of crises faced by refugees from countries across the world. In 1972, the UN environment programme was created. More recently in 2002, the UN established the UN criminal court to try those who have committed war crimes, genocide, and other atrocities. The UN has also met with its share of criticisms. In 1994, for instance, the organisation failed to stop the Rwandan genocide. In 2005, UN peacekeeping missions were accused of sexual misconduct in the Republic of Congo, and similar allegations have also come from Cambodia and Haiti. In 2011, the UN peacekeeping mission in South Sudan was unsuccessful in eliminating the bloodshed caused in the civil war that broke out in 2013.

A PUSH FOR REFORM

As the United Nations commences the 75th session of the General Assembly, the need for internal reforms to suit the 21st century could not be starker. Volkan Bozkir, the Turkish diplomat and politician who is the incoming president of the UNGA, has voiced concern that the structure of the 15-member Security Council ought to be more democratic and representative. But action has been long overdue on the demand, especially from the so-called Group of 4 (G4) countries — Brazil, Germany, India and Japan — which advocate a permanent seat for all of them. Meanwhile, the veto powers that the UNSC's five permanent members enjoy is an anachronism in this age. This



instrument is often wielded as a blunt weapon to shore up their geopolitical interests, regardless of the disastrous consequences for the victims of armed conflict. *The push for reform gathered momentum following the unilateral declaration of war by the United States and the United Kingdom, against Iraq, in 2003.* The *General Assembly's 122nd plenary meeting in 2008 decided to facilitate the reform process through the Inter-Governmental Negotiations framework (IGN) on equitable representation as well as expansion of the UNSC.* Though the General Assembly's adoption of a 2015 resolution to allow the IGN on the basis of a framework document generated some enthusiasm, it was dampened by the *U.S., Russia and China being opposed to serious reform of the Council.* The G4 bemoaned earlier this year that the IGN process might have outlived its purpose given the absence of a negotiating document which alone could provide a structure to the deliberations. In any case, the exercise has been deferred in view of the COVID-19 pandemic.

India's election in June as a non-permanent member of the UNSC, obtaining 184 votes, was a diplomatic triumph, notwithstanding that it was the lone contestant for the Asia-Pacific seat. But in a sign of the difficulties ahead to achieve New Delhi's ultimate objective, reforms to the UN figured no more than as part of a broader vision in the declaration to commemorate the organisation's 75th anniversary. *The political and economic architecture of the emerging global order that the allied powers shaped at the end of World War II has been altered since then.* The UN remains unreflective of the current trajectory, especially in the strategic and economic arenas. *The multilateral framework now faces an unprecedented challenge — to fashion a collective response to humanity's biggest problems, which include global warming and the pandemic. Paradoxically though, the post-war order faces an existential threat to its stability from the revival of nationalism across the globe, with some of the powers that enshrined common principles and rules willing to discard them. All countries must have the voice to influence policy.*

The G4 will work with "other reform-minded countries and groups" to start text-based negotiations (TBN) without delay and seek "concrete outcomes" during the 75th session of the UN General Assembly, which has just begun and lasts until next September. "G4 Ministers reiterated support for each other's membership to the UNSC "given the capacity and willingness to take on major responsibilities with regard to the maintenance of international peace and security", the statement said. *India, which, in January, will commence a two-year non-permanent term on the UNSC, has long sought a permanent seat at the Council and is a proponent of other UNSC reforms — such as increasing the number of permanent (currently five) and non-permanent (currently 10) seats and ensuring greater representation for Africa.* India is a proponent of text-based negotiations at the UN.

GREAT POWER, LITTLE RESPONSIBILITY (SREERAM CHAULIA - DEAN, JINDAL SCHOOL OF INTERNATIONAL AFFAIRS)

The International Day of Peace (September 21) is an occasion for deep reflection about the prevalence of war, violence and insecurity in many parts of the world. In the last calendar year, eight countries — Afghanistan, Yemen, Syria, Turkey, Somalia, Iraq, Mexico and Libya — suffered at least 1,000 deaths each (mainly civilians) through militarised attacks and battles, according to the World Population Review. If one includes the Maghreb and Sahel regions of North and West Africa, over 25 countries are being ravaged by deadly wars today. To boot, 79.5 million were displaced at the end of 2019, due to armed conflicts, persecution and other reasons, according to the UN Refugee Agency. The way the present international system is structured poses enormous



obstacles to peace. The countries that are escalating violence are predominantly the great powers who have military and economic might.

Fuelling instability

On paper, the U.S., Russia and China uphold peace and stability as the permanent members of the UN Security Council. But in practice, they fuel instability or have a finger in the pie of most ongoing wars. For example, the tragedy in Yemen, which the UN has declared as the world's worst humanitarian disaster, is the outcome of indiscriminate attacks by the U.S.-backed coalition of Saudi Arabia and the UAE, whose geopolitical goal is to counterbalance Iran. Yet, undaunted by the moral burden, the Donald Trump administration is eagerly selling copious quantities of lethal weapons to its Gulf allies in the name of their 'security'. War is at once a geopolitical game and big business. *This holds true not only for the U.S. but also Russia. Libya's descent into chaos is the product of the active involvement of mercenaries and weapons pumped in by Russia and the U.S.-allied Gulf Arab monarchies to push back Turkey's influence.* Like the calamity in Syria, Yemen and Libya are victims of the conduct of great powers who arm and finance regional actors to prey upon weak states for counterbalancing rivals and sustaining profits of their military industrial complexes. *Not to be left behind the U.S. and Russia, China has catapulted into the ranks of top sellers of weapons. Chinese small arms enable ethnic violence and extreme human rights abuses from South Sudan and the Democratic Republic of Congo to Pakistan and Myanmar. China also aims to tighten its grip over developing countries through 'internal security' aid, a code for technological tools of domestic surveillance and repression, which in turn build up societal pressure and armed revolts against authoritarian regimes. Moreover, China's own hegemonic expansionism against its neighbours and its 'new Cold War' with the U.S. have significantly raised risks of military clashes in Asia.* This year, the UN Secretary General is campaigning for a "global ceasefire" so that everyone's attention shifts to fighting the COVID-19 pandemic. The UN as well as regional organisations like the African Union and the European Union are trying to negotiate cessation of hostilities in various war zones.

The core problem

But targeted micro-level diplomatic initiatives cannot ameliorate the underlying macro-level problem of great powers and their allies acting with brazen impunity. On the International Day of Peace, we should diagnose the core problem — the unjust structure which privileges great powers and permits their ghastly machinations — and challenge it. Altering the structure and nature of world politics is not child's play. But we must strive for it. Remember that if one fire is doused in Afghanistan through a peace process, 10 more fires can be lit as long as the global 'system' that reproduces violence and aggression is in place. Intellectuals, social movements and responsible states should prioritise struggling for an equitable world order. Nothing less will suffice to silence the guns.



FOREIGN AFFAIRS

U.S. KEEN ON FINALISING BECA AT 2+2 DIALOGUE

The U.S. is keen that India sign the last foundational agreement, Basic Exchange and Cooperation Agreement for Geo-Spatial cooperation (BECA), at the next India-U.S. 2+2 ministerial dialogue likely to held in October end, a defence source said. A meeting of the Quad Foreign Ministers is scheduled to take place in Tokyo in October, the source said. Earlier, the meeting was expected to be held in New Delhi. "The U.S. wants BECA to be signed at the ministerial 2+2 in October. Indian draft with our suggestions has been sent to them," the source said stating negotiations are far from over and it is unlikely to be signed by October. The timing of the 2+2 comes just before the U.S. elections in November and there is still no clarity on the dates. A maritime information agreement is also under active deliberation between India and the U.S., the source said. Once concluded, India will have such arrangements with all Quad countries — Australia, Japan and the U.S. Beginning 2016, India has signed three foundational agreements: the Logistics Exchange Memorandum of Agreement (LEMOA), the Communications Compatibility and Security Agreement (COMCASA) while the General Security of Military Information Agreement (GSOMIA) was signed a long time ago. An extension to the GSOMIA, the Industrial Security Annex (ISA), was signed at the last 2+2 dialogue. There has been a sharp increase in India's maritime interactions with the Quad countries on a bilateral basis centred around information sharing for improved Maritime Domain Awareness (MDA) in the Indian Ocean Region and Indo-Pacific.

After concluding a logistics support agreement with Japan early this week, India is now working on three such agreements with Russia, the U.K. and Vietnam, two official sources said. The agreement with Russia is expected to be signed in October. Following the agreement with Japan early this week, India now has military logistics agreements with all Quad countries, Australia, Japan and the U.S., significantly improving interoperability as they also operate several common military platforms. The agreements with the U.K. and Vietnam are under discussion, one of the sources said. The agreement with Russia, the Reciprocal Logistics Support (ARLS), is expected to be signed during the bilateral summit between Prime Minister Narendra Modi and President Vladimir Putin in mid-October, Roman Babushkin, Deputy Chief of Mission at the Russian Embassy in India, said early this week. The agreement gives India access to Russian facilities in the Arctic region which is seeing increased global activity as new shipping routes open up and resources become available, officials said earlier. India had recently announced investments in the Russian Far East.

Malabar exercise

The utility of the agreements will be visible at the next edition of the Malabar trilateral naval exercise scheduled to be held in November, the first source said. As reported by The Hindu earlier, an informal consensus has been developed to invite Australia to join the Malabar exercise, but a formal invitation has not been extended yet. It is not yet clear if Canberra would be invited for this year's edition. In June, India and Australia signed the long pending Mutual Logistics Support (MLSA), elevated their partnership to Comprehensive Strategic partnership, and also announced a joint declaration on a shared vision for maritime cooperation in the Indo-Pacific. The logistics pact with Japan, Reciprocal Provision of Supplies and Services between armed forces, was signed early this week. India and Japan have already signed an implementing arrangement for deeper cooperation between the Navy and the Japan Maritime Self-Defence Force (JMSDF). India has signed several logistics agreements in recent years, beginning with the Logistics Exchange Memorandum of Understanding (LEMOA)



with the U.S. in 2016, and the Navy has been the biggest beneficiary of them. There has been a sharp increase in India's maritime interactions with the Quad countries on a bilateral basis centred around information sharing for improved Maritime Domain Awareness (MDA) in the Indian Ocean Region and Indo-Pacific. *After India signed the foundational agreement Communications Compatibility and Security Agreement (COMCASA) with the U.S., it got access to encrypted communication systems for seamless communication.* As part of this, in March 2019 the Navy and U.S. Navy signed a loan agreement and installed two Pacific fleet provided CENTRIXS (Combined Enterprise Regional Information Exchange System) kits at the Indian Navy headquarters. Discussions are on for more such systems, though officials have not given a specific number.

THE COST OF PEACE

*Six months after they were first due to be held, intra-Afghan talks bringing the Taliban face-to-face with representatives of the Ashraf Ghani government and Afghan civil society finally got underway in Doha on Saturday. The talks, which were a key outcome of the U.S.-Taliban and U.S.-Afghanistan agreements signed in February this year, have been delayed for many reasons. To begin with, the Taliban set pre-conditions including the release of all its prisoners, while not accepting the basic requirement of a ceasefire. There were also delays over the composition of the Afghan negotiating team led by chief negotiator Masoom Stanekzai, and differences over appointments between the former rivals, President Ghani and Abdullah Abdullah, who was appointed as the head of the High Council for National Reconciliation. There were even concerns over whether the all-male Taliban team would deal with the negotiating team, which includes four women. However, the biggest obstacle was the release of more than 5,000 Taliban prisoners and about 1,000 Afghan soldiers and others held by Taliban militia, as stipulated in the agreements with the U.S. Last month, President Ghani said that he would release all but about 400 who were wanted for "serious crimes", which led to the Taliban threatening to call off talks, but resolved after a **Loya Jirga** of representatives approved the release. One final batch of prisoner releases was held up briefly over objections from France and Australia, whose soldiers had been killed by them. *The silver lining for India, which otherwise views the reconciliation process with some foreboding, is that the release of all Taliban prisoners has also meant the safe return of three Indian hostages, held since 2018 by the Taliban.**

The hard part begins now. While preliminary rounds held since Saturday have dealt with the structure and logistics, the first task for the negotiators is to declare a permanent ceasefire, and stop violence in Afghanistan that has claimed another 1,300 civilian lives in the first half of 2020. More difficult challenges will emerge as they grapple with the Taliban on how to shape Afghanistan's future, and whether they can retain the constitution and political processes while bringing the insurgents into the mainstream. With the Ghani government giving the green signal for the talks in Doha, India has modified its stand, and *External Affairs Minister S. Jaishankar attended the inaugural ceremony in Doha via videoconferencing; it was the first ever address by an Indian official at a gathering that includes the Taliban (that India still maintains is a terror group). While stating that peace in Afghanistan as a result of an "Afghan-led, Afghan owned" process is a desirable outcome, he made it clear that India hopes it will not come at the cost of gains made by Afghanistan in the post-Taliban era, including democracy, institutions of governance, and the rights of minorities and women.*



ANOTHER AFGHAN PEACE PUSH AND A ROLE FOR INDIA

Last week, on September 12, the much awaited intra-Afghan talks between the Taliban and the Afghan High Council for National Reconciliation opened in Doha, Qatar, 19 years after the 9/11 attacks on the U.S. that stunned the world and marked the beginning of the U.S. war in Afghanistan against al Qaeda and the Taliban, its local sponsors. The initiation of intra-Afghan talks was a key element in the U.S.-Taliban peace deal signed in Doha on February 29 between the U.S. Special Representative for Afghanistan Reconciliation, Ambassador Zalmay Khalilzad, and the Taliban deputy leader, Mullah Abdul Ghani Barader. Originally planned to begin on March 10, the process had to overcome many hurdles along the way providing a small glimpse of the difficult road that lies ahead.

Dynamics of negotiations

The Trump administration soon realised that its 2017 policy of breaking the military stalemate by a small increase in U.S. troops was not working and reverted to seeking a managed exit. As the former Defence Secretary James Mattis put it, "The U.S. doesn't lose wars, it loses interest." Political optics demanded a relabelling of the withdrawal. Direct negotiations with the Taliban began two years ago with Ambassador Khalilzad's appointment as Special Envoy. *Actually, it became a three-way negotiation. The Doha track was with the Taliban, a second track was with Islamabad/Rawalpindi to cajole the Pakistan Army to lean on the Taliban to get them to the negotiating table, and the third was with Kabul to ensure that the Afghan government would accept the Doha outcome.* Originally Ambassador Khalilzad had spelt out four objectives: *an end to violence by declaring a ceasefire; an intra-Afghan dialogue for a lasting peace; the Taliban cutting ties with terrorist organisations such as al Qaeda, and U.S. troop withdrawal. Within months, the Taliban had whittled these down to just the last one with some palliatives regarding the third. **Instead of an Afghan-led, Afghan-owned and Afghan-controlled reconciliation, it had become a U.S.-led and Taliban-controlled process with nobody claiming ownership or responsibility.*** Timelines were fixed for the U.S. drawdown by mid-June (followed by complete withdrawal by April 2021) and for removal of Taliban from the UN Security Council sanctions list by end-May. The Taliban have released 1,000 members of Afghan security forces and the Afghan authorities have freed over 5,000 Taliban from their custody. This process took longer than originally foreseen but has now been completed. The two elements that remained open ended in the U.S.-Taliban deal are the ceasefire declaration and the intra-Afghan talks.

The current reality is that 74% of Afghan population is below 30 and has lived, for most part, in a conservative but open society. However, the Taliban continue to maintain the Kabul administration as an imported western structure for continued American occupation. Senior members of the Afghan government continue to be targeted including Vice President Amrullah Saleh who narrowly escaped an IED attack on his motorcade on September 9, even as 10 innocent Afghans lost their lives.

Evolving Indian stand

Addressing the opening session of the Doha meeting, India's External Affairs Minister S. Jaishankar reiterated that the peace process must be "Afghan led, Afghan owned and Afghan controlled" but Indian policy has evolved from its earlier hands-off approach to the Taliban. Speaking to Indian media a few months ago on separate occasions, both Ambassador Khalilzad and Russian Special



Envoy to Afghanistan Ambassador Zamir Kabulov bluntly pointed out that if India had concerns regarding anti-India activities of terrorist groups, it must engage directly with the Taliban. In other words, if India wanted to be invited to the party, it must be prepared to get up and dance.

Major powers, finite interest

The reality is major powers have limited interests. For the U.S., the peace talks provide U.S. President Donald Trump an exit opportunity weeks before his re-election bid. The European Union has made it clear that its financial contribution will depend on the security environment and the human rights record. China can always lean on Pakistan to preserve its security and connectivity interests. For Russia, blocking the drug supply and keeping its southern periphery secure from extremist influences is key. That is why no major power is taking ownership for the reconciliation talks, but merely content with being facilitators. A report issued last month by the Heart of Asia Society, a Kabul-based think tank observes that “the prospect for peace in Afghanistan depends on regional consensus to support the peace process as much as it depends on actual progress in the intra-Afghan talks”. India’s vision of a sovereign, united, stable, plural and democratic Afghanistan is one that is shared by a large constituency in Afghanistan, cutting across ethnic and provincial lines. A more active engagement will enable India to work with like-minded forces in the region to ensure that the vacuum created by the U.S. withdrawal does not lead to an unravelling of the gains registered during the last two decades.

INDUS WATER TREATY AT 60

September 19 marks the 60th anniversary of the Indus Water Treaty (IWT) between India and Pakistan, a treaty that is often cited as an example of the possibilities of peaceful coexistence that exist despite the troubled relationship. Well-wishers of the treaty often dub it “uninterrupted and uninterruptible”. The World Bank, which, as the third party, played a pivotal role in crafting the IWT, continues to take particular pride that the treaty functions. The role of India, as a responsible upper riparian abiding by the provisions of the treaty, has been remarkable but the country, of late, is under pressure to rethink the extent to which it can remain committed to the provisions, as its overall political relations with Pakistan becomes intractable.

Equitable water-sharing

Back in time, partitioning the Indus rivers system was inevitable after the Partition of India in 1947. The sharing formula devised after prolonged negotiations sliced the Indus system into two halves. *The three ‘western rivers’ (Indus, Jhelum and Chenab) went to Pakistan and the three ‘eastern rivers’ (Sutlej, Ravi and Beas) were portioned to India. Equitable it may have seemed, but the fact remained that India conceded 80.52 per cent of the aggregate water flows in the Indus system to Pakistan. It also gave Rs 83 crore in pounds sterling to Pakistan to help build replacement canals from the western rivers. Such generosity is unusual of an upper riparian. India conceded its upper riparian position on the western rivers for the complete rights on the eastern rivers.* Water was critical for India’s development plans. It was vital, therefore, to get the waters of the ‘eastern rivers’ *for the proposed Rajasthan canal and the Bhakra Dam without which both Punjab and Rajasthan would be left dry, severely hampering India’s food production. Jawaharlal Nehru, while inaugurating the Bhakra Canals in 1963, described it as “a gigantic achievement and a symbol of the nation’s energy and enterprise”.* In Pakistan, however, it was an occasion of strong resentment, grieving that India got away with the total flow of 33 million acre-feet on the eastern rivers



“virtually for a song”. Nehru was always conscious that the Bhakra Canals should not be at the cost of reduced water supplies to Pakistan. However, he was also very clear that India’s interest on the eastern rivers should be protected hoping that the two countries should someday come to live “amicably and cordially as the United States and Canada live in North America”.

Increasing unease

That, of course, has not happened. On the contrary, the Pakistan leadership considers the sharing of the waters with India an unfinished business. What is disputable today has nothing to do with water sharing, which is settled under the IWT, but whether the Indian projects on the western rivers, in particular Jhelum and Chenab, as Pakistan claims, conform to the technical stipulations. Being a lower riparian state, Pakistan’s scepticism of India allows it to increasingly politicise the issue. It is not surprising that it maintains high troop levels and alertness around the canals on the eastern front, fearing that India will try to take control of the western rivers. Clearly, due to its strategic location and importance, the Indus basin continues to receive considerable international attention. In fact, *David Lilienthal, who headed the Tennessee Valley Authority and later the Atomic Energy Commission, after visiting India and Pakistan in 1951, feared that “another Korea is in the making”, prompting the World Bank to mediate the water sharing arrangements.* Every now and then, there is a clamour in India for abrogating the IWT as a response to Pakistan’s cross-border terrorism and intransigence. Any attempt towards this would require a number of politico-diplomatic and hydrological factors to be determined as also a political consensus. That the treaty has remained “uninterrupted” is because India respects its signatory and values trans-boundary rivers as an important connector in the region in terms of both diplomacy and economic prosperity. *There have been several instances of terror attacks — Indian Parliament in 2001, Mumbai in 2008, and the incidents in Uri in 2016 and Pulwama in 2019 — which could have prompted India, within the Vienna Convention on the Law of Treaties, to withdraw from the IWT. However, on each occasion, India chose not to do so.*

Renegotiation

With abrogation an option that India is hesitant to take, there is a growing debate to modify the existing IWT. While the treaty may have served some purpose at the time it was signed, now with a new set of hydrological realities, advanced engineering methods in dam construction and de-siltation, there is an urgent need to look at it afresh. *Article XII of the IWT says that it “may from time to time be modified” but carefully notes “by a duly ratified treaty concluded for that purpose between the two governments”. Pakistan will see no merit in any modification having already got a good deal in 1960. India’s best option, therefore, would be to optimise the provisions of the treaty.* India has been woefully wanting in not utilising the 3.6 million acre feet (MAF) of “permissible storage capacity” granted by the IWT on the western rivers. *Poor water development projects have allowed 2-3 MAF of water to easily flow into Pakistan which needs to be urgently utilised. Further, out of the total estimated capacity of 11406 MW electricity that can be harnessed from the three western rivers in Kashmir, only 3034 MW has been tapped so far.*

WHY NEPAL AND CHINA ARE MEASURING THE HEIGHT OF MT EVEREST AGAIN

Almost a year after China and Nepal together decided to re-measure the elevation of the world’s highest mountain, the two countries are soon expected to announce its latest official height, the Nepali Times reported. *Mount Everest or Sagarmatha, Earth’s highest mountain above sea level, is*



located in the Himalayas between China and Nepal -- the border between them running across its summit point. Its current official elevation – 8,848m – places it more than 200m above the world's second-highest mountain, K2, which is 8,611m tall and located in Pakistan-occupied Kashmir. The mountain gets its English name from Sir George Everest, a colonial-era geographer who served as the Surveyor General of India in the mid-19th century. Considered an elite climbing destination, Everest was first scaled in 1953 by the Indian-Nepalese Tenzing Norgay and New Zealander Edmund Hillary.

Why is the height being measured again?

Everest's current official height– 8,848m– has been widely accepted since 1956, when the figure was measured by the Survey of India. The height of the summit, however, is known to change because of tectonic activity, such as the 2015 Nepal earthquake. Its measurement over the decades has also depended on who was surveying. Another debate is whether the height should be based on the highest rock point or the highest snow point. For years, Nepal and China disagreed over the issue, which was resolved in 2010 when China accepted Nepal's claim of the snow height being 8,848m, while the Nepali side recognised the Chinese claim of the rock height at 8,844.43m. Then in 2019, when Chinese President Xi Jinping visited Nepal, the two countries agreed to remeasure Everest's height and announce the findings together. According to the Nepali Times, a reason behind the joint effort is that previous measurements of the mountain were by Indian, American or European surveyors, and that the joint effort represents national pride for Nepal and China who will now come up with their own figure. A team from Nepal completed its task last year, and China carried out its expedition in May 2020, amid the coronavirus pandemic. Both teams are using different points of reference for sea level – China using the Yellow sea and Nepal using a point close to the Bay of Bengal coast, the Nepali Times report said. The report also said that Nepal has completed its calculations, and is waiting for China to complete its part of the task. A date for the joint announcement has been pushed back because of the pandemic.

Everest's first survey

The mission to measure the world's highest peak was taken up on a serious note in 1847, and culminated with the finding of a team led by Andrew Waugh of the Royal Surveyor General of India. The team discovered that 'Peak 15' — as Mt Everest was referred to then — was the highest mountain, contrary to the then prevailing belief that Mt Kanchenjunga (8,582 m) was the highest peak in the world. Another belief, prevailing even today, is that 8,840 m is not the height that was actually determined by the 19th-century team. It is widely believed that Waugh and his team actually measured the peak at 29,000 feet —which works out to 8,839 m — but were worried that 29,000 feet would not convince people that it was authentic. And so, according to reports that have endured, the team added 2 ft to make it look more convincing. That makes it 29,002 ft, which converts into 8,840 m. In any case, officials say, the Nepal government does not have any record or authentic version of that survey, as it was done by the Surveyor General of India's office during the British Raj. That survey, based on trigonometric calculations, is known as the **Great Trigonometric Survey of India**.



AS CHINA, NEPAL TENSIONS RISE, HOW UTTARAKHAND IS UPGRADING DEFENCE INFRA ON THE BORDER

In the context of ongoing tensions and territory issues with China and Nepal, the Uttarakhand government, along with the defence forces, has taken measures to strengthen infrastructure along its international border. In recent weeks, the state government has taken several major decisions that will help strengthen operations of both the Army and Air Force in the border areas of the hill state.

Why Uttarakhand matters

Uttarakhand shares a 350-km border with China and a 275-km boundary with Nepal. *Five of the state's 13 districts are border districts. Chamoli and Uttarkashi share boundaries with China, whereas Udham Singh Nagar and Champawat have boundaries with Nepal. Pithoragarh is strategically very sensitive as it has boundaries with both China and Nepal.*

Radar and tactical airfields

In the recent development, the Uttarakhand government has agreed to provide land to the Indian Air Force (IAF) to set up air defence radars in three districts bordering China – Chamoli, Pithoragarh, and Uttarkashi. The IAF has also proposed to develop a new Advanced Landing Ground to facilitate its activities in the hill areas. A government official said the Advanced Landing Ground in Uttarakhand would be useful for refuelling of aircraft, and for loading and unloading of ammunition. According to a release from the state government, Air Marshal Kumar said during the meeting that facilities of radar and airstrips at appropriate sites in Uttarakhand were necessary in view of the current circumstances. Separately, the state cabinet earlier this month approved a proposal for the expansion of a helipad at the Kedarnath shrine in Rudraprayag district to make it suitable for operating the IAF's Chinook multi-mission choppers. These advanced machines require a helipad with an area of more than 5,000 sq m for safe landings and take-offs.

Filling gaps in telecom infra

The Uttarakhand cabinet has approved an amendment in the state's information technology (IT) policy to provide incentives of up to Rs 40 lakh to facilitate private telecom companies to install towers in "dark villages" in which telecommunication facilities are unavailable at present. A total 438 "dark villages" have been identified in Uttarakhand, where no telecom service provider (TSP) or Internet service provider (ISP) extends services. These villages are mostly located along the state's border of China and Nepal, government sources said. "Some people use Nepalese SIMs, which is not safe. Having telecom facilities here is extremely important for reasons of security. The government's move to facilitate telecom companies is important strategically," Chuphal said. Also, villagers in border areas have traditionally acted as the eyes and ears of the defence forces, and telecommunications are a force multiplier in this regard.

THE NATURE OF THE CYBER SECURITY THREAT FROM CHINA

The Government of India decided to set up an "expert committee" under the National Cyber Security Coordinator in the National Security Council Secretariat following a three-part investigative series by The Indian Express. The committee will study the reports, evaluate their implications,



*assess any violations of law, and submit its recommendations within 30 days. The series reveals how a **Shenzhen-based information technology firm, Zhenhua Data**, with links to the Chinese government and military, is monitoring over 2.5 million individuals across the world, including at least 10,000 Indians. The investigation has elicited a range of responses. The Indian Express attempts to frame the context given the prevailing situation on the India-China border, the scale and legality of the operations, the technology involved, and the end-use possibilities, given the trove of information being collected.*

The company, Zhenhua Data Information Technology Co. Limited, calls itself a pioneer in using big data for “hybrid warfare” and the “great rejuvenation of the Chinese nation”. China’s authoritarian government, ruling party, military, and many private companies frequently operate as a giant, coordinated operation, of which countries around the world are targets.

When did China’s People’s Liberation Army (PLA) step into the field of cyber warfare?

It was soon after the Gulf War of 1991 that the Chinese realised that the days of conventional warfare were rapidly coming to an end. Pavithran Rajan, a former Indian Army officer and information warfare expert, who has authored ‘Engaging China: Indian Interests in the Information Age’, says the Chinese understood that American technology was far ahead of them. “They analysed that if they get into the ICT (information and communications technology), they could leapfrog a couple of generations and get ahead. This decision also coincided with China turning into the electronics factory of the world.” *In 2003, the Central Committee of the Chinese Communist Party and China’s Central Military Commission officially approved the concept of “Three Warfares”, comprising psychological, media, and legal warfare. “It was then decided at the highest levels that the PLA should be an army ready to fight a war in the information domain by 2020,” Pavithran said. Soon, the PLA began to set up intelligence units dedicated to cyber operations.*

When did the world discover the PLA’s commitment to cyber warfare?

In February 2013, the Alexandria, Virginia-headquartered American cyber security firm Mandiant published a report that blew the lid off China’s cyber espionage operations. The Mandiant report documented evidence of cyber attacks by PLA Unit 61398, whose exact location and address in Pudong, Shanghai, the report revealed. Unit 61398 is the ‘Military Unit Cover Designator’ (MuCD) of the PLA’s Advanced Persistent Threat (APT) unit that has been accused of several computer hacking attacks. “We refer to this group as “APT1”, and it is one of more than 20 APT groups with origins in China,” the Mandiant report said. “APT1 is a single organization of operators that has conducted a cyber espionage campaign against a broad range of victims since at least 2006. From our observations, it is one of the most prolific cyber espionage groups in terms of the sheer quantity of information stolen.” According to the Mandiant report, APT1 had stolen billions of terabytes of data from 141 companies across 20 major industries. “APT1”, the report said, “is believed to be the 2nd Bureau of the People’s Liberation army (PLA) General staff Department’s (GsD) 3rd Department, which is most commonly known by its Military unit Cover Designator (MuCD) as unit 61398. The nature of “Unit 61398’s” work is considered by China to be a state secret; however, we believe it engages in harmful “Computer Network Operations”. The report also said Unit 61398 requires its personnel to be trained in computer security and network operations, and to be proficient in English.



What was the reaction to these revelations?

Former Northern Army Commander Lt Gen D S Hooda (Retd), who after retirement, headed a panel that called for setting up specialised information warfare units, said that in 2014, the United States government discovered that a Chinese unit had hacked into the Office of Personnel Management, a unit of the federal government, and taken out records of 21 million people. Around 4 to 5 million of these people worked for the US military, and included CIA agents. The US Department of Justice under President Barack Obama indicted five PLA officers by name for cyber crime. The names and photos of the officers were released, and they were accused of hacking and stealing information from several companies. "It was for the first time that the US took such a step against a foreign power," Pavithran said.

What is the nature of the civil-military fusion that China encourages?

According to Pavithran, China started a policy of weaponising its existing manufacturing capability of civilian products for military purposes by leveraging the control over any instrument by the original equipment manufacturer (OEM). Most mobile phones, for example, are equipped with a 'soft' rather than a 'hard' switch, Pavithran said: "This means that even if you switch off the phone, the sensors inside continue to feed data to the cloud. Entire populations can be monitored with this control." China's long experience of keeping its own people under surveillance has contributed to its expertise in individual surveillance, Gen Hooda said. "They know how to mine this data." According to Pavithran, the Chinese use this information for kompromat, a Russian term for any information that can compromise a person, and which can therefore, be used to blackmail him/her. Gen Hooda said that in 2017, China passed a law under which all Chinese companies were supposed to assist the country's intelligence-gathering operations. "They cannot say no. Besides there is a close link among the civil, military establishment and academia in China."

Specifically, what are the military implications of this fusion?

China, Pavithran said, has graduated from being a force ready to fight information warfare to a force equipped for 'intelligentised' warfare. "They have managed to weaponize their appliances all over the world." This cyber prowess, he said, gives the PLA the ability to identify key personnel and directly target them in kinetic warfare.

Like any big data operation involving OSINT (open-source intelligence), Zhenhua Data deals in volumes. First, the sweep: how many people it tracks. Second, the depth: how many data points it engages to collect information about every person it tracks. *The potential of the database for 'hybrid warfare' depends on both factors: how many they know about, and how much they know about each of them.* Such an operation may not be immediately successful in filling all the information columns against each name. But it spells out the data ambition the company wants to achieve over time. The chances of striking gold — actionable intelligence — multiply as the data pool grows. And the chances of even a fraction of the Overseas Key Information Database — already 5 billion pieces of information and counting — yielding what is called "useable data" is motivation enough to keep invested in the project. Companies are subject to regulation, and can be held accountable or asked questions by elected legislatures. In contrast, a Chinese company, from an opaque authoritarian set-up, mining big data in a more open democratic system doesn't have similar checks and balances. *Also, propaganda — misinformation, disinformation and fake news — has always been a big item on the agenda when countries go to war.* But what big data allows now is to customise data for millions instantly, making rapid response possible. The sweep



of Zhenhua's targets, from politicians and CMs at the Centre and states to legislators in J&K and the Northeast, scientists in critical technology institutions to a range of tech start-ups and over 6000 accused of a range of crime, all monitored over years, yields a staggering volume of information which can be analysed by sophisticated big-data tools and processed as per the end user.

EXPLOITING THE CHINESE EXIT (SIDDHARTH PAI - FOUNDER OF SIANA CAPITAL, A VENTURE CAPITAL FIRM FOCUSED ON INDIAN DEEP TECH AND SCIENCE)

The current India-China border stand-off has expanded watchful Indian eyes into cyberspace; but the Chinese put up blinding shields on their own Internet territory more than a decade ago. The Chinese government began erecting censorship barriers (what I like to call the Great Internet Wall of China) and banned several popular Western websites and applications years ago. In January 2010, Google announced that in response to a hacking attack from within China on it and dozens of other U.S. companies, it was no longer willing to censor searches in China and would pull out of the country completely. Meanwhile, in the intervening years since Google and others were forced out, the Chinese Internet market exploded, and has grown to over 900 million users, most of them on mobile (paradoxically via Google's Android) from just over 300 million in early 2010. This is according to the China Internet Network Information Center, a branch of the country's Ministry of Industry and Information Technology.

China's lead

In hindsight, China's censors look like superb long-range economic planners and technology strategists. The Great Internet Wall did not filter and screen Western content so much as it insulated Chinese entrepreneurs from Big Tech in Silicon Valley. The Chinese web market was left with substantial appetites for Internet-based social, commerce, and lifestyle services which Big Tech could not fulfil. Home-grown firms such as WeChat and Alibaba had a field day building apps that were at first faithful reproductions of Silicon Valley, but soon morphed into distinctly Chinese applications tailored solely to the home market. Baidu has replaced Google in China. Youku Tudou is YouTube, and Xiaohongshu is a version of Instagram from which users can shop for goods directly. WeChat began as a simple messaging app, but is now many things for the Chinese (social media, news, messaging, payments, and digital commerce). As far back as 2016, U.S. President Barack Obama released a strategic plan which addressed many issues, but the most striking part of this report is that it appeared the Chinese had learnt their lesson from failing to make themselves an IT outsourcing services superpower like India had. According to the 2016 White House report, the Chinese have leapfrogged even the U.S. in AI research, especially in the components of "neural networks" and "deep learning". In this case, the intellectual property being produced actually belongs to China and is not a faithful duplicate of someone else's product or technology. This has far-reaching implications. Current affairs show us that the U.S. is likely to follow India's lead by banning Chinese apps and technology companies. With the rise of Jio, and the response from its competitors, the widening reach of Internet connection across the country will provide hundreds of millions of non-urban Indians with fluid access to the Internet. India now has the lowest Internet data costs in the world. In its attempt to dominate the rest of the world, the Chinese Internet industry desperately needs India's freshly minted 500-plus million netizens to continue to act as a training ground for the AI algorithms they put together. China's Internet ecosystem is entirely self-created, self-run, and self-served, yet it exports the newly banned apps such as Tik Tok and PUBG worldwide — adding to the user base of 900-plus million Chinese



netizens whose data they already have exclusive access to. The decision to ban such apps in India is not only a geopolitical move but also a strategic trade manoeuvre that can have significant economic impact. Banning these Chinese websites and applications to the Indian public effectively allows our home-grown IT talent to focus on the newly arrived Internet user. Big tech firms from Silicon Valley and China in both hardware and software have been in a tussle over the Indian consumer, but India's focus remains on exporting IT services while paying little attention to servicing our own nation's tech market. Most alarmingly, while we have spent the last two decades exporting the bulk of our technology services to developed countries in the West, the vacuum created as the Indian Internet grew has been filled by American Big Tech and by the Chinese. After the removal of more than 118 Chinese apps, Indian techies have started trying to fill the holes with copycat replacement websites and applications. But faithful copies are not enough for us to make full use of China's exit. The primary Indian IT objective must shift from servicing others to providing for ourselves. In the absence of Chinese tech, Indian entrepreneurs should not simply look to replace what the exiting firms have so far been providing. They should focus instead on providing services and products of high quality that will be used by everyday Indians across the country. The aim of providing netizens with the same services across diverse markets is overarching — regional barriers created by language exist within our own nation. These provide an accretion of excellent smaller markets, with opportunities for specialised Internet services created for a local community, by the community itself. The fundamental focus of the new digital products that plan to emerge in the growing market should be to provide for hyper-regional necessities and preferences. With this in mind, there are several commercial opportunities available. For example, apps and services that provide specific market prices, local train and bus routes, allow for non-traditional banking and lending, education, health, online sales, classified advertising, and so on.

It's hyper-local, hyper-regional

Accessibility is also crucial. With the rise in migrant work and labour all over the country, a news or banking app with, say, an Odiya interface should work everywhere that Odiya-speaking people migrate to. However, national accessibility on its own will not make an app a game changer. Indians are savvy enough to know what a world class app is. If we create hyper-local and hyper-regional services of high quality and great accessibility that are also portable across our linguistic diversity, we are far more likely to succeed in creating one of the strongest Internet markets in the world, rather than creating copycat apps or apps that only cater to English speakers. Technology companies all over the world have focused their efforts on the 15% of the world's population with deep pockets while largely ignoring the other six billion denizens of the world's population. Some sympathetic noises about 'emerging' markets are made, but the waters remain largely untested. If we go forward with the aim of servicing our own, India's experiences as a modernising power are of great use to the bulk of the world's population, which lives in penury when compared to its western counterparts. We can export our "India stack" to other countries in the "south", such as those in Africa and Latin America. We have successfully done this before with our outstanding railway technology. There is no reason we cannot pull off the same achievement with our home-grown Internet power.

TERMS OF DISENGAGEMENT

That India and China have agreed to stop sending more troops to the frontline is a welcome step towards hitting pause on the rising tensions along the LAC. Indeed, the genesis of the tensions lies



in China's large-scale deployment of troops to forward areas in May, and subsequent multiple transgressions in the Galwan Valley, Pangong Lake, Gogra, Hot Springs, and Depsang plains that have violated almost every core tenet of the four border agreements that have helped keep the peace since 1993. This has forced India to match the Chinese deployment, leading to an extraordinary build-up on a scale not seen since 1962. The new agreement of September 21, at the sixth round of Corps Commander talks since June, will put a stop to this build-up, that is, if it is implemented sincerely. *The joint press release said the sides had agreed to strengthen communication on the ground, avoid misjudgments, and to refrain from unilaterally changing the situation on the ground, besides holding a next round at an early date, underlining that many issues remain unresolved.*

If this agreement can potentially help stem the bleeding as it were, it does not address most of India's fundamental concerns on the LAC. *Prior to the talks, Indian officials had highlighted the key points of their agenda as having China withdraw from all friction points including Depsang and Pangong Tso and granting unhindered access to all patrolling points (PPs) — China has blocked access to 10 PPs since May. The joint press release makes no mention of restoration of the status quo ante of April, only referring to no unilateral changes to the ground situation, which refers to the current status quo.* It is true that one or two rounds of talks cannot be expected realistically to resolve a situation that is, in many ways, even more complex than the 1986 Sumdorong Chu stand-off — and that took six years before the status quo was restored. At the same time, a second joint public statement in as many weeks is a positive development in itself, showing both have the intent to stabilise the situation, even if their motivations may be different. For the Indian government, such a statement in the midst of a Parliament session where it has faced questions over its handling of the LAC situation sends the message that the China crisis is under control. For China, the motivations could be two-fold — either a tactical pause that gives it time to prepare for further military manoeuvres, as was the case in end-August south of Pangong Lake, or a signal that Beijing wants to dial down tensions, albeit on its own terms and most likely without giving up the territorial gains it has made since May. Whichever may be the case, the reality for Delhi is that the challenge along the LAC may be far from over.

DreamIAS



NATION

CONTEMP OF COURT

Given the embarrassment and adverse publicity suffered by the Supreme Court because of its verdict holding advocate Prashant Bhushan guilty of contempt for a couple of tweets, one would have thought the superior judiciary would avoid wading into needless controversies by invoking its contempt jurisdiction. However, *Justice S.M. Subramaniam of the Madras High Court seems to believe that anyone criticising judges should be dealt with by the threat of contempt. In an ill-advised move, he has written to the Chief Justice, seeking permission to initiate contempt proceedings against prominent Tamil actor Suriya for an innocuous comment on recent judicial orders declining to interfere with the conduct of the National Eligibility-cum-Entrance Test (NEET) for medical courses. The actor, responding with anguish to recent suicides by MBBS aspirants out of fear of failure, had remarked that “a court that dispenses justice through video-conferencing out of fear of the coronavirus is ordering students to write an exam without fear”.* The judge claims that the actor had questioned the integrity and devotion of judges and that such a remark, if unpunished, would undermine public trust in the judiciary. It is only petulant resort to contempt law without necessary cause that would make the layman lose trust in courts. No reasonable person who reads Mr. Suriya’s statement would construe it as contempt of court, as it does nothing more than state an obvious fact: while the pandemic has resulted in virtual hearings, the court has allowed an examination involving a million-and-a-half students.

As pointed out by six former judges of the High Court in a letter to the Chief Justice asking him not to act on Justice Subramaniam’s letter, the judge’s construction of the actor’s comments is off the mark. Besides, no one would believe that the actor had interfered with any judicial proceeding through his comment, or that it hindered the administration of justice in any way. That a judge should show unbelievable alacrity in shooting off a letter to the Chief Justice, within hours of the actor’s statement being aired on television, evidences an alarming level of intolerance towards criticism and a monarchical understanding of how courts ought to deal with public opinion. The actor, who also runs a voluntary organisation dedicated to increasing access to education for under-privileged children, has commented in the past, too, on matters related to education. There is no reason to abridge his constitutional right to do so, especially on an issue of public importance. Further, Justice Subramaniam’s request is also impermissible in law. The High Court does not have jurisdiction to initiate contempt in respect of an order passed by the Supreme Court, going by the apex court’s verdict in Vitisah Oberoi (2017). There is no reason for Chief Justice Amreshwar Pratap Sahi to permit initiation of contempt action against Mr. Suriya.

TRUTH FUND TO PROVIDE LEGAL AID IN FIGHT FOR FREE SPEECH

With hundreds of people wanting to support advocate Prashant Bhushan by symbolically contributing Re.1 — or more — towards his fine in the contempt of court case in the Supreme Court, a fund has been set up to use the money to help others fighting for free speech. “The Satyamev Jayate or Truth Fund will be used to provide legal support and amplify the voices of those facing criminal charges for standing by their conscience and speaking truth,” said activist Anjali Bhardwaj at a webinar organised by Swaraj Abhiyan and the Campaign for Judicial Accountability and Reforms (CJAR) on freedom of speech and the judiciary. Participating in the discussion, retired Supreme Court judge Madan Lokur said, “The State is using an iron hand to curb free speech. Suddenly you



have a lot of cases charging people with sedition. Common citizens who say something are charged with sedition. Already 70 cases of sedition this year,” Justice Lokur said. He said the arbitrary use of preventive detention, the increase in sedition charges, the labelling of opinion as “fake news” and the misreading of statements such as Mr. Bhushan’s tweets have all resulted in the curbing of free speech in unconstitutional ways. Justice Lokur noted that there were 3.4 crore cases pending in district courts and a crisis of vacancies in the judiciary. “The courts need to introspect or our justice system is in danger of complete collapse,” he asserted.

NEW LABOUR CODE

On September 19, the government withdrew three Bills related to labour laws and replaced them with new ones. These Bills make significant changes to regulation of labour and the employer-employee relationship in several ways.

*The three codes aimed at consolidating diverse labour laws and ushering in reforms fall in this category. The codes were passed in both Houses after a limited debate and in the absence of the Opposition. The **Industrial Relations Code**, the **Social Security Code** and the **Occupational Safety, Health and Working Conditions Code, 2020**, are an updated version of the respective Codes of 2019, which were scrutinised by a Standing Committee. Therefore, there is considerable merit in the argument that the fresh drafts, introduced a few days before their passage, ought to have been sent back to the panel for an assessment. No one disagrees with the basic objective of amalgamating, simplifying and rationalising labour laws. However, the very fact that it involves a voluminous body of legislation should have meant that the final version was widely discussed with the stakeholders, and given sufficient time and opportunity to give their views.*

*The root of the idea of consolidated labour codes goes back to the **June 2002 report of the Second National Commission on Labour**. The broad vision has been to give an impetus to economic activity without adversely affecting the interests of workers. **Last year, the government introduced four labour codes as Bills to replace 29 existing laws**. These Codes dealt with regulation of wages, occupational safety and health, social security, and industrial relations. *The Code on Wages was passed by Parliament last year.* Over the last few months, the Standing Committee on Labour presented its reports on the other three Bills. It is these three Bills that the government has replaced and introduced in the Lok Sabha.*

Whether this is adequately reflected in the new provisions will be tested by the experience of administering the Codes. *A positive feature is that the Social Security Code promises the establishment of social security funds for unorganised workers, as well as gig and platform workers, and also says their welfare would be addressed by the National Social Security Board.* A contentious section *allows the appropriate government to exempt any new factory from all provisions of the Code on occupational health, safety and working conditions..* It is significant that almost all major trade unions are opposing the new codes. This reflects a genuine fear that *expansive powers of exemption have been conferred on the respective governments and there has been excessive delegation of rule-making powers. The threshold for lay-offs, as well as for various social security schemes can be raised by executive order; safety standards can be changed.* There is much reason to fear that conferring wide discretion to the central and State governments may not be conducive to the interests of workers.



Major changes

There are several aspects of these Bills that differ significantly from the earlier Bills. Let us call the new Bills as the 2020 Bills to distinguish them from the 2019 Bills that were examined by the Standing Committee and subsequently withdrawn. First, the 2020 Bills raise several thresholds.

*The **Factories Act of 1948** defines any manufacturing unit as a factory if it employs 10 workers (and uses electricity) or 20 workers (without using electric power). These thresholds are being raised to 20 and 40 workers, respectively.*

The **Industrial Disputes Act of 1947** requires any establishment employing over 100 workers to seek government permission before any retrenchment; the threshold has been raised to 300, with the government empowered to raise it further through notification. These changes have been debated for over two decades but *were not proposed in the 2019 Bill.*

The **Industrial Employment (Standing Orders) Act of 1946** requires employers to formally define conditions of employment under them if they have at least 100 workers. The 2020 Bill has increased this threshold to 300 workers. Second, they *provide the government with the power to exempt establishments from any or all of their provisions.*

The **Code on Industrial Relations** governs working conditions, trade unions, retrenchment and layoffs, dispute resolution, and establishes industrial tribunals. *The government may, in public interest, exempt any new industrial establishment from the provisions of this Code.*

The **Code on Occupational Safety, Health and Working Conditions** specifies leave and maximum work hours, requires health and safety norms including adequate lighting and ventilation and welfare measures. It subsumes 13 Acts including the Factories Act. *The 2020 Bill allows the State government to exempt any new factory from its provisions in the interest of increased economic activity and employment generation.* Given that every new factory would lead to incremental employment, this gives *wide discretion to the State government to exempt new factories from basic safety and welfare norms.* Note that the *Factories Act permitted such exemption for a limited period of three months only during a "public emergency".* Third, there are some changes related to contract labour. *The 2019 Bill was applicable to establishments which employed at least 20 contract workers and to contractors supplying at least 20 workers; these thresholds have been raised to 50 workers.* The *2020 Code prohibits the employment of contract workers in any core activity, and specifically permits employment in a specified list of non-core activities including canteen, security and sanitation services.* Fourth, *the 2019 Bill on Occupational Safety allowed the government to prohibit employment of women in undertaking operations that could be dangerous to their health and safety.* The *2020 Bill removes this power to prohibit employment and instead allows the government to require employers to provide adequate safeguards.*

A shift in approach

All the three Bills (both the 2019 and 2020 versions) also show a major shift in approach from the earlier laws. *Many essential features of the law are no longer specified in the Codes but have been delegated to be prescribed by the government through Rules.* Examples of *delegated items include setting the thresholds for application of various social security schemes, specifying safety standards and working conditions, and the power to increase the threshold for establishments that have to seek permission before retrenchment.* An important question is whether such features should be hard-



coded in the Acts. Another important issue for consideration is whether there should be relaxations for small enterprises to reduce their compliance burden. One may argue that some matters such as safety standards should apply to everyone while others that provide job security could be based on the size of the firm. The Occupational Safety Bill (which prescribes safety standards and maximum work hours) exempts small establishments from its purview while the Industrial Relations Bill applies to all. *These three new Bills were introduced on Saturday, and the Business Advisory Committee of the Lok Sabha has allocated three hours for them to be discussed and passed this week. Together, these Bills have 411 clauses and 13 schedules, and come to 350 pages. The provisions of the Bill affect every person working in India and every employer, and address complex issues. It is difficult to believe that Members of Parliament, who are attending Parliament every day including weekends, have had the time to read and understand the implications of the various provisions of the Bill. As discussed above, the Bills also have several key changes from the 2019 Bills that were examined by the Standing Committee.* Therefore, it is important that there is wider scrutiny and public discussion on these Bills. They should be referred to the Standing Committee. After all, a complete revamp of labour laws should be done only after due deliberation.

The Industrial Relations Code also introduces new conditions for carrying out a legal strike. The time period for arbitration proceedings has been included in the conditions for workers before going on a legal strike as against only the time for conciliation at present. For instance, the IR Code proposes that no person employed in an industrial establishment shall go on strike without a 60-day notice and during the pendency of proceedings before a Tribunal or a National Industrial Tribunal and sixty days after the conclusion of such proceedings. Thus, elongating the legally permissible time frame before the workers can go on a legal strike, making a legal strike well-nigh impossible. The IR code has expanded to cover all industrial establishments for the required notice period and other conditions for a legal strike. The Standing Committee on Labour had recommended against the expansion of the required notice period for strike beyond the public utility services like water, electricity, natural gas, telephone and other essential services.

What are the other proposals for workers?

The IR Code Bill has also proposed a worker re-skilling fund, though the contributions for the fund are only detailed from the employer of an industrial establishment amounting to fifteen days wages last drawn by the worker immediately before the retrenchment along with the contribution from such other sources. The mention of 'other sources' for funding the re-skilling fund, experts said, is vague. The other two codes have also proposed changes for expanding social security and inclusion of inter-state migrant workers in the definition of workers. *The Social Security Code proposes a National Social Security Board which shall recommend to the central government for formulating suitable schemes for different sections of unorganised workers, gig workers and platform workers. Also, aggregators employing gig workers will have to contribute 1-2 per cent of their annual turnover for social security, with the total contribution not exceeding 5 per cent of the amount payable by the aggregator to gig and platform workers. The Occupational Safety, Health and Working Conditions Code has defined inter-state migrant workers as the worker who has come on his own from one state and obtained employment in another state, earning up to ₹18,000 a month. The proposed definition makes a distinction from the present definition of only contractual employment. The Code, however, has dropped the earlier provision for temporary accommodation for workers near the worksites. It has though proposed a journey allowance — a lump sum amount of fare to be paid by the employer for to and fro journey of the worker to his/her native place from the place of his/her employment.*



ROLES, LIMITATIONS OF SELECT COMMITTEES AND OTHER PARLIAMENTARY PANELS
(CHAKSHU ROY - HEAD OF LEGISLATIVE AND CIVIC ENGAGEMENT AT PRS LEGISLATIVE RESEARCH)

The government pushed through two crucial agriculture Bills in Rajya Sabha, rejecting Opposition demands that they be referred to a Select Committee of Rajya Sabha. Proceedings were disrupted as the Opposition protested against the fact that neither Bill had been scrutinised by a parliamentary committee.

What is a parliamentary committee's role in passage of a Bill?

Parliament scrutinises legislative proposals (Bills) in two ways. The first is by discussing it on the floor of the two Houses. This is a legislative requirement; all Bills have to be taken up for debate. The time spent debating the bills can vary. They can be passed in a matter of minutes, or debate and voting on them can run late into the night. Since Parliament meets for 70 to 80 days in a year, there is not enough time to discuss every Bill in detail on the floor of the House. Plus debate in the house is mostly political and does not go into the technical details of a legislative proposal. The second mechanism is by referring a Bill to a parliamentary committee. It takes care of the legislative infirmity of debate on the floor of the House. Woodrow Wilson, before he became US President in 1885: "... it is not far from the truth to say that Congress in session is Congress on public exhibition, whilst Congress in its committee rooms is Congress at work". But referring of Bills to parliamentary committees is not mandatory.

And what is a Select Committee?

India's Parliament has multiple types of committees. They can be differentiated on the basis of their work, their membership and the length of their tenure. First are committees that examine bills, budgets and policies of ministries. These are called departmentally related Standing Committees. There are 24 such committees and between them, they focus on the working of different ministries. Each committee has 31 MPs, 21 from Lok Sabha and 10 from Rajya Sabha. When they were being set up in 1993, Vice President K R Narayanan said, "... the main purpose, of course, is to ensure the accountability of Government to Parliament through more detailed consideration of measures in these committees. The purpose is not to weaken or criticise the administration but to strengthen by investing in with more meaningful parliamentary support." Departmentally related Standing Committees have a tenure of one year, then they are reconstituted and their work continues throughout the term of a Lok Sabha. Ministers are not members; key committees like those related to Finance, Defence, Home etc are usually chaired by Opposition MPs. Then there are committees constituted for a specific purpose, with MPs from both Houses. The specific purpose could be detailed scrutiny of a subject matter or a Bill. These are Joint Parliamentary Committees (JPC). In 2011 the issue of telecom licences and spectrum was examined by a JPC headed by Congress MP P C Chacko. In 2016, the Citizenship (Amendment) Bill was sent to a JPC chaired by BJP MP Rajendra Agarwal. And finally, there is a Select Committee on a Bill. This is formed for examining a particular Bill and its membership is limited to MPs from one House. Last year Rajya Sabha referred the Surrogacy (Regulation) Bill, 2019 to a Select Committee of 23 of its MPs from different parties. The committee was headed by BJP MP Bhupender Yadav. Since both the JPCs and Select Committees are constituted for a specific purpose, they are disbanded after their report. Both these types of committees are chaired by MPs from the ruling party.



When does a committee examine a Bill?

Bills are not automatically sent to committees for examination. There are three broad paths by which a Bill can reach a committee. The first is when the minister piloting the Bill recommends to the House that his Bill be examined by a Select Committee of the House or a joint committee of both Houses. Last year Electronics and IT Minister Ravi Shankar Prasad moved a motion in Lok Sabha referring the Personal Data Protection Bill to a Joint Committee. *If the minister makes no such motion, it is up to the presiding officer of the House to decide whether to send a Bill to a departmentally related Standing Committee.* During the last Lok Sabha, Venkaiah Naidu as Chairman of Rajya Sabha sent eight Bills to departmentally related Standing Committees. And finally, *a Bill passed by one House can be sent by the other House to its Select Committee. In 2011, the Lokpal Bill passed by Lok Sabha was sent by Rajya Sabha to its Select Committee.* In the last Lok Sabha, multiple Bills were sent to Rajya Sabha select committees. *Sending a Bill to any committee results in two things. First, the committee undertakes a detailed examination of the Bill. It invites comments and suggestions from experts, stakeholders and citizens. The government also appears before the committee to present its viewpoint. All this results in a report that makes suggestions for strengthening the Bill. While the committee is deliberating on a Bill, there is a pause in its legislative journey. It can only progress in Parliament after the committee has submitted its report. Usually, parliamentary committees are supposed to submit their reports in three months, but sometimes it can take longer.*

What happens after the report?

The report of the committee is of a recommendatory nature. The government can choose to accept or reject its recommendations. Very often the government incorporates suggestions made by committees. Select Committees and JPCs have an added advantage. In their report, they can also include their version of the Bill. If they do so, the minister in charge of that particular Bill can move for the committee's version of the Bill to be discussed and passed in the House. In the current Lok Sabha, 17 Bills have been referred to committees. In the 16th Lok Sabha (2014-19), 25% of the Bills were referred to committees, which was much lower than the 71% and 60% in the 15th and 14th Lok Sabha respectively.

HISTORY OF QUESTION HOUR

The decision to go without "Question Hour" during the Monsoon Session of Parliament, beginning September 14, has evoked serious concerns about the democratic functioning of the institution. Question Hour is not only an opportunity for the members to raise questions, but it is a parliamentary device primarily meant for exercising legislative control over executive actions.

The first Legislative Council in British India under the Charter Act, 1853, showed some degree of independence by giving members the power to ask questions to the executive. Later, the Indian Council Act of 1861 allowed members to elicit information by means of questions. However, it was the Indian Council Act, 1892, which formulated the rules for asking questions including short notice questions. The next stage of the development of procedures related to questions came up with the framing of rules under the Indian Council Act, 1909, which incorporated provisions for asking supplementary questions by members. The Montague-Chelmsford reforms brought forth a significant change in 1919 by incorporating a rule that the first hour of every meeting was earmarked for questions. Parliament has continued this tradition. In 1921, there was another



change. The question on which a member desired to have an oral answer, was distinguished by him with an asterisk, a star. This marked the beginning of starred questions. These are democratic rights members of Parliament have enjoyed even under colonial rule. "The sad part is that this right is being denied to the elected representatives of Independent India, by the present government," states Rajeev.

A POINT OF ORDER

Rajya Sabha Deputy Chairman Harivansh's refusal to conduct a division of votes on two controversial pieces of legislation on Sunday, despite persistent demands from members, was unprecedented in its sheer brazenness. The Bills in question have been challenged on constitutional and practical grounds, but that is a different point. *The rules of procedure regarding voting are unambiguous that if a voice vote is challenged, "votes shall be taken by operating the automatic vote recorder or by the members going into the Lobbies". Even if a single member demands a division, it is required to be carried out. Quite often, a division of vote is demanded even when the outcome is predictable, in order to bring on record the positions of parties and members on a particular bill.* The explanation that members were not demanding a division from their seats and the House was not in order is disingenuous. *To begin with, the disorder was triggered by the Chair's refusal to order a division. And curiously, the Chair went on to declare the Bills passed amid the din, this time unaffected by disorder.* Significant amendments were sought and several parties had demanded that they be referred to a parliamentary select committee. The government's claim that it had the numbers to pass the Bills is dubious in the wake of the skulduggery it deployed for their passage. In any case, regardless of which side has the majority, procedure is sacrosanct and voting is the foremost tool of establishing parliamentary authority. It cannot be reduced to an act of benevolence by the Chair or the executive.

The chaos that followed in the Upper House, though not unprecedented, was unsavoury. Parliament is a deliberative forum and not a theatre for protest demonstration. Regardless of the provocation, the Opposition should have adhered to decorum while articulating its concerns. But, meaningful parliamentary discussions have become infrequent, and the voice of the Opposition is often ignored. Upper House functions have been significantly curtailed by the arbitrary labelling of money bills, which bypass it. *The flat out denial of a division of votes was a new low in parliamentary history.* Not stopping there, *eight Opposition members were suspended for one week while notice for a no-confidence motion against the Deputy Chairman was rejected at the threshold by Chairman M. Venkaiah Naidu.* Opposition parties have now petitioned President Ram Nath Kovind to not give assent to the two Bills passed by voice vote. There must be immediate efforts led by the executive to restore the effective and meaningful functioning of Parliament.

WHEN CAN MPS BE SUSPENDED FROM THE HOUSE? WHAT RULES ARE FOLLOWED IN THE PROCESS?

Eight Rajya Sabha MPs were suspended on Monday (September 21) for unruly behaviour in the House the previous day (September 20). *The motion was passed by a voice vote. The government moved a motion seeking the suspension of Derek O'Brien (TMC), Sanjay Singh (AAP), Rajeev Satav (Congress), K K Ragesh (CPM), Syed Nazir Hussain (Congress), Ripun Boren (Congress), Dola Sen (TMC) and Elamaram Kareem (CPM).* After the motion was adopted, Chairman M Venkaiah Naidu



asked the MPs to leave the House. The suspended members initially refused to leave, and then sat on a dharna outside Parliament. The Opposition sharply criticised the suspension of the MPs.

What is the reason for suspending an MP?

The general principle is that it is the role and duty of the Presiding Officer — Speaker of Lok Sabha and Chairman of Rajya Sabha — to maintain order so that the House can function smoothly. The suspension of the eight members comes a day after the Upper House witnessed massive unruly scenes by protesting Opposition members during the passage of two farm Bills. In order to ensure that proceedings are conducted in the proper manner, the Speaker/Chairman is empowered to force a Member to withdraw from the House.

What are the Rules under which the Presiding Officer acts?

Rule Number 373 of the Rules of Procedure and Conduct of Business says: “The Speaker, if is of the opinion that the conduct of any Member is grossly disorderly, may direct such Member to withdraw immediately from the House, and any Member so ordered to withdraw shall do so forthwith and shall remain absent during the remainder of the day’s sitting.” To deal with more recalcitrant Members, the Speaker make take recourse to Rules 374 and 374A.

Rule 374 says:

“(1) The Speaker may, if deems it necessary, name a Member who disregards the authority of the Chair or abuses the rules of the House by persistently and wilfully obstructing the business thereof.

“(2) If a Member is so named by the Speaker, the Speaker shall, on a motion being made forthwith put the question that the Member (naming such Member) be suspended from the service of the House for a period not exceeding the remainder of the session: Provided that the House may, at any time, on a motion being made, resolve that such suspension be terminated.

“(3) A member suspended under this rule shall forthwith withdraw from the precincts of the House.”

Rule 374A was incorporated in the Rule Book on December 5, 2001. The intention was to skirt around the necessity of moving and adopting a motion for suspension.

According to Rule 374A: “(1) Notwithstanding anything contained in rules 373 and 374, in the event of grave disorder occasioned by a Member coming into the well of the House or abusing the Rules of the House persistently and wilfully obstructing its business by shouting slogans or otherwise, such Member shall, on being named by the Speaker, stand automatically suspended from the service of the House for five consecutive sittings or the remainder of the session, whichever is less: Provided that the House may, at any time, on a motion being made, resolve that such suspension be terminated.

“(2) On the Speaker announcing the suspension under this rule, the Member shall forthwith withdraw from the precincts of the House.”

OK, and what happens in Rajya Sabha?

It’s largely similar, with one important difference. Like the Speaker in Lok Sabha, the Chairman of Rajya Sabha is empowered under Rule Number 255 of its Rule Book to “direct any Member whose



conduct is in his opinion grossly disorderly to withdraw immediately” from the House. Unlike the Speaker, however, the Rajya Sabha Chairman does not have the power to suspend a Member. The House may, by another motion, terminate the suspension. The Chairman may “name a Member who disregards the authority of the Chair or abuses the rules of the Council by persistently and wilfully obstructing” business. In such a situation, the House may adopt a motion suspending the Member from the service of the House for a period not exceeding the remainder of the session. Chairman Venkaiah Naidu named all the eight Opposition MPs. He said he was “deeply pained” at what had happened in the House on September 20. “All social distancing and Covid protocols were violated. Whatever happened, defied logic. It was a bad day for the Rajya Sabha. The Deputy Chairman (Harivansh) was physically threatened. I was worried for his physical well-being.”

Is suspending an MP a common practice in Parliament?

It is strong action, but it is not uncommon.

* On March 5 this year, seven Congress members — Gaurav Gogoi (Kaliabor), T N Prathapan (Thrissur), Dean Kuriakose (Idukki), Rajmohan Unnithan (Kasaragod), Manickam Tagore (Virudhunagar), Benny Behanan (Chalakydy) and Gurjeet Singh Aujla (Amritsar) — were suspended from Lok Sabha during the Budget Session of Parliament.

* In November 2019, Speaker Om Birla suspended two Congress Members.

* In January 2019, Birla’s predecessor in the Speaker’s Chair, Sumitra Mahajan, suspended a total 45 Members belonging to the TDP and AIADMK after they continuously disrupted proceedings for days.

* On February 13, 2014, then Speaker Meira Kumar suspended 18 MPs from (undivided) Andhra Pradesh following pandemonium in the House. The suspended MPs were either supporting or opposing the creation of the separate state of Telangana.

* Before that, on September 2, 2014, nine Members were suspended for five days.

* On August 23, 2013, 12 Members were suspended for five days.

* And on April 24, 2012, eight Members were suspended for four days.

* On March 15, 1989, when Rajiv Gandhi was Prime Minister, as many as 63 Members were suspended from Lok Sabha for three days.

Isn’t the barring of an elected representative of the people an extreme step to take in order to curb unruly behaviour?

The Opposition members have accused the government of “murdering democracy”. Every instance of suspension of an MP triggers strong statements on both sides. In general, a balance has to be struck. There can be no question that the enforcement of the supreme authority of the Presiding Officer is essential for smooth conduct of proceedings. However, it must be remembered that the job of the Presiding Officer is to run the House, not to lord over it. The solution to unruly behaviour has to be long-term and consistent with democratic values. *A previous Speaker had ordered that television cameras be focussed on the demonstrating members, so that people could see for themselves how their representatives were behaving in the House. In the present case, however, the Opposition has accused the Chairman of stopping the telecast of the proceedings in Rajya Sabha.*



What cannot be denied is that Speaker's/Chairman's actions are often dictated more by expediency and the stand of the party that they belong to, rather than by the Rules and principles. So, the ruling party of the day invariably insists on the maintenance of discipline, just as the Opposition insists on its right to protest. And their positions change when their roles flip.

REDEFINING ESSENTIAL ITEMS: WHY IT WAS NEEDED, AND WHO IT WILL IMPACT

Rajya Sabha passed the **Essential Commodities (Amendment) Bill, 2020** which is aimed at deregulating commodities such as **cereals, pulses, oilseeds, edible oils, onion and potatoes**. The Bill had been introduced and passed in Lok Sabha last week. It replaces an ordinance that the government had promulgated on June 5, along with two other ordinances on the farm sector. As with the two other ordinances (also passed as Bills) that have seen protests from farmers in Punjab and Haryana, there have been concerns about the provisions of this Bill, too.

What is the Bill about?

It is a four-page Bill that amends the Essential Commodities Act, 1955, by introducing a new Subsection (1A) in Section 3. After the amendment, the supply of certain foodstuffs — including cereals, pulses, oilseeds, edible oils, potato — can be regulated only under extraordinary circumstances, which include an extraordinary price rise, war, famine, and natural calamity of a severe nature. In effect, the amendment takes these items out from the purview of Section 3(1), which gives powers to central government to “control production, supply, distribution, etc, of essential commodities”. Earlier, these commodities were not mentioned under Section 3(1) and reasons for invoking the section were not specified. The amendments states that “such order for regulating stock limit shall not apply to a processor or value chain participant of any agricultural produce, if the stock limit of such person does not exceed the overall ceiling of installed capacity of processing, or the demand for export in case of an exporter...”

How is an ‘essential commodity’ defined?

There is no specific definition of essential commodities in the Essential Commodities Act, 1955. Section 2(A) states that an “essential commodity” means a commodity specified in the Schedule of the Act. The Act gives powers to the central government to add or remove a commodity in the Schedule. The Centre, if it is satisfied that it is necessary to do so in public interest, can notify an item as essential, in consultation with state governments. According to the Ministry of Consumer Affairs, Food and Public Distribution, which implements the Act, the Schedule at present contains seven commodities — drugs; fertilisers, whether inorganic, organic or mixed; foodstuffs including edible oils; hank yarn made wholly from cotton; petroleum and petroleum products; raw jute and jute textiles; seeds of food-crops and seeds of fruits and vegetables, seeds of cattle fodder, jute seed, cotton seed. By declaring a commodity as essential, the government can control the production, supply, and distribution of that commodity, and impose a stock limit.

Under what circumstances can the government impose stock limits?

While the 1955 Act did not provide a clear framework to impose stock limits, the amended Act provides for a **price trigger**. It says that *agricultural foodstuffs can only be regulated under extraordinary circumstances such as war, famine, extraordinary price rise, and natural calamity*. However, any action on imposing stock limits will be based on the price trigger. Thus, *in case of horticultural produce, a 100% increase in the retail price of a commodity over the immediately*



preceding 12 months or over the average retail price of the last five years, whichever is lower, will be the trigger for invoking the stock limit. For non-perishable agricultural foodstuffs, the price trigger will be a 50% increase in the retail price of the commodity over the immediately preceding 12 months or over the average retail price of the last five years, whichever is lower. However, exemptions from stock-holding limits will be provided to processors and value chain participants of any agricultural produce, and orders relating to the Public Distribution System. “The last 10 years have seen periods of prolonged application of the EC Act. Once imposed, they were for long periods — pulses from 2006 to 2017, rice from 2008 to 2014, edible oilseeds from 2008 to 2018. Amendments to the EC Act seek to remove this uncertainty by defining criteria for the process of imposing stock limits and making it more transparent and accountable,” the source said.

Why was the need for this felt?

The 1955 Act was legislated at a time when the country was facing a scarcity of foodstuffs due to persistent low levels of foodgrains production. The country was dependent on imports and assistance (such as wheat import from the US under PL-480) to feed the population. To prevent hoarding and black marketing of foodstuffs, the Essential Commodities Act was enacted in 1955. But now the situation has changed. A note prepared by the Ministry of Consumer Affairs, Food and Public Distribution shows that production of wheat has increased 10 times (from less than 10 million tonnes in 1955-56 to more than 100 million tonnes in 2018-19), while the production of rice has increased more than four times (from around 25 million tonnes to 110 million tonnes during the same period). The production of pulses has increased 2.5 times, from 10 million tonnes to 25 million tonnes. In fact, *India has now become an exporter of several agricultural products.*

What will be the impact of the amendments?

The key changes seek to free agricultural markets from the limitations imposed by permits and mandis that were originally designed for an era of scarcity. *The move is expected to attract private investment in the value chain of commodities removed from the list of essentials, such as cereals, pulses, oilseeds, edible oils, onions and potatoes. While the purpose of the Act was originally to protect the interests of consumers by checking illegal trade practices such as hoarding, it has now become a hurdle for investment in the agriculture sector in general, and in post-harvesting activities in particular. The private sector had so far hesitated about investing in cold chains and storage facilities for perishable items as most of these commodities were under the ambit of the EC Act, and could attract sudden stock limits. The amendment seeks to address such concerns.*

Why is it being opposed?

This was one of the three ordinances/Bills that have seen protests from farmers in parts of the country. The Opposition says the amendment will hurt farmers and consumers, and will only benefit hoarders. They say the price triggers envisioned in the Bill are unrealistic — so high that they will hardly ever be invoked.

HERE'S WHY THE GOVERNMENT HAS BANNED THE EXPORT OF ONIONS

A shaken central government issued a notification prohibiting the export of onions even as the average traded price of the bulb crossed the psychological barrier of Rs 30 per kg at Maharashtra's Lasalgaon wholesale market. *This ban came just about three months after the Narendra Modi-led government tweaked the archaic Essential Commodities Act, 1955 to make the imposition of stock*



limit and movement restrictions on food grains, edible oilseeds, potatoes, onions and other essential commodities only applicable in extreme conditions like war or natural calamity. The export ban comes even as the central government works on making the ordinance a law. A look at the export ban, and its possible repercussion in the days to come.

What were the triggers that led to the export ban?

There seem to be two main triggers that prompted the government to take the extreme step of putting a blanket ban on exports of all kinds of onions. The first was obviously the steady increase in wholesale prices of onions which has seen the kitchen staple becoming costlier in the urban markets. The immediate trigger which led to the ban can also be found in *the Consumer Price Index (CPI) numbers released by the Ministry of Statistics and Program Implementation (MoSPI) on Monday. The numbers, which measures the inflation was 6.69 per cent a tad bit lesser than the 6.73 of last month but well above the Reserve Bank of India (RBI)'s target of 6 per cent. The Consumer Food Price Index (CFPI) for August was 9.05 as against 9.27 of last month.* At the policy level, the high CFPI and the rising price of onion were enough triggers to get an export ban on onion at a time when farmers were offloading their stored onions.

Why are onions costlier in wholesale markets?

The answer to this question can be found in the exceptionally heavy rains which lashed the country in August. Those rains have led to a near-complete washout of the almost market-ready onion crop in Karnataka which was to hit the markets early in September. Along with this, the rains have also wreaked havoc on the stored onions in Madhya Pradesh, Gujarat and parts of Maharashtra. At present, it is only the onion growers in Maharashtra who have stored up the produce which they harvested in March-April. The supply disruption is likely to continue till the new crop in Maharashtra hits the markets early November. If the domestic supply-demand situation was heavily tilted towards the latter, *demand for Indian onion was also rising from international markets. Indian onions, normally shipped out countries in the Gulf, Sri Lanka and Bangladesh, have a year-round steady demand. However, demand from Sri Lanka, exporters say has suddenly picked up as the island nation also has reported heavy destruction of their crop due to rains.* The landed cost of Indian onions at Dubai port at this moment is around Rs 32-35 per kg which has led many exporters to increase their shipments from Nashik.

Will the onion export ban have any political fallout?

The political fall out of high onion prices can hardly be overemphasized. With Bihar election likely to be held later this year, the government it seems was wary of going to the electorate when the kitchen staple was costlier than usual. *Ironically the export ban comes when the government plans to make the ordinances that amended the Essential Commodities Act into law and stop knee-jerk reactions like the imposition of stock limits. Farmers' organisations were quick to call out the "double standard" on part of the government.* From Tuesday, Shetkari Sanghata, the farmer's union started by legendary farmer's leader Sharad Joshi, has started protests against this move.

FOREIGN FUNDS & NGOS

The licences of 13 non-governmental organisations (NGOs) have been suspended under the *Foreign Contribution (Regulation) Act (FCRA), 2010, this year.* Their FCRA certificates were suspended and bank accounts frozen. The Ministry of Home Affairs (MHA) said it had received



“serious adverse inputs” regarding the working of several NGOs which come under the ambit of the FCRA in tribal areas. The licences of at least two NGOs working in Jharkhand have been suspended.

What is the FCRA?

The FCRA regulates foreign donations and ensures that such contributions do not adversely affect internal security. First enacted in 1976, it was amended in 2010 when a slew of new measures were adopted to regulate foreign donations. The FCRA is applicable to all associations, groups and NGOs which intend to receive foreign donations. It is mandatory for all such NGOs to register themselves under the FCRA. The registration is initially valid for five years and it can be renewed subsequently if they comply with all norms. Registered associations can receive foreign contribution for social, educational, religious, economic and cultural purposes. Filing of annual returns, on the lines of Income Tax, is compulsory. In 2015, the MHA notified new rules, which required NGOs to give an undertaking that the acceptance of foreign funds is not likely to prejudicially affect the sovereignty and integrity of India or impact friendly relations with any foreign state and does not disrupt communal harmony. It also said all such NGOs would have to operate accounts in either nationalised or private banks which have core banking facilities to allow security agencies access on a real time basis.

Who cannot receive foreign donations?

Members of the legislature and political parties, government officials, judges and media persons are prohibited from receiving any foreign contribution. However, in 2017 the MHA, through the Finance Bill route, amended the FCRA law paving the way for political parties to receive funds from the Indian subsidiary of a foreign company or a foreign company in which an Indian holds 50% or more shares. The amendment, according to legal experts, followed accusations that the Bharatiya Janata Party and the Congress had been receiving foreign funds for political activities from the U.K.-based Vedanta Group from 2004 to 2012. The Association for Democratic Reforms (ADR), a public advocacy group, had filed a public interest litigation petition at the Delhi High Court in 2013 against both parties for violating FCRA norms by accepting foreign funds. Both parties challenged a High Court order, which had termed the donations illegal in 2014, and moved the Supreme Court. They withdrew the petitions after the FCRA was amended retrospectively.

How else can one receive foreign funding?

The other way to receive foreign contributions is by applying for prior permission. It is granted for receipt of a specific amount from a specific donor for carrying out specific activities or projects. But the association should be registered under statutes such as the Societies Registration Act, 1860, the Indian Trusts Act, 1882, or Section 25 of the Companies Act, 1956. A letter of commitment from the foreign donor specifying the amount and purpose is also required. *In 2017, the MHA suspended the FCRA of the Public Health Foundation of India (PHFI), one of India's largest public health advocacy groups, on grounds of using “foreign funds” to lobby with parliamentarians on tobacco control activities. After several representations by the PHFI to the government, it was placed in the ‘prior permission’ category.*



When is a registration suspended or cancelled?

The MHA on inspection of accounts and on receiving any adverse input against the functioning of an association can suspend the FCRA registration initially for 180 days. Until a decision is taken, the association cannot receive any fresh donation and cannot utilise more than 25% of the amount available in the designated bank account without permission of the MHA. The MHA can cancel the registration of an organisation which will not be eligible for registration or grant of 'prior permission' for three years from the date of cancellation.

Have there been suspensions in the past?

According to MHA data, since 2011, the registration of 20,664 associations was cancelled for violations such as misutilisation of foreign contribution, non-submission of mandatory annual returns and diversion of foreign funds for other purposes. As on September 11, there are 49,843 FCRA-registered associations.

What about international donors?

The government has also cracked down on foreign donors such as the U.S.-based Compassion International, Ford Foundation, World Movement for Democracy, Open Society Foundations and the National Endowment for Democracy. The donors have been placed on a 'watch list' or in the 'prior permission' category, barring them from sending money to associations without the MHA's clearance.

AMID OPPN. CONCERNS, LOK SABHA PASSES FCRA BILL

The Lok Sabha passed the Foreign Contribution (Regulation) Amendment Bill, 2020, on Monday, even as the Opposition raised concerns that the legislation may be used to target political opponents and religious minorities. Minister of State for Home Nityanand Rai, who introduced the Bill on behalf of Union Home Minister Amit Shah, defended making Aadhaar a mandatory identification document for *all the office-bearers of an NGO or an association seeking foreign donations*. He said the 2018 Supreme Court order allowed the government to make a separate law in areas where Aadhaar card is required. "A law can be brought to make Aadhaar mandatory. Why some functionaries can hide their identity," Mr. Rai asked.

Salary cap

Supriya Sule of the Nationalist Congress Party (NCP) attacked the government on limiting administrative expenses drawn from foreign donations to 20% as against the current 50%. "I request the Central government to stop bulldozing people who do good work. There may be a bad apple among the NGOs, but there are a hundred others doing good work," Ms. Sule said. Gaurav Gogoi of the Congress said the Bill aimed at curbing political dissent and due to the 20% cap, many NGOs will shut shop and many people will become jobless. Mr. Rai justified the amendment to cut administrative expenses saying many NGOs use the donations for personal use. Adhir Ranjan Chowdhury, leader of the Congress party in the Lok Sabha, also said there is a political agenda behind the legislation. Responding to the charge that the Bill would hit the funds being received by educational institutions run by the Christian community, Mr. Rai said the government is not against any religion. "This Bill is to ensure that the money being contributed from abroad is not misused".



THE FARMER — A FIELD REPORT

The government's push to reform India's agriculture sector has divided opinions and triggered a debate about the state of Indian agriculture. In the context of this debate, two long-standing characteristics of Indian agriculture are noteworthy. One, Indian agriculture is highly unremunerative. Two, it has been heavily regulated by the government and protected from the free play of market forces. According to the government, the new Bills passed by Parliament attempt to make it easier for farmers to sell to and produce for the private sector. The hope is that liberalising the sector and allowing greater play for market forces will make Indian agriculture more efficient and more remunerative for the farmers. In this context, it is important to understand some of the basics of Indian agriculture.

Holdings, income & debt

At the time of Independence, about 70% of India's workforce (a little less than 100 million) was employed in the agriculture sector. Even at that time, agriculture and allied activities accounted for around 54% of India's national income. Over the years, agriculture's contribution to national output declined sharply. As of 2019-20, it was less than 17% (in gross value added terms). And yet, the proportion of Indians engaged in agriculture has fallen from 70% to just 55%. As the Committee on Doubling Farmers' Income (2017) observes, "the dependence of the rural workforce on agriculture for employment has not declined in proportion to the falling contribution of agriculture to GDP". *A crucial statistic is the proportion of landless labourers (among people engaged in this sector) as it captures the growing level of impoverishment. It went up from 28% (27 mn) in 1951 to 55% (144 mn) in 2011. While the number of people dependent on agriculture has been burgeoning over the years, the average size of landholdings has become reduced sharply — even to the extent of being unviable for efficient production. Data shows that 86% of all landholdings in India are small (between 1 and 2 hectares) and marginal (less than 1 hectare — roughly half a football field). The average size among marginal holdings is just 0.37 ha. According to a 2015 study by Ramesh Chand, now a member of Niti Aayog, a plot smaller than 0.63 ha does not provide enough income to stay above the poverty line.* The combined result of several such inefficiencies is that most Indian farmers are heavily indebted. *The data shows that 40% of the 24 lakh households that operate on landholdings smaller than 0.01 ha are indebted. The average amount is Rs 31,000. A good reason why such a high proportion of farmers is so indebted is that Indian agriculture — for the most part — is unremunerative.* Some of the most populous states like Bihar, West Bengal and Uttar Pradesh have very low levels of income and very high proportions of indebtedness. And even the relatively more prosperous states have fairly high levels of indebtedness.

Buying & selling

Another way of understanding the plight of the farmers relative to the rest of the economy is to look at the *Terms of Trade* between farmers and non-farmers. Terms of Trade is the ratio between the prices paid by the farmers for their inputs and the prices received by the farmers for their output, explained Himanshu, an economics professor at the JNU. *As such, 100 is the benchmark. If the ToT is less than 100, it means farmers are worse off.* ToT rapidly improved between 2004-05 and 2010-11 to breach the 100-mark but since then it has worsened for farmers. A key variable in the debate is the role of minimum support prices. Many protesters fear governments will roll back the system of MSPs. MSP is the price at which the government buys a crop from a farmer. Over the years, MSPs have served several goals. They have nudged farmers towards the production of key



crops required for attaining basic self-sufficiency in foodgrains. *MSPs provide “guaranteed prices” and an “assured market” to farmers, and save them from price fluctuations.* This is crucial because most farmers are not adequately informed. *But although MSPs are announced for around 23 crops, actual procurement happens for very few crops such as wheat and rice.* Moreover, *the percentage of procurement varies sharply across states.* As a result, actual market prices — what the farmers get — are often below MSPs.

Other variables

These trends of income, indebtedness and procurement are aligned to the inter-state migration. The states that witness the most out-migration. Lastly, the government hopes that these reforms, including the relaxations to stocking food articles, will boost the food processing industry. An RBI study found that India has a lot of room to grow in this regard, and generate employment and income.

IT'S A NO GREEN SIGNAL FROM THE FARM WORLD (HIMANSHU - ASSOCIATE PROFESSOR, CENTRE FOR ECONOMIC STUDIES AND PLANNING, SCHOOL OF SOCIAL SCIENCES, JAWAHARLAL NEHRU UNIVERSITY, NEW DELHI)

In a virtual rally, the Prime Minister blamed the Opposition parties for misleading farmers about the three Bills on agriculture, in Parliament. While the Opposition may have taken up the cudgels recently, the fact is that farmers have been protesting against the Bills ever since it was promulgated as ordinances in June. These are The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020, the Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Bill, 2020, and the Essential Commodities (Amendment) Bill, 2020. The resignation of Food Processing Industries Minister (and Shiromani Akali Dal MP), Harsimrat Kaur Badal, from the Union Cabinet, and dissenting voices from various mass organisations affiliated to the Rashtriya Swayamsevak Sangh suggest that the opposition to the Bills may not be politically motivated; rather, it may be a reflection of the genuine concerns of farmers. In brief, the Bills aim to do away with government interference in agricultural trade by creating trading areas free of middlemen and government taxes outside the structure of Agricultural Produce Market Committees (APMCs) along with removing restrictions of private stockholding of agricultural produce. Attempts to reform the APMC are not new and have been part of the agenda of successive governments for the last two decades. Most farmer organisations also agree that there is excessive political interference and there is need for reform as far as functioning of mandis are concerned.

No consultation

Several reforms at the level of the central government as well as at the State level have been introduced and welcomed by farmers. However, in this particular case, the issue is not about the Bills; it is also about the process of their introduction. As was pointed out by Ms. Badal, the government has failed to have or hold any discussion with the various stakeholders including farmers and middlemen. This is also true when it comes to consultation with State governments even though the subject of trade and agriculture are part of subjects on the State list. The attempt to pass the Bills without proper consultation adds to the mistrust among various stakeholders including State governments. While the lack of consultation has certainly added to the element of mistrust between the government and farmers, some of the issues raised by farmer organisations



are also genuine; recent trends in agricultural prices and incomes have only confirmed these fears. While farmer organisations see these Bills as part of the larger agenda of corporatisation of agriculture and a withdrawal of government support, the immediate concern has been the attempt to weaken the APMC mandis and eventual withdrawal of the Minimum Support Prices (MSP) guaranteed by the government. Although the government has clarified that these Bills do not imply withdrawal of procurement by the State at MSP, there is a genuine fear among farmers about the true intentions of the government. The mistrust is not unfounded given the track record of this government on many issues including demonetisation of 2016, the introduction of Goods and Services Tax and so on. There may not be direct evidence of crony capitalism, but the entry, in a big way, of two of the biggest corporate groups (Adani and Reliance) in food and agricultural retail and the timing of the Bills have not gone unnoticed.

Reflects poor understanding

The idea of allowing greater participation of traders and farmers outside the APMC has already been in place in different form. Even otherwise, APMCs account for less than a fourth of total agricultural trade. But APMCs do play an important role of price discovery essential for agricultural trade and production choices. The vilification of APMCs and the middlemen who facilitate trade in these mandis is a poor reflection of the understanding of functioning of agricultural markets. The middlemen are a part of the larger ecosystem of agricultural trade, with deep links between farmers and traders. Most farmers are familiar with the functioning of mandis and see it as an essential part of agricultural trade despite shortcomings. While the proposed Bills do not do away with the APMC mandis, the preference for corporate interests at the cost of farmers' interests and a lack of regulation in these non-APMC mandis are cause for concern. The absence of any regulation in non-APMC mandis is being seen as a precursor to the withdrawal of the guarantee of MSP-based procurement.

The Bihar example

The dominant concern in this regard has been expressed by farmers in Punjab and Haryana. Farmers in these States have genuine concern about the continuance of the MSP-based public procurement given the large-scale procurement operations in these States. *These fears gain strength with the experience of States such as Bihar which abolished APMCs in 2006. After the abolition of mandis, farmers in Bihar on average received lower prices compared to the MSP for most crops. For example, as against the MSP of ₹1,850 a quintal for maize, most farmers in Bihar reported selling their produce at less than ₹1,000 a quintal. Despite the shortcomings and regional variations, farmers still see the APMC mandis as essential to ensuring the survival of MSP regime. While retail prices have remained high, data from the Wholesale Price Index (WPI) suggest a deceleration in farm gate prices for most agricultural produce. This has happened despite increased procurement through the MSP-based regime for paddy and wheat. Decline in basmati rice prices by more than 30% and despite higher international prices suggests the limitation of market intervention in raising farm gate prices. For most crops where MSP-led procurement is non-existent, the decline has been sharper. Even cash crops such as cotton have seen a collapse in prices in the absence of government intervention. With rising input costs, farmers do not see the market providing them remunerative prices. At the same time, ad hoc interventions by government such as raising import duties on masur and a ban on onion exports also raise suspicion about the intent of the government to leave the price discovery mechanism on the market. The protests by farmers are essentially a reflection of the mistrust between farmers and the stated objective of these reforms.*



THE BASIS OF MSP: HOW IS IT FIXED, AND HOW BINDING IS IT?

The recently enacted law that dismantles the monopoly of APMC (agricultural produce market committee) mandis, thereby allowing sale and purchase of crops outside these state government-regulated market yards, may not have faced serious farmer opposition had it included a provision safeguarding the continuance of the existing minimum support price (MSP)-based procurement regime. A mere sentence, to the effect that nothing in this Act shall stop the government from announcing MSPs and undertaking crop purchases at these rates as before, might have blunted any criticism of the new law being “anti-farmer”.

What does the law say about MSP?

The Farmers’ Produce Trade and Commerce (Promotion and Facilitation) Bill does not give any statutory backing to MSP. Forget making it a legal right, there isn’t even a mention of either “MSP” or “procurement” in the Bill passed by both Houses of Parliament last week. Agriculture Minister Narendra Singh Tomar has said the new legislation has “nothing to do with MSP”. Instead, its objective is simply to grant farmers and traders the freedom of choice to sell and buy agricultural produce outside the premises of APMC mandis. MSP and procurement, according to him, are entirely separate issues: “MSP was not part of any law before. Nor is it part of any law today.” The minister isn’t wrong. The National Food Security Act, 2013 (NFSA), passed by the previous Congress-led UPA government, provides a legal basis for the public distribution system (PDS) that earlier operated only as a regular government scheme. The NFSA made access to the PDS a right, entitling every person belonging to a “priority household” to receive 5 kg of foodgrains per month at a subsidised price not exceeding Rs 2/kg for wheat and Rs 3/kg for rice. Priority households were further defined so as to cover up to 75% of the country’s rural population and 50% in urban areas. MSP, by contrast, is devoid of any legal backing. Access to it, unlike subsidised grains through the PDS, isn’t an entitlement for farmers. They cannot demand it as a matter of right.

What is the basis of MSP then?

“It is only a government policy that is part of administrative decision-making. The government declares MSPs for crops, but *there’s no law mandating their implementation*,” explained Abhijit Sen, former Planning Commission member and chairman of the **Commission for Agricultural Costs & Prices (CACP)**. *The Centre currently fixes MSPs for 23 farm commodities — 7 cereals (paddy, wheat, maize, bajra, jowar, ragi and barley), 5 pulses (chana, arhar/tur, urad, moong and masur), 7 oilseeds (rapeseed-mustard, groundnut, soyabean, sunflower, sesamum, safflower and nigerseed) and 4 commercial crops (cotton, sugarcane, copra and raw jute) — based on the CACP’s recommendations.* But the *CACP itself is not any statutory body set up through an Act of Parliament. This, despite its coming to existence in 1965 and MSPs being announced since the time of the Green Revolution, starting with wheat in 1966-67.* The CACP, as its website states, is just “an attached office of the Ministry of Agriculture and Farmers Welfare, Government of India”. *It can recommend MSPs, but the decision on fixing (or even not fixing) and enforcement rests finally with the government.* “The government can procure at the MSPs if it wants to. There is no legal compulsion. Nor can it force others (private traders, organised retailers, processors or exporters) to pay,” Sen noted. The government does buy wheat and paddy at their MSPs. But that’s more out of political compulsion and the need to supply the PDS’s foodgrain requirements, more so post the NFSA. *The only crop where MSP payment has some statutory element is sugarcane.* This is due to its pricing being governed by the Sugarcane (Control) Order, 1966 issued under the Essential Commodities



Act. That order, in turn, provides for the fixation of a 'fair and remunerative price' (FRP) for cane during every sugar year (October-September). *But even the FRP — which, incidentally, was until 2008-09 called the 'statutory minimum price' or SMP — is payable not by the government. The responsibility to make FRP payment to farmers within 14 days of cane purchase lies solely with the sugar mills.*

Has there been any move to give MSP legislative backing?

The CACP, in its price policy report for the 2018-19 kharif marketing season, had suggested enactment of a legislation conferring on farmers 'The Right to Sell at MSP'. This, it felt, was necessary "to instil confidence among farmers for procurement of their produce". That advice, predictably, wasn't accepted. The ongoing farmer protests essentially reflect a loss of that very confidence. Is the dismantling of the monopoly of APMC mandis in wholesale trading of farm produce the first step at ending even the present MSP-based procurement programme, largely limited to wheat and paddy? If APMCs were to turn unviable due to the trades moving outside, how will government agencies undertake procurement that now takes place in mandis? These questions are playing in the minds of farmers, particularly in states such as Punjab, Haryana and MP that have well-established systems of governmental MSP purchases. For them, *freedom to sell to anyone, anywhere and anytime has little value compared to the comfort of assured procurement at MSP.*

What has the government done to address these questions?

Prime Minister Narendra Modi, on September 20, tweeted that the "system of MSP will remain" and "government procurement will continue". The Agriculture Minister, too, has pointed out that past governments never thought it necessary to introduce a law for MSP. So why even talk about MSP, leave alone incorporate guarantees relating to its continuance, in an apparently unrelated law? It remains to be seen whether these finer points would go down well on the ground. By announcing the MSPs of rabi crops for the ensuing planting season on September 21 (this was last year done on October 23) and kickstarting kharif procurement from early next month, the government may hope to counter any major farmer backlash.

Why does the provision on 'market fee' worry protesters?

Section 6 states that "no market fee or cess or levy, by whatever name called, under any State APMC Act or any other State law, shall be levied on any farmer or trader or electronic trading and transaction platform for trade and commerce in scheduled farmers' produces in a trade area". Government officials say this provision will reduce the cost of transaction and will benefit both the farmers and the traders. Under the existing system, such charges in states like Punjab come to around 8.5% — a market fee of 3%, a rural development charge of 3% and the arhatiya's commission of about 2.5%. Rajewal said that by removing the fee on trade, the government is indirectly incentivising big corporates. They said this provision does not provide a level playing field to APMC mandis. "If you calculate the mandi transaction cost on 1 quintal wheat, at 8.5% all inclusive, it comes about Rs 164. So, on the sale of every quintal of wheat outside of the mandi, you are incentivising big corporates, who will use this difference to offer better prices to farmers in the initial days. And when the APMC mandi system collapses in due course, they will monopolise the trade," Rajewal said. A government official, on the other hand, questioned why the states do not make transactions in mandis cost-efficient. "When they are giving free electricity and other subsidies, why can't they provide a free facility to farmers for selling their produce?" the official said.



What is the objection as far as dispute resolution is concerned?

The protesters say that the provision on dispute resolution under Section 8 does not sufficiently safeguard farmers' interests. It provides that in case of a dispute arising out of a transaction between the farmer and a trader, the parties may seek a mutually acceptable solution through conciliation by filing an application to the Sub-Divisional Magistrate, who shall refer such dispute to a Conciliation Board to be appointed by him for facilitating the binding settlement of the dispute. Farmers fear the proposed system of conciliation can be misused against them. They say the ordinance does not allow farmers to approach a civil court.

MAHARASHTRA GOVT'S PRE-SEASON LOAN GUARANTEE FOR 32 SUGAR CO-OP MILLS

The Maharashtra government on Tuesday (September 22) agreed to be the guarantor for 32 sugar mills to avail pre-season loans. In doing so, the government diluted its own norms for providing guarantees to sugar mills, and burdened the cash-strapped exchequer with expected contingent liabilities of Rs 391 crore. The approval came into force on Thursday (September 24).

Why did the government agree to guarantee the loans of these 32 sugar mills?

The government has argued that this was necessary to "ensure that all the cane is crushed in time" so that sugarcane farmers get the benefits. The state cooperatives department is anticipating a bumper cane crop this year. The decision was taken by a Cabinet sub-committee headed by Deputy Chief Minister and Finance Minister Ajit Pawar. The measure was necessitated to ensure that financially stressed sugar mills are able to operate ahead of the crushing season beginning October 20. The sugar industry has significant clout with Chief Minister Uddhav Thackeray's Maha Vikas Aghadi government, 16 of whose 43 ministers have direct links with cooperative or private sugar mills.

How does a government guarantee help the mills?

The government guarantee is only for cooperative sugar mills. Ninety out of the 180 sugar mills that are currently functional in Maharashtra are cooperatives; the rest are privately owned. The government had received proposals seeking financial support from 38 of the 90 cooperative sugar mills. After scrutiny, the government agreed to give guarantees to 32 of these mills. Once the government becomes a guarantor, the sugar mills can access loans from the Maharashtra State Cooperative Bank or district cooperative banks. In the absence of a state guarantee, these banks cannot give loans to sugar mills with a negative worth, as per the guidelines of NABARD and RBI regulations.

Why is the loan important, and how will banks recover their money?

The state government is a facilitator, but the onus of repayment lies with the sugar mills. But once the mills take the loans from banks, they will have to repay them by May 31, 2021. If there is a surplus of cane for which an extended crushing period is required, the repayment deadline can be extended until June 15. The pre-season loan is important for financially weak banks, which cannot otherwise commence operations. Ahead of the crushing season, a sizable sum of money is invested in the revival and management of mills shut down after the previous season. More importantly, the sugar mills have to make advance payments to contractors who provide the farm labourers.



Why are sugar mills in financial difficulty?

Multiple reasons have been attributed. Mill owners often complain that the centrally-mandated fair price remuneration to cane cultivators is unrealistic. But mismanagement and the lack of transparency in the running of the mills are serious problems. The political class is deeply entrenched in the sugar industry, and there is corruption, including the diversion of loans from cooperative banks, and misuse of funds to serve personal vested interests. Price fluctuations in the international market also impact the financials of the mills. However, some 50-55 cooperative mills are making profits. According to the sugar commissioner's assessment, some 170 lakh metric tonnes of sugarcane will be processed in the 32 sugar mills that the government has committed to help. The mandatory fair price remuneration to farmers is currently Rs 2,850 per metric tonne — which adds up to Rs 4,800 crore for 170 lakh tonnes of cane, payable to approximately 2 lakh farmers. Sugarcane cultivation in Maharashtra this year is on 10.50 lakh hectares, and involves 20 lakh cultivators. Production in the current season is estimated at 815 lakh metric tonnes.

WHAT WAS MAHARASHTRA'S 70:30 SYSTEM OF MEDICAL ADMISSIONS, AND WHY WAS IT SCRAPPED?

Maharashtra Medical Education Minister Amit Deshmukh last week announced the repealing of the 70:30 regional quota in admission to state medical colleges in favour of a 'One Maharashtra, One Merit' principle. The medical fraternity, including student organisations, welcomed the move as the successful conclusion of a long battle for seats in colleges.

What was the so-called 70:30 quota?

It was a longstanding policy of regional reservation of seats in medical colleges. For the purposes of this quota in admissions, the state was divided into three regions: Marathwada, Vidarbha, and Rest of Maharashtra (RoM). As per the 70:30 policy formula, 70% of seats were reserved for locals (from that region), and 30% were available to candidates belonging to other parts of the state.

What grievances did students have about this quota?

The number of colleges – and the number of seats – available in the three regions are different. Marathwada has fewer colleges and fewer seats, which puts students from this region at a disadvantage compared to students availing the 70% quota elsewhere. This would often result in complaints about even meritorious students failing to get admission – also because their options outside their region were restricted to just 30% of seats.

What has changed now?

As per the amendments to the 2016 Act published by the state government, all seats shall be made available to all candidates from the state, and shall be filled on the basis of the National Eligibility cum Entrance Test (NEET) merit list. As earlier, 25% seats in unaided private professional educational Institutions shall be allotted to candidates from the constitutional reservation category. Thirty per cent of seats at the disposal of the competent authority shall be reserved for women in all courses. The same provisions will apply to ayurveda, unani, homeopathy, physiotherapy, occupational therapy, speech therapy, prosthetics and orthotics, and B.Sc Nursing courses.



But why do the numbers of medical colleges differ from region to region?

Among other things, political considerations have over the decades determined the pace and focus of development, including the setting up of medical colleges in the state. A former government official who has seen these political pulls and pushes closely for many years, said: “Earlier, three colleges were started at a time, one in each of these regions. But this changed in subsequent years. Former Chief Minister Devendra Fadnavis, for example, was committed to the development of Vidarbha, and led the efforts to start government medical colleges in Chandrapur (2015) and Gondia (2016). “Then Medical Education Minister Girish Mahajan pushed for a college in his constituency, Jalgaon. And Deputy Chief Minister Ajit Pawar had a considerable role in getting GMC Baramati sanctioned and started in 2019.” According to this official, there was considerable resentment among people in Marathwada, where medical seats did not increase for many years. The current Minister for Medical Education, Deshmukh, belongs to Latur in Marathwada.

OK, but why was this system of reservation introduced in the first place?

The reservation was introduced nearly 20 years ago, when nearly all the seats would be filled by local students only. Due to norms that allowed medical colleges to only admit students from select regions, meritorious students from other zones were deprived of seats in the sought-after colleges in Mumbai, Pune, and Nagpur. The reservation was seen as a more fair system. It also allowed students from various parts of the state to mingle with and get to know each other. “Earlier, exams were conducted by the Maharashtra University of Health Sciences. The all-India NEET was introduced in 2017, after which this provision should have been removed. NEET was introduced to ensure merit-based admissions, which could not have co-existed with region-based reservations. The fight had been ongoing for three years,” T P Lahane, Director, DMER, said.

NOIDA FILM CITY PLANS AND UP GOVT’S EFFORTS TO PROMOTE FILMMAKING

Uttar Pradesh Chief Minister Yogi Adityanath on Thursday announced that his government will establish the country’s ‘biggest’ film city in Gautam Buddha Nagar. With several films and web series now being shot in the state, the dedicated film city is likely to bring employment while providing a haven for filmmakers.

What does the announcement entail?

Though a proposal for the film city is yet to be prepared, Yamuna Expressway Industrial Authority (YEIDA) is in the process of looking for appropriate land for the ambitious project. The proposal will also include suggestions of members of the film industry to make it the most conducive environment for filmmaking.

What has been the state government’s efforts to promote filmmaking so far?

Film Bandhu, a nodal agency of the state government, overlooks the implementation of the Film Policy. In 2019, the government announced an incentive of Rs 50 lakh to any Indian or overseas filmmaker if the movie was shot in English or any regional language except a regional language of UP. Recently, Anurag Kashyap’s movie on female shooters of Baghpat – Saand Ki Aankh – was declared tax free by the state government.



What are the key hubs for film production in the state?

A Film City has already been established in Noida's Sector 16 A area. Spread over 100 acres, with 75 acres outdoor and 25 indoor, the Film City houses several studios belonging to media houses. Even though the area is called Film City, over the years it has developed into a commercial complex with corporate offices taking up most space. As per the Film Policy, the government is looking to set up film processing production facilities in Lucknow and Varanasi, besides Western UP. An expert agency will study a Detailed Project Report for each calendar year to suggest areas most suitable for film production and shooting.

WHAT IS UP'S NEW SPECIAL SECURITY FORCE, AND WHY HAS IT BEEN CRITICISED?

Amid controversy over the provisions of the Uttar Pradesh Special Security Force (UPSSF) that allow arrests "without warrant" or the "order of the magistrate", the state government has claimed that the force, which was notified on August 31, is no different from special forces like the CISF at the Centre, or those in states like Odisha or Maharashtra. What are the provisions of the Uttar Pradesh Special Security Force Act, 2020; how do they compare with the Central Industrial Security Force Act, 1968, and the Maharashtra State Security Corporation Act, 2010?

What is the UPSSF?

The force was announced on June 26, 2020, after Chief Minister Yogi Adityanath asked for the setting up of a CISF-like force to guard important institutions and persons. The proposed force was envisaged as having "high-level professional skills", which would reduce the burden on the Provincial Armed Constabulary (PAC), which could then focus on law and order. The new "state vital installation force" would protect courts, airports, banks, the Metro, industrial units, places of worship, as well as individuals, the government said. It claimed that Maharashtra and Odisha had similar forces. On July 30, the state Cabinet okayed the creation of an eight-battalion force, with five battalions comprising about 9,900 personnel, to be raised in the first phase. A Bill to create the force was passed in the Monsoon Session of the state Assembly. The force was notified on August 31 and, last week, the state Director General of Police was given a deadline of three months to ensure the force was on the ground. The UPSSF will be led by an Additional Director General-level officer, followed by an Inspector General, Deputy Inspector General, Commandant, and Deputy Commandant.

Why was such a force needed?

According to the UPSSF Act, the force has been constituted to provide "better protection and security of a body or a person, or the residential premises" notified by the state government, and vital installations including courts, "administrative offices, shrines, Metro rail, airports, banks, other financial institutions, industrial undertaking," etc. The Act lays down its purpose as "to maintain the smooth and strong security arrangements of the vital establishments and of notified persons, as at the Centre and in other states, there is no special security force established in the state of Uttar Pradesh. "The work of protecting these sites and persons is being done by the police and Pradesh Provincial Armed Constabulary Force, which are not specially trained and skilled for this task." It has also cited a direction of the High Court while taking suo motu cognizance of the security situation at all court premises across Uttar Pradesh.



So what is the controversy about?

Subsection (1) of Section 10 (“Power to arrest without warrant”) of the UPSSF Act says: “Any member of the force may, without any order from a Magistrate and without a warrant, arrest any person, who voluntarily causes hurt...”, or a person against whom there is a “reasonable suspicion”, or any person, who attempts to “commit a cognizable offence”. The force will also have the right to remove trespassers on the premises under its protection. However, the Act also says that the manner in which the powers under this section would be exercised would be “governed by the rules prescribed in this behalf”. The UP Director General of Police was asked to prepare the roadmap within three days, and to propose the corresponding rules within 15 days.

Do other Acts have a similar provision?

Section 10 of the UPSSF Act is similar to Section 11 of the CISF Act, 1968, which lays down the “Power to arrest without warrant”. It says: “Any member of the Force may, without any order from a magistrate and without a warrant, arrest (i) any person who voluntarily causes hurt to, or attempts voluntarily to cause hurt to, or wrongfully restrains or attempts to wrongfully to restrain or assaults, or uses, or threatens or attempts to use criminal force to any employee”, or any person against whom there is “reasonable suspicion”, or any persons who attempt to “commit a cognizable offence”. Section 16 of the Maharashtra State Security Corporation Act, 2010, under the “Power to arrest without warrant”, says: “The procedure and power to arrest shall be exercised by the members of the security force as provided under Chapter V of the Code of Criminal Procedure, 1973.” Like UPSSF Act and CISF Act, the Maharashtra Act also requires that an arrested person be handed over to a police officer or to the nearest police station. Section 11 of the Odisha Industrial Security Force Act, 2012, also defines “Power to arrest without warrant”. It is similar to the CISF and UPSSF Acts: “Any member of the Force may, without any order from a Magistrate and without a warrant... arrest a person who voluntarily causes hurt, or against whom there is reasonable suspicion or who commits a cognizable offence.” These Acts also have similar provisions for not just making arrests, but also “search without warrant”.

OK, and are their ways in which the UPSSF Act differs from the other Acts?

The UP Act is similar to the others in the provisions regarding arrests and searches without warrant, but is different in the kinds of institutions that the force has to protect, and the protection that is granted to members of the force. The CISF and Odisha Industrial Security Force are meant to protect “Industrial Undertakings”; the Maharashtra State Security Corporation secures “State and Central Government offices, undertakings, establishments, institutions, employees of all such establishments, Public Sector Undertakings, Vital Installations, Financial Institutions, Religious Institutions, Cultural Institutions, Medical Institutions or commercial establishment like Malls, Multiplexes, Clubs and Hotels etc.” The UPSSF has a wider remit – it will provide security to not just to a body but also to “a person”, and to “the residential premises”. The Maharashtra Act defines “Vital Installations” as “establishments, which if damaged or sabotaged, affect the economy, safety and security of the country or state” – for example, the Bhabha Atomic Research Centre, atomic power stations, power grids, etc. The UPSSF’s definition of “Installation”, by contrast, also includes “statue” and “monument”. The UP Act defines “Establishment” as both public and private buildings.



What about the protection available to the force itself?

Sections 15 and 16 of the UPSSF Act, 2020, offer “protection of action taken in good faith” and “cognizance of offence”. This is a sweeping protection – no court will be able to take cognizance of the offence against any member of the force without prior sanction from the state government. Also, Section 15 of the Act says: “No suit or prosecution shall lie against any officer or member of the force or against any person on acting under the order or the direction of any officer or member of the force for anything, which is done or intended to be done in good faith”. Section 16 says: “No court shall take cognizance of an offence against any member of the force” for action taken in the discharge of his duties. In the case of the CISF, if any “suit or proceeding” is pending against any member of the force, he gets the opportunity to plead that his action was under orders from a competent authority. Such plea would have to be “proved by the production of the order directing” him. Such legal proceedings must commence within three months of the commission of the act or the filing of the complaint. The Odisha Industrial Security Force Act, 2012 provides protection that is similar to that being provided to the members of the UPSSF. Under the Maharashtra State Security Corporation Act, no member or officer “shall be liable for any criminal or civil action in any suit or proceedings for the act done in good faith in discharge of duties”.

700-PLUS PLACES IN INDIA THAT BEAR THE NAMES OF MUGHALS TODAY

Questioning “how Mughals can be our heroes”, Uttar Pradesh Chief Minister Yogi Adityanath on Monday (September 14) decided to name the upcoming “Mughal Museum” in Agra after Chhatrapati Shivaji Maharaj. An official spokesperson said Adityanath’s government stood for the nationalist ideology, and “anything which smacks of subservient mentality will be done away with”. “How can our heroes be Mughals?” the spokesperson said. “The very name of Shivaji will invoke a feeling of nationalism and self-esteem”.

How strong is the imprint of the Mughals across India?

The rule of the Mughals (1526-1857) is entwined inseparably with India’s history and culture. Apart from the historical monuments that they have left behind, the most visible legacy of their rule today is in the various towns and villages across India that bear their names. *Of the 6 lakh cities, towns, and villages that make up the country, as many as 704 carry the name of the first six Mughal emperors, viz., Babur, Humayun, Akbar, Jahangir, Shahjahan and Aurangzeb. The empire was its strongest during the period from the ascension of Akbar to the throne in 1556 and the death of Aurangzeb in 1707.* The dynasty was founded by Babur, who defeated the Sultan of Delhi Ibrahim Lodhi in the first battle of Panipat in 1526 and ruled for the next four years. Babur’s son, Humayun lost control over the kingdom during a period of turmoil, which saw the Afghan Sur dynasty establish itself over a very large part of North India from around 1540 (when Sher Shah Suri defeated Humayun in the battle of Kannauj) to 1555-56.

Which Mughal emperor has the most places named after him?

The most visible legacy is that of Akbar, who today has 251 villages and towns named after him. He is followed by Aurangzeb (177), Jahangir (141), Shahjahan (63), Babur (61), and Humayun (11).



And where are these places located?

*The majority of these places are in Northern and Central India, where the heart of the Mughal empire was located. Among modern Indian states, Uttar Pradesh tops the list – with 396 of its 1 lakh-plus villages and towns bearing the names of the Mughals. UP is followed by Bihar with 97, Maharashtra 50, and Haryana 39. Nearly half of these places bear standalone names such as Akbarpur, Aurangabad, Humayunpur and Babarpur; however, there are also syncretic names such as Akbar Nivas Khandrika and Damodarpar Shahjahan. **The most common name is Akbarpur – of which there are nearly 70 across the country – followed by Aurangabad, which is the name of 63 places.** (An obvious example is the city and district of this name in both Maharashtra and Bihar; both Aurangabads are also Lok Sabha and Vidhan Sabha constituencies in these two states.)*

What has prompted the UP government to rename the museum in Agra after Shivaji?

Since coming to power in 2017, the Adityanath government has renamed several places in the state: the important railway junction Mughalsarai was renamed as Pandit Deen Dayal Upadhyaya Nagar, Allahabad as Prayagraj, and Faizabad as Ayodhya. The renaming is in line with the Sangh Parivar's ideological commitment to reclaiming the "original" lost glory of India in pre-Islamic times. Shivaji's association with Agra is generally remembered for his spectacular escape from Mughal captivity in the city in 1666. Shivaji had been persuaded to visit Aurangzeb's court with promises that he would not be harmed; however, he received a cold reception from the Emperor, and a guard was put around the building in which he was kept. A few months later, Shivaji and his son made their daring escape, being carried past the guards concealed in baskets, while an aide pretending to be him feigned illness inside the building. *The move to put Shivaji's name to a building in Agra also signifies an attempt by the BJP to steal a march over its ally-turned-bitter rival Shiv Sena, which, despite having spoken about renaming Aurangabad (Maharashtra) for the past two decades, has been unable to do so yet.*

THE REASON OF MAMATA BANERJEE'S RS 1,000 SOP FOR BRAHMIN PRIESTS

West Bengal Chief Minister Mamata Banerjee *announced a monthly allowance of Rs 1,000 and free housing for 8,000 poor Sanatan Brahmin priests in the state. The priests are likely to start getting their allowance during Durga Puja, the biggest festival in Bengal, Banerjee said. The move to extend financial assistance to Brahmin purohits comes ahead of 2021 state Assembly elections, and at a time when the ruling Trinamool Congress is facing a huge challenge from the BJP.*

Accusations of Muslim 'appeasement'

In April 2012, a little less than a year after coming to power, the Chief Minister had announced an allowance of Rs 2,500 each for Imams and Rs 1,500 each for muezzins who give the aazaan, or call to prayer. The Opposition, especially the BJP, had criticised the state government's move and accused it of indulging in minority appeasement. Then state BJP general secretary Asim Sarkar had challenged that decision in Calcutta High Court which, in September 2013, rejected the allowance as unconstitutional and against the public interest. The monthly allowances had subsequently been routed through the state Wakf Board. However, no such provisions were made for Hindu priests, which left scope for a political campaign targeting the Trinamool's alleged anti-Hindu bias. Mamata chose not to directly address the demands of the Brahmin priests, and instead moved her focus to Gangasagar Mela and pushed for its overall development. Thousands of pilgrims gather at Sagar Island during Makar Sankranti every year to take a dip at the point at which the



Hooghly falls into the Bay of Bengal, and to offer prayers at the Kapil Muni Ashram. Politically, the Trinamool continued to criticise the BJP for celebrating Ram Navami and Hanuman Jayanti across the state, further widening the gap between the party and a hardcore section of the Hindu electorate, many of whom were North Indians settled in Bengal. In 2017, Mamata announced that the immersion of Durga idols would be halted for Muharram – a step taken to ensure there were no law and order situations, but which did not go down well with a section of Hindus, and gave the BJP fresh political ammunition against her government.

After 2019 elections, a change

The 2019 Lok Sabha elections marked a paradigm shift in the state's politics. The BJP did exceptionally well, winning 18 seats and receiving 40.3 per cent of the vote. During the campaign and afterward, it carried out sustained attacks against the Trinamool, accusing it of appeasing Muslims and neglecting the sentiments of the Hindu community. The TMC did badly in seats with considerable SC and ST votes, and in seats with a significant number of Hindi-speaking people. Under fire from the saffron brigade, the TMC government took note of the unhappiness of Hindu voters. In August 2019, a first-of-its-kind rally was organised by the Paschim Banga Rajya Sanatan Brahmin Trust in the heart of Kolkata, where thousands of Brahmin purohits gathered to press for a nine-point charter of demands. *The demands included a stipend for purohits who were senior citizens, monthly stipends for working purohits, houses for homeless Brahmins, identity proof for the community, providing Sanskrit education in schools from Class 5, and setting up of 'tols' or educational institutes for children of Brahmins.* The event was attended by state Minister Rajib Banerjee, who promised stipends, houses, and health insurance to Brahmin purohits. Also in August last year, the TMC government had announced a financial assistance of Rs 10,000 for each of the 28,000 Durga Puja committees spread across the state, and a 25 per cent reduction in the power tariffs of puja pandals. There were also efforts to break the BJP's claim to be the sole representative of Hindu interests, and to reclaim traditional Hinduism. In January this year, the Birbhum district TMC led by Anubrata Mondal organised a first-ever daylong "Brahmin Purohit Sammelan" (Brahmin Priests Convention) in Bolpur to highlight the misinterpretations of Hinduism by the BJP. Each one of the priests was felicitated with a copy of the Bhagavad Gita, a shawl, and pictures of Sarada Ma and Sri Ramakrishna. *Mamata announced an insurance policy of Rs 5 lakh for all individuals visiting the Gangasagar Mela. She accused the Centre of not providing funds for the Mela, even as it was providing financial assistance for the Kumbh Mela. During this year's Ram Navami and Hanuman Jayanti festivals, TMC leaders took out rallies.*

A continuing tussle with the BJP

On August 5, the day Prime Minister Narendra Modi travelled to Ayodhya for the bhoomi puja ceremony of the Ram Temple, Mamata's government announced a statewide lockdown as part of its ongoing efforts to arrest the spread of the novel coronavirus infection. But the BJP seized the moment politically, accusing the TMC government of specifically choosing August 5 as the one of the lockdown days in order to stop the party and its supporters from celebrating the bhoomi puja in Ayodhya. At a virtual conference, BJP national president J P Nadda recently accused the Mamata government of having an "anti-Hindu mindset" and of pursuing policies of minority appeasement.

Why do Brahmin priests matter?

The announcement comes in the backdrop of the BJP's attacks. It is clear from the TMC government's approach that it is taking the BJP seriously. As Assembly elections approach – the



term of Mamata's second government ends on May 30, 2021 – the party is seeking the support of the bulk of the Hindu community. *Brahmin priests as a group are seen to have influence in the larger Hindu community, and could potentially help swing towards the TMC a section of the Hindu vote that would otherwise go to the BJP.* Through this measure, the state government is also seeking to shed its image of a government that appeases minorities for votes, and to send out a message of inclusiveness. The 2019 Lok Sabha elections showed a thin margin of just 3 percentage points between the vote shares of the TMC (43.3%) and BJP (40.3%). It is critical for the Trinamool Congress to put greater distance between the BJP and itself if it is to give itself a degree of comfort going into the Assembly elections. In the months after Durga Puja (in October) as the political battle heats up further, other similar signals to the Hindu community can be expected from the government.

EGGS OR NOT: WHY MADHYA PRADESH IS DEBATING ANGANWADI MEALS AGAIN

Ahead of bypolls in 27 seats, the BJP government in Madhya Pradesh finds itself walking a tightrope after Women and Child Welfare Minister Imarti Devi recently reiterated her proposal to provide eggs to children in anganwadis and pregnant women to fight malnourishment. Imarti Devi is one of the 22 Congress MLAs who had followed Jyotiraditya Scindia into the BJP, enabling the party to return to power in March this year.

How old is this proposal?

The proposal to provide eggs to children under the Supplement Nutrition Scheme (SNS) under the Integrated Child Development Scheme (ICDS) was first mooted in 2009. In 2015, it reached the Cabinet for discussion but was dismissed by the BJP government. That year, Chief Minister Chouhan famously said he would never let it happen while he remained CM. When the Kamal Nath-led Congress government came to power in 2018, the proposal came up again. The proposal, from Imarti Devi, Women and Child Welfare Minister in the Congress government, got stuck due to financial concerns. The BJP opposed it again, with then Leader of Opposition Gopal Bhargav saying that if children are fed eggs from childhood, they might grow up to become cannibals. The proposal was planned for implementation from April 2020, but by then the Congress had lost power.

When did the proposal come up again?

During an interaction with journalists in Gwalior, Imarti Devi was asked if she would raise her earlier proposal after having joined the BJP. She replied that she would indeed stick to her proposal to provide eggs to children and pregnant women, because eggs are high in nutrition. It would not be compulsory but only for those willing to eat eggs. For vegetarians, alternatives would be available in the form of milk and banana. "The health of children is important," she told journalists, and added that she would discuss it with the Chief Minister. However, when contacted, she refused to comment about it.

How prevalent is malnourishment in Madhya Pradesh?

Madhya Pradesh is one of the worst affected states by malnourishment, with the state's tribal population worst affected. According to the National Family Health Survey (NFH-4), at least 42% of children under age five are stunted while another 43% are underweight. Again, 26% are wasted (thin for their height) while 9% are severely wasted. The lockdown has disrupted various government



schemes for providing nutrition. A survey conducted by the NGO Vikas Samvad in 122 villages of six districts — Rewa, Satna, Panna, Umaria, Niwari and Shivpura — found that the nutrition intake dropped in children (by 51%), pregnant women (67%) and lactating mothers (68%). The majority of the residents in these villages were tribals and SCs. Veena Shatrughna, retired deputy director of the National Institute of Nutrition, explained that eggs are a complete food that contain all nutrients except vitamin C. “For providing a wholesome meal for children, the right combination of various food including dal, rice, fruits and milk will have to be supplied in the right quantity if they are not given eggs,” she said.

Why is it a difficult decision for MP?

Over 40% of Madhya Pradesh's population is vegetarian. The proposal has faced stiff opposition from various communities, notably the Jain community. In a post on social media, Jain community leaders have warned that only those parents who wished to have their children fed eggs should vote for Imarti Devi, who would be contesting from Dhabra constituency in the upcoming bypolls.

How has the minister's party reacted?

Following Imarti Devi's statement, BJP chief spokesperson Deepak Vijayvargiya clarified that it was the minister's personal view and the government would take into consideration the sentiments of all communities before taking any decision. “We don't want children to be divided along the lines of those who eat eggs and those who do not. We are opposing it as it is dividing children based on their eating habits,” he said. Food habits are a personal choice for people and the government cannot promote this through a scheme where eggs would be distributed in a public space and can be offensive to other communities, he said. “The Jain communities do not even eat onions; how is it acceptable to serve eggs then?” he said. Asked about the proposal, Rajya Sabha MP Scindia said the matter is between Imarti Devi, who is the minister, and Shivraj Singh Chouhan who is the head of government. “It is for the government to decide,” he said. Chouhan has not made any statement on the minister's proposal.

How many states provide eggs to children at anganwadi centres?

At least 14 states, including some ruled by the BJP, have so far been providing eggs as a part of the ICDS. According to the National Baseline Survey of 2014, in nine of these 14 states — Telangana, Odisha, Andhra Pradesh, West Bengal, Jharkhand, Tamil Nadu, Bihar and Kerala — 95% of the population is non-vegetarian. In the remaining five states — Tripura, Karnataka, Jammu and Kashmir, Assam and Chhattisgarh — over 70% of the population is non-vegetarian.

COVID-19 REACHES REMOTE TRIBES OF ODISHA: WHY IT'S A MATTER OF CONCERN

After six members of two primitive tribes in Odisha contracted Covid-19, the National Commission for Scheduled Tribes has sought a report from the state government. In what the commission has termed a “matter of grave concern”, one member of the Bonda tribe and five from the Didayi tribe tested positive for the novel coronavirus in the last week of August. Odisha has so far recorded 1,84,122 Covid-19 cases, with 37,684 active cases.

What is a Particularly Vulnerable Tribal Group?

A PVTG (earlier, Primitive tribal group) is a Government of India classification for tribes based on their relative physical isolation, stagnant or declining population, low levels of literacy and pre-



agricultural stage of economy, such as hunting, food gathering, shifting cultivation and terrace cultivation. The classification was adopted by the GOI after the Dhebar Commission (1960-1961) stated that within the Scheduled Tribes there existed an inequality in the rate of development. During the fourth Five Year Plan, a sub-category was created within Scheduled Tribes to identify groups at a lower level of development. This sub-category was called "Primitive tribal group", which is now PVTG.

What are the PVTGs in Odisha?

Of the 62 tribal groups in Odisha, 13 are recognised as PVTGs – the highest in the country. At present, Odisha has a population of 2.5 lakh belonging to the PVTGs, residing in nearly 1,429 villages in 11 districts. The PVTGs of the state have been identified as *Bonda, Birhor, Chuktia, Bhunjia, Didayi, Dungaria, Kandha, Hill Kharia, Juang, Kutia Kondh, Lanjia Saora, Lodha, Mankirida, Paudi, Bhuyan and Saora*. The Bondas and Didiayis are found in the Malkangiri district of the state, which shares its border with Andhra Pradesh on the east and south and Chhattisgarh on the west. The Bondas, scattered across 32 remote hilltop villages in the Eastern Ghats of Malkangiri district, are believed to have come to India as part of the first wave of migration out of Africa about 60,000 years ago. The Didayis – a little known Austro-Asiatic tribe – live in the immediate neighbourhood of the Bondas.

Why is PVTG members contracting Covid a 'matter of grave concern'?

According to the 2018 newsletter of the Poverty and Human Development Monitoring Agency (PHDMA), Government of Odisha, which covered the socio-economic status of PVTGs, "The health status of PVTGs is low due to multiple factors like poverty, illiteracy, lack of safe drinking water, poor sanitary conditions, difficult terrain, malnutrition, poor access to maternal and child health care services, superstition, nonavailability of adequate health care services and deforestation." The government newsletter also states that diseases like upper respiratory problem and malaria, gastrointestinal disorders like acute diarrhoea and intestinal protozoa, micro nutrient deficiency, and skin infection are common among them. According to tribal activists, the tribes' remote habitats also lack the required minimum administrative set-up and infrastructure. "They maintain a community life and if one person is infected, the infection is likely to spread, which is why this calls for special attention. In the last 20-30 years, their way of living has changed. Earlier they consumed salt and forest produce. Now they also depend on ration provided by the administration. However, their immunity levels remain debatable," a tribal researcher from the state closely working with the PVTGs said.

How did the PVTGs in Odisha contract the virus?

While the members of the vulnerable tribes were earlier confined to their community and habitat, in the last few years, the current generation has started migrating to other districts due to the lack of livelihood opportunities. The number of people migrating, however, remains negligible. The source of infection in these cases is so far unknown. "There could be many possible sources of infection. The members go to weekly rural markets. Some of them have also returned from other districts. So it is difficult to zero down on one particular source of infection. However, the infection has been controlled," said Malkangiri Collector Manish Agarwal.



INS VIRAAT FINAL JOURNEY AND WHAT LIES AHEAD

INS Viraat, the Aircraft Carrier with the longest service in the world, commenced its towed final journey on Saturday from Mumbai, to be broken at Alang in Gujarat and sold as scrap. A look at the Grand Old Lady of Indian Navy, which was decommissioned in 2017 after 30 years of service with Indian Navy and around 27 years prior to that in British Royal Navy.

British origin

The ship was commissioned into the Royal Navy as HMS (Her Majesty's Ship) Hermes in November 1959, close to one and half decades after its keel was laid. During her service with the Royal Navy, the ship operated three fixed-wing planes and a chopper. The ship belonged to the Centaur class of light fleet carriers from the Royal Navy which were in use since World War II. She was part of the key formation of the British forces during the Falklands War against the Argentinian forces in 1982. HMS Hermes was decommissioned within three years after the war. The Indian Navy, which was at the time operating 1961-commissioned INS Vikrant, zeroed down on Hermes and announced its purchase in 1985-86. The ship underwent a major refit and modernisation before being commissioned into the Indian Navy in May 1987 as INS (Indian Naval Ship) Viraat, which means enormous.

Service in Indian Navy

The ship's Motto was the Sanskrit phrase 'Jalamev Yashya, Balamev Tasya' which means 'who controls the sea is the powerful'. The ship was capable of a maximum speed of 28 knots and underwent three major refits and some smaller ones during its 30 years long service with the Indian Navy in addition to the one prior to commissioning. The refits which are usually long processes, include complete overhaul, renovation and many upgrades of capabilities. The ship, during its service, operated one fixed wing aircraft British made Sea Harriers and three helicopters — Anti Submarine aircraft Sea King Mk 42B, Sea King Mk 42 C, Chetak on board. Some other helicopters including Indian made ALH Dhruv have also been operated from it during its service. INS Viraat proved pivotal in Operation Jupiter in 1989 during the Sri Lankan Peacekeeping operation. Subsequently, the ship was affiliated with the Garhwal Rifles and Scouts of the Indian Army in 1990. The ship was also deployed during 2001-02 operation Operation Parakram following the terror attack on the Indian Parliament. She has also played a major role in calibrating the flying activities from the carrier, which proved to be of great help at the time of induction of INS Vikramaditya (previously Admiral Gorshkov), which is currently the sole aircraft carrier operated by Indian Navy. Viraat's displacement, the indirectly measured weight of the ship, was 28,700 tonnes compared to Vikramaditya's 45,500 tonnes.

Viraat's decommissioning and what lies ahead

With mounting operating costs and age, the Navy announced the decision to decommission Viraat in early 2015. *After the requisite pre-decommissioning processes at Kochi Shipyard, the 'Grand Old Lady' was decommissioned on March 6 in 2017, in a ceremony held at Mumbai. There were plans and even some movements by the state governments of Maharashtra and Andhra Pradesh governments at the time towards preserving the historic carrier and converting it into a museum. There were also crowdfunding efforts towards the same goal, which were unsuccessful. However, after not receiving any concrete bid towards preservation, the Centre decided to auction the ship to be broken and sold as scrap.* Since 2017, India has been operating a single carrier — INS Vikramaditya — as against



the minimum essential operational requirement of having two Carrier Battle Groups — which are formations of ships and submarines with Aircraft Carriers at the lead role.

Indigenous Aircraft Carrier on the anvil

India's first Indigenous Aircraft Carrier (IAC-I) INS Vikrant which has a displacement comparable to Vikramaditya is under construction at Kochi Shipyard and is soon expected to undergo sea trials. The Navy's Maritime Capability Perspective Plan looks at three carriers in total considering one of them requiring to be under refit. This requirement becomes crucial considering China's aim to gain control over the Indian Ocean Region and sea routes which are key for world trade. PLA Navy's present strength is of two carriers with plans to double it by the end of 2020s.

SCIENCE BEHIND AIR-BREATHING SCRAMJET ENGINE

The Defence Research and Development Organisation (DRDO) performed a major technological feat on September 7 when it flew a cruise vehicle at a hypersonic speed of Mach six for 20 seconds. The DRDO called the cruise vehicle Hypersonic Technology Demonstrator Vehicle (HSTDV). The centrepiece of the HSTDV was the indigenously developed air-breathing scramjet engine, which formed the HSTDV's propulsion system. If the mission's aim was to prove this scramjet engine in flight, it was achieved. The critical technologies developed for the HSTDV mission were the scramjet engine and its ignition, sustaining the ignition, ethylene fuel, generation of maximum energy from the engine, development of materials to take care of the high temperatures that occurred due to air friction on the leading edges of the cruiser's wings, tail surface and nose tip, and controlling the HSTDV with minimum drag and maximum thrust. *In a scramjet engine, air from the atmosphere is rammed into the engine's combustion chamber at a supersonic speed of more than Mach two. In the chamber, the air mixes with the fuel to ignite a supersonic combustion but the cruiser's flight will be at a hypersonic speed of Mach six to seven. So it is called supersonic combustion ramjet or Scramjet.*

Launched from Odisha

On the D-day, a launch vehicle, which was derived from Agni 1 missile, rose from its launch pad in Odisha, carrying the HSTDV. The Agni 1 booster climbed to a height of 30 km in 12 seconds at a speed of Mach 5.6. The launch vehicle's control systems were rugged enough to take care of its ascent through the atmosphere when it would experience heavy loads. When the launch vehicle reached an altitude of 30 km, the air intake ducts in the scramjet engine opened just before the launch vehicle separated smoothly. At 30 km altitude, the cruise vehicle's nose cone split in two and fell off. Besides, the heat shield covering the cruiser was jettisoned. All these events took place in micro seconds.

Mode of operation

Air from the atmosphere was then rammed into the scramjet engine's combustion chamber at a supersonic speed. The air mixed with the atomised fuel, the fuel was ignited and the scramjet engine revved into action. The HSTDV flew for the next 20 seconds at a hypersonic speed of Mach six and fell 40 km away in the Bay of Bengal. The mission was a success. Dr. Avinash Chander, former Director General, DRDO, said: "The fuel should be ignited in milliseconds. Not many countries were able to do it at the first instance... Energy generation should be maximum and drag should be minimum." The ignition should be sustained for the duration set for the flight. The entire



HSTDV should be controlled but with maximum thrust. Dr. R.K. Sharma, former Project Director, HSTDV, said lighting the fuel with the air coming in from the atmosphere at a supersonic speed was akin “to lighting a match-stick in a hurricane”. DRDO developed special materials to take care of the cruise vehicle’s nose-tip, tail and the wings’ leading edges which were impacted by very high temperatures due to air friction. Dr. G. Satheesh Reddy, DRDO Chairman, said India mastering the scramjet engine technology “will pave the way for developing many more critical technologies, materials and particularly hypersonic vehicles”.

Indigenous technology

The DRDO’s missile complex in Hyderabad, comprising the Defence Research and Development Laboratory (DRDL), the Research Centre, Imarat (RCI), and the Advanced Systems’ Laboratory (ASL) developed all the technologies needed for the mission. Mastering the air-breathing scramjet technology will lead to the development of hypersonic missiles, faster civilian air transportation and facilities for putting satellites into orbit at a low cost.

WOMEN IN ARMED FORCES: NEW STRIDES, MILES TO GO

The Indian Navy announced selection of two women officers as Observers in the helicopter stream, making them first women airborne combatants who would be operating from warships. In another significant development in March, the Supreme Court had upheld that the women Short Service Commission officers in the Navy were eligible for Permanent Commission. The Navy had also inducted the first woman pilot in December last year. A look at what these developments mean for women in the Navy, how the situation has evolved and the road ahead.

Women in Indian Navy

Prior to 1992, women officers were inducted in the Navy only in the medical stream from the Armed Forces Medical Service. From July 1992, the Navy started inducting women, initially through a special entry scheme and later through the Short Service Commission, in only select branches of the Navy. Over the years, various branches were added to the list, and currently women officers can join the Navy in the streams of Air Traffic Control, Observers, Law, Logistics, Education, Naval Architecture, Pilots in Maritime Reconnaissance Stream only and the Naval Armament Inspectorate. It needs to be noted like in the Army and the Air Force, women are currently only inducted as Commissioned Officers and not in Other Ranks which are of categories of Junior Commissioned Officers and Non-Commissioned Officers. In the early 2000s women officers from the Medical and Logistics stream were deployed on board Naval ships. While these deployments went on only for four-five years, they were discontinued for various reasons.

Women officers in new streams

Last December, the Navy announced the induction of a woman officer as pilot of Dornier aircraft, which are fixed wing aircraft operating from ashore establishments. The Navy announced induction of two women officers as observers for the helicopter stream. Observers are airborne tacticians who fly on board helicopters or fixed-wing aircraft operated by the Navy. Till now women were inducted as observers for fixed wing aircraft which take off and land ashore. Entry in the helicopter stream means that women officers can now be deployed on frontline warships from which helicopters can operate. In terms of various challenges towards deployment of women onboard warships, the logistics part is not as challenging as one would imagine, especially as most



of the large warships of the Navy do have basic living arrangements that can be allocated for women. The question of mindset and gender sensitization, on the other hand, is something many believe would require concerted efforts, and concrete steps are being taken in that direction. Serving and retired women officers from Armed forces in general and Navy in particular, sound a precautionary note against the celebrations about latest developments. They believe that the developments will have to actually result in more women coming into operational streams and new streams being opened for women in coming days. Some are also concerned that too much media and public attention on these new entrants can put unwanted pressure on them. While women officers appreciate the support of many male military leaders in these processes, they also highlight the resistance from the system as a whole.

Permanent Commission and the road ahead

In yet another milestone for women in the Navy, *the Supreme Court in March this year upheld the right of serving women officers from the Short Service Commission in the Navy to be eligible for the getting permanent commission (PC). Short service Commission tenures in the Armed forces are of 10 years, extendable by four years after which officers can be eligible for permanent commission.* In the said ruling in the matter of case Union of India & Others Vs Annie Nagaraja & Others, Apex Court bench of Justices DY Chandrachud and Ajay Rastogi have said, "The battle for gender equality is about confronting the battles of the mind. History is replete with examples where women have been denied their just entitlements under law and the right to fair and equal treatment in the workplace. In the context of the Armed Forces, specious reasons have been advanced by decision makers and administrators. They range from physiology, motherhood and physical attributes to the male dominated hierarchies. A hundred and one excuses are no answer to the constitutional entitlement to dignity, which attaches to every individual irrespective of gender, to fair and equal conditions of work and to a level playing field. A level playing field ensures that women have the opportunity to overcome their histories of discrimination with the surest of responses based on their competence, ability and performance." Women officers hope that these developments would result in them being posted at commanding positions on the ships which are a key for career advancements in the operational streams and also some day lead to women being deployed for most challenging of the deployments including that in the submarines.

HOW INDIAN ARMY IS SCREENING WOMEN OFFICERS FOR PERMANENT COMMISSION

The Army has constituted a special screening board to select women officers for Permanent Commission. This follows the Supreme Court's landmark verdict in February this year, allowing all women officers to seek Permanent Commission in the Army. Here is a look at what this means for the women officers wearing the olive greens:

How is the screening board for women officers constituted?

The Number 5 Selection Board has been constituted by the Army pursuant to the Supreme Court's February 2020 order, directing the Army to induct all eligible women officers as permanent commission officers. The special board came into effect on September 14. The board is headed by a Senior General Officer and includes a woman officer of the rank of Brigadier. Women officers have been permitted to witness the proceedings as observers in order to add transparency to the process. Women officers who qualify in the screening process will be granted Permanent Commission subject to being in the acceptable medical category.



What was the matter under adjudication in the Supreme Court?

Induction of women officers in the Army had been initiated in 1992, when the then government set the ball rolling for induction of women officers in select non-combat branches. In 2008, the then government extended the Permanent Commission to women in two branches — Army Education Corps and Judge Advocate General. In 2010, the Delhi High Court awarded the Permanent Commission to women officers in all branches in which they were serving but the government appealed against this order in the Supreme Court. The verdict in the matter came in February this year. It is pertinent to mention here that the present government has granted Permanent Commission to women in all ten branches in which they were serving in March 2019, but this offer was not to be implemented retrospectively. This meant that a large number of women officers still serving as Short Service Commission (SSC) officers would not be eligible for the Permanent Commission. As SSC officers they could serve for a maximum of 14 years in the Army, however, the SC order paved the way for them to be considered for Permanent Commission. A screening board has, therefore, been constituted for the purpose.

How many women officers are currently serving in the Army and in what branches?

According to recent figures, there are 1,653 women officers currently serving in the Army out of a total of nearly 43,000 officers. Apart from the Judge Advocate General's branch and Army Education Corps where Permanent Commission was already given, the eight other branches to get women officers as permanent commissioned officers are Signals, Engineers, Military Intelligence, Army Air Defence, Army Ordnance Corps, Army Service Corps, Army Aviation Corps and Corps of Electronics and Mechanical Engineering.

What are the physical fitness standards required for women officers seeking Permanent Commission?

The Army has recently tweaked its physical fitness policy for women officers after the Supreme Court verdict. Changing its policy regarding applicability of Battle Physical Efficiency Test (BPET) for women officers/women cadets/women recruits, the Army has made it mandatory for all women officers, including those commissioned before 2009 and above 35 years of age, who were earlier exempt from it. The BPET is a series of physical tests that are meant to test the physical fitness of an officer or a jawan to perform military tasks. For women officers, this includes a five-km run, a 60-metre sprint, climbing vertical rope up to a certain height, traversing horizontal rope up to a certain distance and jumping 6-foot ditch. These new directions supersede the directions issued by Army Headquarters in March 2011, which said, "Lady officers, who are commissioned before April 2009 and are above 35 years of age, will be excused from BPET and only Physical Proficiency Test (PPT) will be applicable for them."

Are there any other eligibility conditions for grant of Permanent Commission to women officers?

After the Supreme Court order on February 17, 2020 granting Permanent Commission to all women officers with all consequential benefits, the Army has started detailing women officers of the rank of Lt Colonels for Junior Command (JC) course at Army War College, Mhow, so that they are eligible for Permanent Commission. Women officers had been asked to attend the courses being conducted at the college between July and October this year. This course, which is normally attended by male officers with five to 10 years of service, will now see women officers of much senior service bracket — 15 and 16 years of service and more — attending it. According to the directions of the Director General Military Training (DGMT), consequent to the SC order, the



women officers considered for Permanent Commission will have to undergo mandatory courses of their respective branches along with JC course.

HOW NHAI PLANS TO MONETISE ITS HIGHWAYS THROUGH INVITS

While the Union Cabinet chaired by the Prime Minister Narendra Modi had approved the National Highways Authority of India (NHAI) setting up Infrastructure Investment Trust(s) (InvIT) in December 2019, the company has recently started meeting investor groups, as it prepares to come up with its InvIT issue. The issue will enable NHAI to monetise its completed National Highways that have a toll collection track record of at least one year. The NHAI reserves the right to levy toll on identified highways and it will help the company raise funds for more road development across the country.

What are InvITs?

Infrastructure investment trusts are institutions similar to mutual funds, which pool investment from various categories of investors and invest them into completed and revenue-generating infrastructure projects, thereby creating returns for the investor. The capital market regulator notified the Sebi (Infrastructure Investment Trusts) Regulations, 2014 on September 26, 2014, and these trusts are likely to help facilitate investment in the infrastructure sector. Structured like mutual funds, they have a trustee, sponsor(s), investment manager and project manager. While the trustee (certified by Sebi) has the responsibility of inspecting the performance of an InvIT, sponsor(s) are promoters of the company that set up the InvIT. *In case of Public-private partnership (PPP) projects, it refers to the infrastructure developer or a special purpose vehicle holding the concession. While the investment manager is entrusted with the task of supervising the assets and investments of the InvIT, the project manager is responsible for the execution of the project. NHAI's InvIT will be a Trust established by NHAI under the Indian Trust Act, 1882 and SEBI regulations. The InvIT Trust will be formed the objective of investment primarily in infrastructure projects.*

Why does NHAI need fund and how will it benefit the economy?

At a time when private sector investment in the economy has declined, fund-raising by NHAI and spending on infrastructure will not only provide a fillip to the economy, but will also crowd-in private sector investment. So NHAI's InvIT offer, which is expected to come soon, is a way for the government to tap alternative sources of financing to boost public spending in the roads and infrastructure sector. It is important to note that in October 2017, the Centre had launched Bharatmala Pariyojana, its flagship highway development programme, for development of 24,800 km of roads at a total investment of Rs 5,35,000 crore. In order to complete the projects, NHAI needs adequate funds and one of the options is to monetise the completed and operational NH assets and offer attractive schemes to private players to invest in construction of National Highways.

How does it benefit the investor?

A retail or even a large financial investors may not be typically able to invest in infrastructure projects such as roads, power, energy etc. InvITs enable these investors to buy a small portion of the units being sold by the fund depending upon their risk appetite. Given that such trusts comprise largely of completed and operational projects with positive cash flow, the risks are somewhat



contained. The investors can benefit from the cash flow that gets distributed as well as in capital appreciate of the units. Unitholders also benefit from favourable tax norms, including exemption on dividend income and no capital gains tax if units are held for more than three years.

INTERNET CONNECTION IN THE RAIN

As the monsoon begins to officially retreat, many in India will be looking forward to some relief from a phenomenon that they have come to expect whenever it rains: Internet connections become unstable, and cell phone networks deteriorate. Why does this happen? *In the 1860s, the Scottish physicist James Maxwell predicted the existence of a new kind of 'electromagnetic' waves that travel at a speed of ~300 million metres/second. A couple of decades on, Heinrich Hertz experimentally verified Maxwell's theory and, in 1895, Sir Jagadish Chandra Bose demonstrated for the first time wireless communication with electromagnetic waves over a distance of 23 metres in Calcutta, establishing the foundation of a modern system of communication.* To understand how we communicate or send messages today via the Internet across continents – and then how this communication is disrupted – we first need to understand the fundamental nature of electrical force.

Electrons in communication

There are three fundamental building blocks, or 'Lego bricks' that nature uses to make all matter – two kinds of quarks, and the electron. For our purposes, we need to discuss only the electron. All matter consists of many, many electrons. Like the other Lego bricks, electrons have a property called mass, which indicates how strongly the gravitational force acts on them, and is therefore directly related to their weight. Another property of electrons called electric charge indicates how strongly the electrical force acts on them. The electron's charge also decides the strength of the electrical force they apply on other objects that, too, have a charge (like the two other Lego bricks, for instance). This force, like the force of gravity, acts at a distance. So, two electrons separated by a long distance apply electrical forces without ever making contact. Since an electron is charged, the space around it is filled with an electric field. If you imagine that an electron lives in an ocean it creates, you can, if you wiggle the electron, initiate a wave in this ocean. This is similar to throwing a stone in a still pond, which creates ripples that travel away from it. When this wave passes by another electron that happens to be in our electron's ocean, this other electron will bounce up and down – as you might when an ocean wave washes over you. This is how we communicate. An electromagnetic wave is initiated at some location by wiggling electrons, which then washes over electrons at some distant location. The word 'signal' specifically means electromagnetic waves. The electrons in your eyes can also respond to these waves, provided the wavelength – the distance between peaks in the wave – is within a specific range. In this particular wavelength range, electromagnetic waves are visible to us; they are light! The most basic form of long-distance communication – flashing a bright light and using Morse Code – uses the transfer of electromagnetic waves from one location to another.

Optical fibres & the rain

These concepts equip us to understand the only mode of communication that matters anymore, the Internet. This is essentially a vast network of computers across the world that can transfer electromagnetic waves to each other, and therefore communicate. There are two primary ways to transport waves — by optical fibre, and cellular towers (via satellite link). Optical fibres are long,



thin glass rods of thickness less than human hair. Light is confined in the rod due to the phenomenon of total internal reflection. When light travelling from a denser medium to a less dense one (for instance, from glass to air) hits the surface between two transparent media at a critical angle, it is entirely reflected back into the denser medium. This way, electromagnetic waves are trapped inside the fibre, and travel down the length of it. Splicing or joining hundreds of thousands of kilometres of fibres together, and burying them underground or undersea, allows communication across the globe. The electromagnetic waves used for communication (infrared waves) are generated by lasers, and have a slightly longer wavelength than visible light, so they are invisible to us. The optical fibre network in India was initiated by VSNL, and is currently owned and developed by Tata Communications. All Internet Service Providers connect in some way to this 'Tier 1' network, and eventually to your home. These secondary connections are not necessarily optical, and involve several electrical components. (Note: Electrical cables transfer electrons rather than electromagnetic waves, but that's a topic for another day!) Electrical components are also required along the entire optical fibre network to amplify and switch the light on and off for digital communications. Monsoon rain might interrupt this subterranean network in many ways. The combination of water seeping into the ground and landslides can damage the various electric components in the network, or cause physical damage at locations where the fibres are spliced together. There can also be similar damage, or power outages at intermediate locations, where your local service provider connects to the Tier 1 optical network, and then to your home. The fibre has a core, cladding, and plastic protective coating and is held in a watertight protective enclosure, so the signal transmission is least affected by rain. The coating is removed while joining two fibres. At locations where fibres begin or end (known as 'splice boxes') there is a possibility of fibres being exposed to rain water, causing a reduction in signal strength. Additionally, water molecules may find a way via micro cracks in the fibres, eventually affecting the life of the fibre.

Cell phones in the rain

When your cell phone is connected to the Internet, electromagnetic waves travel from your device through the air to a cell tower. You could think of this as a giant antenna. The electrons in this antenna bounce up and down. When they do this, they produce their own electromagnetic waves, which travel to a central location managed by your service provider. At this location, the waves get 'processed' in some way, and are sent either to the optical fibre network (the Internet) or another phone (phone call, text message, etc.). There are various kinds of processing that might occur. For instance, one important difference between the electromagnetic waves emitted from your phone and those from the laser that travels in the optical fibre is the wavelength. The radio waves emitted from, and received by your phone, are approximately a metre long. In contrast, the infrared waves that travel through the fibre network are approximately a millionth of a metre in length. Note that neither of these wavelengths affects the electrons in your eye, since they are not visible wavelengths (around 500 billionths of a metre long). Somehow, the message from your phone needs to be 'translated' from radio to infrared waves. If you were using Morse Code, you might imagine that the radio waves detected by your provider flash on and off, containing your message. The laser managed by your provider needs to be made to produce the same sequence of flashes that travel through the fibre network. The reasons for interruption in this communication chain during the monsoon are different compared to the optical fibre network. The radio waves travelling between your phone and the cell tower can make electrons in water drops wiggle, interrupting communication. The size and number of rain drops reduce the signal strength due to the scattering of the radio waves, while water vapour in the atmosphere absorbs the radio waves,



converting them to heat (like in your microwave oven). Further, heavy monsoon rain, wind, and lightning can cause damage to cell towers, resulting in interruptions in the area they cover. Note that this is also why you find yourself without any signal in some areas – there is no cell tower nearby. But perhaps the most common cause of interruption is ‘jamming’. When too many people try to communicate through signal processing locations at the same time, some messages get lost. Getting that favourite meme from its author’s computer to yours is, therefore, an effort that involves electromagnetic waves travelling many thousands of kilometres. It is an extraordinary achievement of modern science, and it would seem amazing that it works at all! Perhaps this can ease your frustration somewhat the next time your Internet goes off during a rainstorm!

PAYTM GOES FROM PLAY STORE, HOW ARE YOU AFFECTED?

Google on Friday (September 18) took down the payments app Paytm from its Play Store, citing violations of its app store’s gambling policies. Google’s action came a day before the commencement of the Indian Premier League (IPL) T20 tournament as a part of the company’s crackdown on apps that promote sports betting. Notably, Paytm is one of the biggest competitors of Google Pay in the Indian digital payments space.

Will Paytm users be affected as a result of this?

Any Android user who wants to install or update the Paytm app will no longer be able to do so. However, those who already have the app installed on their devices will be able to continue using it normally. Also, since only Google has taken the app down, iPhone users (who use the iOS version of the app) will remain unaffected. While the umbrella Paytm app has been taken down, other apps developed by the company such as Paytm Money, Paytm Mall, etc. continue to be available on Play Store. In a tweet, Paytm said: “Paytm Android app is temporarily unavailable on Google’s Play Store for new downloads or updates. It will be back very soon. All your money is completely safe, and you can continue to enjoy your Paytm app as normal.”

But why has Google taken down the Paytm app?

According to Google, Play Store prohibits online casinos and other unregulated gambling apps that facilitate or promote sports betting in India. Paytm’s umbrella app promotes fantasy sports, which has repeatedly violated Google’s Play Store policies. In a blog post published on Friday, Suzanne Frey, Vice President, Product, Android Security and Privacy, said: “We don’t allow online casinos or support any unregulated gambling apps that facilitate sports betting. This includes if an app leads consumers to an external website that allows them to participate in paid tournaments to win real money or cash prizes, it is a violation of our policies. “When an app violates these policies, we notify the developer of the violation and remove the app from Google Play until the developer brings the app into compliance. And in the case where there are repeated policy violations, we may take more serious action which may include terminating Google Play Developer accounts. Our policies are applied and enforced on all developers consistently.”

Has Google taken action against any other such apps?

Fantasy sports app Dream11, which is the title sponsor for the IPL tournament this year, has not been allowed on the android-maker’s Play Store because it allows users to win actual money. It is learnt that Google has also approached video streaming app Disney+ Hotstar — the official online



broadcaster of the IPL — to display warning notes before showing advertisements of fantasy sports apps.

NOW, TAKE A VIRTUAL TOUR OF WATER LILY FIELDS IN KOTTAYAM

The pink vista that covers the backwater villages of Kottayam every monsoon is now going online. With just a few weeks left for the water lily blooms to fade, tourism authorities are now capturing the flowers in peak season for online tours. The initiative is part of the efforts by the authorities to make sure that people around the world are connected to these destinations despite the existing travel restrictions. As part of it, agencies including the India Tourism, Kerala Tourism and the Malarikkal Tourism Society have filmed guided tours of the flowering locations and other activities in the region. These videos will be streamed online through official websites of these agencies over the coming days.

The water lily fields of Kottayam, especially Malarikkal, became one of the most-photographed tourist attractions of Kerala during the previous monsoon. These locations were expecting a jump in tourist arrivals when the raging COVID-19 made the destination out of bounds for visitors.

As per estimates, around 80,000 people visited Malarikkal during the flowering season last year and the 120 boat rowers, who ferried these visitors, together earned ₹12 lakh. The State government too announced plans to organise a pink water lily festival on the lines of the Tulip Festival in Amsterdam and identified 15 locations for tourism promotion. However, tourists have not arrived since then.

CENTRE OPPOSES MOVE TO RECOGNISE SAME-SEX UNIONS

The Centre opposed before the Delhi High Court a petition seeking recognition of same-sex marriages, saying, "our legal system, society and values do not recognise marriage between same sex couples". Solicitor General Tushar Mehta, representing the Centre, said the 2018 judgment of the Constitution Bench of the Supreme Court "merely decriminalises homosexuality or lesbianism, nothing more, nothing less".

Struck down in 2018

On September 6, 2018, a five-judge Constitution Bench, led by then Chief Justice Dipak Misra, unanimously held that criminalisation of private consensual sexual conduct between adults of the same sex under Section 377 of the Indian Penal Code is clearly unconstitutional. "This is my version on record. I will not even file an affidavit. I will only rely on statutory provisions. If a wife dies within seven years, there is a separate punishment. Now, who will be treated as a wife [in same sex marriage]?" Mr. Mehta asked.

Contrary to provisions

The Solicitor General said the petition was not permissible as it was asking the court to legislate and also that any relief granted "would run contrary to various statutory provisions". Responding to the submission, a bench of Chief Justice D.N. Patel and Justice Prateek Jalan said, "As far as maintainability part is concerned, today what we are thinking is whether a PIL [Public Interest Litigation] should or should not be entertained... At the moment, we are trying to understand whether we should get into the issue or whether we have to wait." "Worldover, today things are



changing. Those changes may be applicable in our country or they may not be," the Bench said, adding that for "our country we have to see what our constitutional values say". Later, the Bench asked if any of the petitioners or others have faced difficulties while trying to register same-sex marriages. "If these petitioners are well-educated and their marriage registration is denied, they can surely come to the court," the Bench said. The court also asked petitioners to bring on record details of people whose application for same-sex marriage registration was denied. The petition was filed by Abhijit Iyer Mitra, a member of the LGBT community, and three others seeking to recognise same sex marriages under Section 5 of the Hindu Marriage Act on the ground that "it does not distinguish between homosexual and heterosexual couples". *The petitioners argued that "despite the fact that there is absolutely no statutory bar under the Hindu Marriage Act of 1955 and the Special Marriage Act of 1956 against gay marriage, the same are not being registered throughout the country and also in the National Capital Territory of Delhi".* "The prohibition of marriage of LGBT people on the basis of sexual orientation and gender identity is an absolute discrimination towards them and is also violative of Right to Equality as granted by the Constitution of India," it argued. The petition also cited names of 27 countries including the U.S. where same sex marriage is legal.

A KEEN LOOK AT GROUNDBREAKING INVENTIONS IN ICT

During my school days, a computer was a machine occupying a garage space, used only by engineers. Now, within 50 years, I hold it in my pocket as a mobile smart phone, as do 50 crore other Indians! How did this revolution happen? Do you know who invented such ground-breaking inventions in Information and Communication Technology (or ICT)? V. Rajaraman, who taught at the Supercomputer Education and Research Centre, Indian Institute of Science, Bengaluru, and published by PHI Learning, Delhi has authored a book on this subject. In this book, *Prof. Rajaraman lists the history of 15 ground-breaking inventions and innovators who have made these hand-held fast, versatile computers possible.* I believe that with computer-based education having become a part of the New Education Policy (NEP), it is vital that students and teachers get to learn the story of these 15 inventions and the innovators, not just as a part of history and development of these innovators, but as an inspiration for the future.

Recent history

Interestingly, many of these inventions too have occurred in the last 55 years — starting from the computer language FORTRAN in 1957 to Deep Learning in 2011. A brief history and description of these, and the innovators associated with them is given in his book. We will take up the first seven innovations here and the rest in the next article.

Programming languages

The first is FORTRAN or Formula Translation, developed by John Backus and his team in 1957. This translated the binary language (0 and 1) of digital computers into everyday language that can be understood and used by all, using the IBM computers and later by other computers as well. (I remember how Prof. Rajaraman taught FORTRAN to all of us students and faculty at IIT Kanpur, and several lakhs of others elsewhere through his lectures and books). Others designed similar programming languages, but Fortran is still the language used by scientists. *The second is the introduction of what are called integrated circuits or ICs. Until they were invented, signals were amplified using vacuum tubes. When John Bardeen and colleagues invented transistors way back in*



1947, they reduced the size, and power consumption of amplifiers. This caused a revolution in information technology, because using these, Jack Kilby (and a few months later, Robert Noyce) could actually make a fully integrated complex electronic circuit on a single silicon chip. The third innovation discussed is databases and how to manage them in an organised fashion. For example, our own Aadhaar Card, contains in it a variety of data (age, sex, age, address, fingerprints and such), put together in a compact fashion. Such a database system is what is referred to as *relational database management system, or RDBMS*. Earlier, these files were stored in magnetic tapes, then in floppy discs and now in CDs and pen drives.

LAN and Ethernet

The fourth is what is known as local area networks (or LANs), introduced first by Norman Abramson's group in Hawaii, where they used a wireless broadcast system called ALOHA net to interconnect computers across the islands to share a broadcast medium. Then Robert Metcalfe and David Boggs modified this protocol, and put together what they called Ethernet, which has allowed multiple computers to share and exchange messages and files through cable connections. We now use LANs in the office to transfer hard-copies into e-files, and to connect various departments in a University. The fifth innovation is the development of personal computers, which has allowed us to work and study from our homes. The first person to design a personal computer was Steve Wozniak in the mid-1970s and brilliantly marketed by Steve Jobs. By 1981, PCs began selling like hotcakes, and by the late 1980s, Apple, IBM and its clones captured the market, with Microsoft supplying the operating system. To open your phone or a computer, you need a passcode, which is secure and known only to you. And when a bank or a sender sends you a 'confidential' message, they too send a secure passcode (e.g., OTP). This aspect is what is known as an encryption system. This public key cryptography is the sixth Innovation. Your computer now has built-in programs that not only allow you to take photographs, movies and send them using applications like WhatsApp, Facetime and such. This has come about thanks to the seventh Innovation called computer graphics, which Prof. Rajaraman discusses in his book in detail. In addition, he discusses in detail compression of multimedia data that has allowed exchanging audios and videos over the Internet.

CAN A PERSON BE BOOKED UNDER NDPS ACT BASED ON WHATSAPP CHATS?

With the Narcotics Control Bureau charging Rhea Chakraborty in connection with the messages found on her whatsapp chats in the first FIR and summoning Deepika Padukone, Sara Ali Khan, Shraddha Kapoor and Rakul Preet Singh, there are various questions about the circumstances under which law enforcement agencies can charge a person. Section 8 (c) of the *Narcotic Drugs and Psychotropic Substances Act (NDPS) 1985* says, "No person shall cultivate any coca plant or gather any portion of coca plant; cultivate the opium poppy or any cannabis plant; or produce, manufacture, possess, sell, purchase, transport, warehouse, use, consume, import inter-State, export inter-State, import into India, export from India or tranship any narcotic drug or psychotropic substance, except for medical or scientific purposes and in the manner and to the extent provided by the provisions of this Act ..." Any person found violating these measures can be charged under the NDPS Act. Generally in NDPS cases, a person is charged after they are caught red-handed with the drugs or money for "commercial usage". In cases of 'consumption', they are also asked to undergo a blood/urine test. The contraband seizure and blood test report work as evidence which correlates the charge. An NCB official, however, said that in cases of illicit financing – Section 27(A) of the NDPS Act – under which Chakraborty was booked in the second FIR in which she was arrested, there is no need for narcotic seizure and cash seizures could also



be enough. The NCB said they have details of Chakraborty allegedly making payments to drug peddlers using credit cards. The amounts were allegedly in thousands of rupees. Her lawyer Satish Mandeshinde has countered this saying payments of purchase of drugs does not make her part of a “drug cartel” as the NCB has claimed. There is a difference between small-time drug users and drug cartels that deal in bulk quantities, he has stated. A local court, while denying Chakraborty bail, said, under Section 27 (A), no particular quantity is required to prove the offence”.

Are the charges for consumption and commercial usage different?

As per law enforcement officials, there are three types of charges. *Possession of small quantity, Intermediate quantity and Commercial quantity that are specified by the Central Government by notification in the official gazette.* Different narcotics have different quantities that fall under these categories and carry varied punishments. For example in case of cannabis, small quantity (upto 1kg) , carries rigorous imprisonment for a term which may extend to six months, or with fine, which may extend to Rs 10,000 or with both. Intermediate quantity for cannabis (between 1kg to 20 kg) carries rigorous imprisonment for a term which may extend to 10 years and with fine which may extend to Rs 1,00,000. Commercial quantity (above 20 kg), with rigorous imprisonment for a term which shall not be less than 10 years but which may extend to 20 years and shall also be liable to fine which shall not be less than Rs 1,00,000 but which may extend to Rs 2,00,000. The court may, for reasons to be recorded in the judgment, impose a fine exceeding Rs 2,00,000.

Can someone who has been caught with a small quantity of drug get immunity from prosecution?

Yes, as per Section 64 (A) of the NDPS Act, which stands for immunity from prosecution to addicts volunteering for treatment, says, “Any addict, who is charged with offences involving small quantity of narcotic drugs or psychotropic substances, who voluntarily seeks to undergo medical treatment for de-addiction from a hospital or an institution maintained or recognised by the Government or a local authority and undergoes such treatment shall not be liable to prosecution under any other section for offences involving small quantity of narcotic drugs or psychotropic substances: Provided that the said immunity from prosecution may be withdrawn if the addict does not undergo the complete treatment for de-addiction.” In simple terms, if a person is caught smoking weed, he can get immunity from prosecution by undergoing treatment for de-addiction. An example of this was actor Fardeen Khan who in 2001 was charged with possession and consumption of small quantity cocaine. He underwent a three-week-long de-addiction programme at KEM Hospital and got exemption from prosecution under Section 64 (A) of NDPS. An NCB official, however, clarified that the *immunity can be applied for only once* a chargesheet is submitted by the prosecuting agency. It does not have a bearing during the process of investigation.

What is the difference between the two cases Rhea Chakraborty has been charged under?

NCB’s first FIR (15/20) against Chakraborty is based on WhatsApp chats provided to the agency by the Enforcement Directorate. In this, there are chats to the effect of “having tried MDMA once” and “scoring weed”. In this case, apart from Chakraborty and her brother Showik, there are five other accused. This is based primarily on chats and does not have cash or narcotic seizure. A lawyer who deals with NDPS cases said that in his over two decade long career there was just one case where drug seizure was not there. “In that case, however, the agency had money seizure to corroborate the exchange of drugs,” the lawyer said. No arrests have been made in this case so far. NCB officials say they may not charge Chakraborty in this case. In the second FIR (16/20)



registered suo moto by NCB two days after the first FIR, in which 19 persons including Chakraborty and her brother Showik have been arrested, they have seizures in the form of 590 gm of hashish, 0.64 gm of LSD sheets, 304 gm of marijuana including imported marijuana joints and capsules, Rs 1,85,200 in cash and 5,000 Indonesian Rupiah from an alleged peddler, Anuj Keshwani, arrested in the case. This falls under commercial quantity. This is the case where NCB told a local court they want to “uproot the citadel of narcotics in Mumbai, especially Bollywood.” The NCB plans to charge Chakraborty in this case and have a six month period to file the chargesheet from the time of arrests.

Can communication like WhatsApp chats/ messages call recording where a person is talking about buying, selling, consumption not be used as evidence?

It can be used in a case provided there is corroboration of the conversation with evidence. For example, if there is a message where a person places an order for a drug, there has to be evidence of the drug being delivered. “ The person can place an order and change his mind at the last moment and not have the drugs. A person may just be bragging to someone that he/she had done some drugs. There are cases where small-time criminals brag about murdering someone even though they are not involved. The chats by themselves may not be enough to prove drug use or for that matter any crime without corroboration,” said NDPS lawyer Taraq Sayed.

What in case if there are statements that provide evidence about the chats?

As against statements given to police, those given to NCB officials who are technically not considered “police officers”, and hence civilians, are admissible in a court of law under Section 67 (A) of the NDPS Act. So statements given by Chakraborty and others to NCB are admissible as evidence in a court of law. However, the Supreme Court is hearing petitions against allowing NCB officials to be not treated as “police officer” and the same could be used by the defence if the NCB relies purely on confessional statements given before the agency. Several suspects, including Chakraborty, have already retracted the statements they have given to NCB stating it was made “under coercion”.

What about the case of Deepika Padukone, Sara Ali Khan, Sharaddha Kapoor and Rakul Preet Singh?

Based on what the NCB has said so far, they have been summoned mainly on the basis of WhatsApp chats found on the phones of Chakraborty and Jaya Saha and confessional statements made by them before the police. NCB officials said it will depend upon what they say in their statement for them to decide if they should be charged. Sources, however, said based on the evidence, the maximum the said suspected can be charged is under consumption, for which they can seek immunity by willing to undergo rehabilitation at the time of the chargesheet if they do not wish to contest it.

CAN DATA DELETED FROM YOUR PHONE BE RECOVERED USING FORENSIC CLONING?

The case registered against actor Rhea Chakraborty, her brother Showik and four others by the Narcotics Control Bureau (NCB) is based on chats that the Enforcement Directorate (ED) retrieved from the “clones” of the two mobile phones of Rhea which allegedly contain evidence of her discussing narcotics.



What exactly is mobile phone forensic cloning?

It forms a part of mobile device forensics and is basically a bit-for-bit copy of an entire mobile device. Some investigating agencies and forensic science laboratories carry out “imaging” or forensic cloning of a mobile phone or any digital device if they believe it would aid investigation or help prove a case against someone in a court of law.

How is mobile phone cloning different from copy pasting the entire data from a mobile device or laptop?

In the traditional copy-pasting of data, only the active files — or the files currently present on the device — are copied. It would not include files that have been deleted or overwritten by the user. In crime investigations, where there is probability of incriminating data being deleted, using the imaging technique, which is also known as physical acquisition, becomes important. The physical acquisition of mobile phone data is a bit-for-bit copying of the data on to a physical storage. This also includes all deleted data. In other methods, only the folders are copied, and not the deleted files.

Can the data or allegedly incriminating chats etc found using imaging be used as evidence in a court of law?

Yes. As per Special IG Brijesh Singh who formerly headed the Maharashtra cyber police, if the information found on a particular device is accompanied by a 65 (B) Information Technology Act certificate – which gives the condition for handling the electronic devices in a particular manner for it to be admissible, such as it not being tampered – it can be used in a court of law against an individual. So apart from it being used as an investigation tool, it also carries evidentiary value in a court of law.

What are some of the cases where mobile forensic cloning has helped investigators?

Apart from several terror-related cases, one of the best uses of forensic cloning of a mobile phone was seen in the Payal Tadvi case, the second-year resident doctor at Nair Hospital in Mumbai who was allegedly driven to suicide on May 22, 2019. Her parents had alleged that she was harassed by three doctors, and the Maharashtra Forensic Science Laboratory (FSL) managed to retrieve the photograph of a suicide note she had written from the forensic clone of her phone. As per police, the three doctors, who were later charged with abetment to suicide, had allegedly deleted the suicide note from her phone. However, once the note was found, it was used as crucial evidence against the three doctors.

Can all data you delete from your phone or laptop be recovered? Are data on your phone/laptop that you sell or give for repairs, vulnerable?

To an extent, this depends upon the device. Generally, data that are deleted from the device can be recovered using software. However, in some devices made by Apple and Blackberry, the data recovery process is difficult and even a factory reset could make it difficult to recover data on these phones. However, *it is recommended that in order to protect data on a device that you sell, from being recovered and then possibly misused for extortion, you should encrypt files on your device and then do a factory reset before selling it. Encrypting data on phones is an option that most android phones provide in settings. You then put a password or PIN to it.*



Is encryption enough to save data?

In spite of encryption, the security of your data would depend upon how advanced the encryption is. There is a method called '*brute force acquisition*' using which a password or PIN is extracted by trial and error. Several law enforcement agencies procure such software for crime investigations, especially cases related to terrorism.

WON TECHNICALLY, LOST MORALLY (R.K. VIJ - SENIOR IPS OFFICER IN CHHATTISGARH)

The controversy over territorial jurisdiction of the Sushant Singh Rajput case is over, but it may arise again when the final report is placed in court as the Supreme Court did not resolve the dispute arising out of the claims of the two States. However, it took cognisance of the fact that in future, if commission of a cognisable offence is determined, "the possibility of parallel investigation by the Mumbai police cannot be ruled out". The Supreme Court did not give due weightage to the death having taken place in the jurisdiction of the Bandra Police, and that inquiry had made substantial progress. More importance was given to the FIR recorded on a statement which was not "first in time" and was also delayed. But these can be questioned only at the trial stage. In fact, the Court adjudicated only on technical grounds.

First, an inquiry

In case of a suicide, unless the victim leaves behind a suicide note alleging that someone was responsible, registration of a case of abetment to suicide is mostly preceded by an inquiry. Taking advantage of the provisions of the Criminal Procedure Code (CrPC) which allow more than one court, and thereby more than one police station, to have jurisdiction, the Patna Police directly registered a case of abetment to suicide along with sections pertaining to criminal breach of trust, cheating and defalcation of money. In this case, the main objective is to unravel the cause of death; all other transactions relating to it are secondary. The purpose of law to allow more than one court or police station to exercise jurisdiction is not to permit two agencies to inquire into the same incident simultaneously. It only intends that either of the two or both or more could take cognisance in case part of an offence is committed under their jurisdiction. The difference between inquiry into the 'cause of death' under Section 174 of the CrPC and investigation into an offence cannot be exploited in favour of the latter just because 'the cause of death' is not ascertained. Courts must rise to make this distinction irrelevant when investigation is generally preceded by such an inquiry. The Indian Police are often questioned for not registering FIRs despite being well equipped with information disclosing an offence and having territorial jurisdiction over the case. Under such circumstances, the police of the two States fighting over jurisdiction of a case raises moral questions. A cognisable offence is registered so that it can be taken to its logical conclusion. If an agency is ready to transfer a case almost immediately after registration to another, its intention could be questioned.

The matter of jurisdiction

It is a settled law that if an offence is disclosed, the court will not normally interfere with an investigation and the matter of rightful jurisdiction will be decided only when the final report is submitted in the court. However, when an inquiry into the cause of death is pending, registration of a direct cognisable case with regard to the same incident at any other place may defeat the whole objective of having the rightful jurisdiction under the CrPC. Though the Supreme Court, in Lalita Kumari (2013), directed that the registration of an FIR is mandatory, each police station has



its own notified territorial area to ascertain the actual cause of action of any offence or incident. When it is clearly known that some other police authority who has rightful jurisdiction is already inquiring into the cause of death to ascertain abetment to suicide, the law need not be exploited to debar that agency only on technical grounds. The statement of Rajput's father was first recorded by the Mumbai Police, which did not disclose commission of any cognisable offence. If he had received any additional piece of information disclosing any cognisable offence, either he or the Patna Police (with FIR at zero) should have handed over the same to the Mumbai Police. But this was not done. The issue of territorial jurisdiction must be resolved at an appropriate time.

A NEGLECTED TEMPLE'S TRANSITION OVER THE CENTURIES

A temple constructed by emperor Ganapati Deva, a ruler of the Kakatiya dynasty, in Dharanikota near present Andhra Pradesh capital Amaravati, has been converted into an abode of local goddess Balusulamma (Goddess Durga). The presiding deity at this 13th century temple was Kakati Devi, the tutelary deity of the Kakatiya rulers. Due to the ravages of time and improper upkeep, the presiding deity's idol got damaged. *The villagers of Dharanikota, who had no knowledge about the temple's past, installed the Balusulamma idol and started worshipping it.* While conducting an architectural survey of the magnificent temples that flourished during the Kakatiya dynasty, D. Kanna Babu, former Superintending Archaeologist of the Temple Survey Project, Archaeological Survey of India, Chennai, stumbled upon the distinctive temple on the banks of the Krishna. Ganapati Deva is the first king who introduced the worship of Kakati Devi in the coastal region of Andhra, he said. Later, the abode was developed under the patronage of Ganapamba. With the passage of time, the shrine was neglected. The idol was removed from its original place in the sanctum and was mutilated, he said. Currently, the idol is placed in a small shelter on the southern side of the temple, locally known as 'Gollabhama Gudi'. "Fortunately, a cowherd woman (gollabhama) found the damaged idol in the temple complex and placed it in the small shelter," he said.

DreamIAS



BUSINESS & ECONOMICS

WORLD BANK SEEKS 'UNIVERSAL ELIGIBILITY'

The \$1 billion World Bank loan to prevent, detect and respond to the threat of coronavirus and strengthen national health systems for preparedness as India combats the ongoing pandemic comes with a condition of “universal eligibility” in procurements. This would mean that all preferential market access policies, including Public Procurement (Preference to Make in India) Order, Micro Small & Medium Enterprises (MSME) Policy, certain benefits to start-ups, shall not be applicable on purchases made while implementing the national project. Confirming this, the Ministry of Railways, in a note to all Zonal Railways, production units and other major establishments, said the tender documents should be amended to remove such references and ensure that contractors explicitly agreed to comply with the relevant provisions of the World Bank’s anti-corruption guidelines and prohibited policies of the Asian Infrastructure Investment Bank (AIIB).

Review of documents

Besides paving the way for universal eligibility in the supply system, the World Bank would have the right to review the procurement documents, inspect/audit all accounts, records and other files relating to the project. Compliance to these conditions has been made mandatory for the funding. The Railways will spend ₹399 crore across its network to strengthen health infrastructure in the combat against COVID-19 in this financial year. The focus will be on creating more isolation facilities with medical equipment such as ventilators, oxygen cylinders etc. *This is part of the “India COVID-19 Emergency Response and Health System Strengthening Project,” a joint initiative of the Government of India and the World Bank that has \$1 billion loan disbursed by the International Bank for Reconstruction and Development (IBRD). The Railway Ministry is one of the implementing agencies of the project.*

FOR A DIFFERENT YARDSTICK (VINOD THOMAS - DISTINGUISHED FELLOW, ASIAN INSTITUTE OF MANAGEMENT, MANILA; AND FORMER SENIOR VICE PRESIDENT, INDEPENDENT EVALUATION, WORLD BANK)

The World Bank has paused the publication of its ‘Doing Business’ report because of statistical irregularities. This provides us with an opportunity to examine this flawed survey. The index estimates the cost to business from regulations across areas including dealing with construction permits and paying taxes. *But the rankings encourage countries to compete even on cutting vital regulations on health and environment. Indeed, erratic procedures and delays hamper business in India and simplifying procedures brings economic benefits. But rash deregulation prompts a race to the bottom that the world can ill-afford during a climate and health crises.* The World Bank’s independent evaluation group (2008) and an external independent panel (2013) together flagged 15 shortcomings in the index, many of which are still relevant.

Curious scores

Among the weaknesses are the lack of transparency and objectivity in scoring. For instance, questions have been raised on Russia’s leap in ranking from 120 out of 190 countries in 2012 to 62 in 2015. As a de jure criterion, the survey excludes the informal sector. Curiously, low scores



for China and India were associated with high growth in FDI. *The biggest drawback is that the index sidesteps societal costs of deregulating pollution, worker safety, and health risks. China and India improved their scores sharply in 2019 and 2020, though the world's first and third largest emitters increased carbon effluents significantly.* Another 2020 Index ranked China 120, and India 168, out of 180 countries on the environment. Slack business safeguards produce tragic results. The 2013 collapse of the Rana Plaza garment factory in Bangladesh, the second deadliest industrial accident after the gas leak in Union Carbide, Bhopal, resulted from slipshod factory regulation. Brazil, India, and the U.S. have slashed environmental standards. These standards have further weakened during COVID-19. *The reversal of effluent benchmarks for power plants and automobiles and the boost to fossil fuels in the U.S. has been breath-taking. Yet this has not hurt its Doing Business survey ranking (six in 2020).* India's Parliament is considering an Environment Impact Assessment, the draft of which is filled with dilutions of the environmental law. *Several indicators of the Doing Business survey presume that less regulation is better, but ignore the impact on health, ecology, worker protection and right to information. The 2008 global financial crisis resulted from too little banking supervision. Climate change is driven by lax emission control in China, the U.S., etc. The Centre and the States in India must take into consideration workers' well-being while considering changes to labour laws, especially during the pandemic. Global lessons warn India of the pitfalls of diluting the 2005 Right to Information Act. The survey assumes that lower tax rates are best, which overlooks each country's fiscal requirements.* For example, Maldives and Qatar scored high on paying taxes, but are not role models for India as most of their revenue relies on unique assets. *The survey supports lighter rules and taxation to encourage shifts from informal to formal sectors. But formalisation per se may not create jobs and cutting obstacles to starting a business will not necessarily expand the formal economy when facing severe capital shortage and a low-skilled workforce. The survey neglects indicators of infrastructure, entrepreneurship, and competition. It is true that overloading with too many variables makes a survey unwieldy. But when a yardstick does not consider pollution abatement or labour standards, an overhaul is in order. Putting the Doing Business project on hold gives the World Bank a chance to blend liberalisation of unhelpful barriers with fortification of needed regulations. A revamped indicator should reward, not penalise, investments in workers' skills, health and safety, low polluting activities and climate resilience.*

EASE OF DOING BUSINESS: HOW STATES ARE RANKED, AND WHAT'S DIFFERENT NOW

The latest ease of doing business rankings for Indian states, released by the **Department for Promotion of Industry and Internal Trade (DPIIT)**, have thrown up some interesting results. The absence of more industrialised states such as Tamil Nadu and Maharashtra from the top rungs and the presence of states such as Uttar Pradesh (which was in the past far behind but has now shot up to all-India number 2) in the top ranks has surprised many. A look at what went into calculating the final rankings.

How are the rankings arrived at?

The objective of DPIIT's reform exercise is to provide a business-friendly environment, for which the regulations in a state have to be made simpler. Therefore, it devised a methodology to rank the states according to the ease of doing business (EoDB) in a state. DPIIT provides a set of recommendations meant to reduce the time and effort spent by businesses on compliance with regulation called the Business Reform Action Plan (BRAP). BRAP 2019 is an 80-point list of reforms recommended to simplify, rationalise and digitise the regulatory framework in a state. The reforms are grouped into 12 broad areas like land administration, labour regulation, obtaining electricity and water supply



permits, environment regulation, etc. States are required to submit proof of implementing each reform on the DPIIT's EoDB portal and submit a list of users of these reforms. A sample of these users is then surveyed to determine the efficacy of these reforms. Each question is assigned a weight. The final score is a weighted average of all the responses applicable to a state.

What reforms does DPIIT recommend?

DPIIT recommends all states have a single-window system that provides all necessary information on permits and licences required for starting a business. Permissions required from municipal or village government bodies or police for activities like filming movies should also be explicitly mentioned. To reduce delays further, DPIIT recommends that the duration of licences be extended or that they be renewed automatically based on self-certification or third-party verification. A state is also rewarded if a set of regulations (like labour or environment laws) are not applicable to it.

Are these scores and ranks comparable to those from previous years?

For the first time since its inception in 2015, the BRAP rankings relied entirely on the feedback it received from the businesses for whom these reforms were intended. Earlier editions computed scores based on the responses of the relevant state government departments. The 2017-18 edition used a combination of state government and user feedback to compute the score. Therefore, strictly speaking, the 2019 rankings are not comparable with those from last year.

How did the states perform?

Andhra Pradesh secured the top spot for the third time since the ranking was first released in 2015. UP jumped ten spots to number two and Telangana slipped to three. Gujarat, which was first in the first-ever edition of the rankings, was ranked 11 this year; Haryana slipped all the way to 17.

Why were these rankings criticised?

DPIIT'S methodology does not consider the actual number of reforms implemented by the states. States like Haryana and Gujarat have implemented all the reforms recommended by the DPIIT, but were ranked low on the EoDB list. Gujarat has reportedly attributed this to poor response from the survey respondents. The methodology used by the DPIIT awards points on a reform to a state only if there was an adequate response from users of that response. Ideally, the number of respondents for every state should be decided based on population or number of business clusters to ensure that the sample is representative of the state. It is not clear if DPIIT used representative samples. Also, business owners' expectations from the governments can differ. A business owner from Tamil Nadu may assess their state government's IT portal differently from one in UP.

How do these reforms affect investments?

An analysis by CARE Ratings shows that "the top-ranking states in terms of ease of doing business have not necessarily been associated with higher shares of new investments announced during the year". Except for Andhra Pradesh, the top-ranking states as per these rankings do not have high shares in the total investment during the year. This is because businesses respond to other conditions like the availability of skilled labour, infrastructure, finance, etc. In addition, these rankings do not consider the cost of doing business, which is what matters to businesses at the end of the day.



GOVT. LOOKS TO SPEND ₹2.35 LAKH CR. MORE

The Centre has sought Parliament approval for a gross additional expenditure of ₹2.35 lakh crore, including ₹20,000 crore for recapitalisation of public sector banks, for 2020-21. Finance Minister Nirmala Sitharaman tabled the first batch of *Supplementary Demands for Grants for this financial year in the Lok Sabha on Monday. Out of the ₹2.35 lakh crore gross additional expenditure, the proposals involving net cash outgo add up to almost ₹1.67 lakh crore. The rest of the money will come either through savings or reallocation of funds allocated to other ministries. The supplementary demand for grants is needed for government expenditure over and above the amount for which Parliamentary approval was already obtained during the Budget session.* The emergency situation caused by the COVID-19 pandemic means that this year's supplementary demand includes additional allocations to pay for relief measures announced as part of the Pradhan Mantri Garib Kalyan Yojana in March, and the Aatmanirbhar Bharat stimulus package in May. The biggest chunk goes towards the State governments, including ₹44,340 crore in post-devolution revenue deficit grants, and ₹2,262 crore as grants-in-aid for the State Disaster Response Funds, in accordance with the interim recommendations of the 15th Finance Commission.

MGNREGA gets more

The other large allocation is for the ₹40,000 crore additional funding promised to the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme. The additional funds, which take the scheme's budget for the year up to ₹1 lakh crore, were announced as a highlight of the Aatmanirbhar package. The Department of Financial Services has included a sum of ₹20,000 crore "for meeting expenditure towards recapitalisation of public sector banks through issue of government securities". The Centre had not allocated any funds for bank recapitalisation in this year's Budget, but the economic impact of the lockdown led the RBI to announce in July that infusing money into banks had become necessary. The allocation will not involve cash outgo, as the money is being raised through bonds. The Health Ministry included demands worth ₹6,852 crore for containment of the pandemic, plus additional grants for procurement of materials and machinery, equipping government hospitals, and research.

CESS POOL

The latest audit of the Union Government's accounts tabled in Parliament this week reveals that the Finance Ministry quietly retained over 40% of all cess collections in 2018-19 in the Consolidated Fund of India (CFI). As many as 35 different cesses, levies and charges yielded ₹2.75-lakh crore in the year, but just around ₹1.64-lakh crore was remitted to the specific reserve funds for which these cesses were levied. This not only helped understate India's revenue and fiscal deficit numbers but also meant that the purposes for which Parliament approved such cesses — be it health, education or infrastructure development — were not met. The CAG of India has, not for the first time, urged the Finance Ministry to take immediate corrective action. Over 10 years, not a paisa of the ₹1.25-lakh crore of cess collected on crude oil was transferred to an oil industry development body it was meant to finance. Part of the hefty cess collected as additional excise duties on petrol and diesel, ostensibly to finance roads and infrastructure, was similarly retained in the CFI. The GST Compensation Cess, over which the Centre and several States have now locked horns, was not spared either, with ₹47,272 crore not remitted to its rightful account over the first two years of GST. Worse, compensation cess transfers to States were accounted as Grants-in-aid to States, distorting the Centre-States fiscal math.



A new 4% Health and Education Cess on income tax was partly deployed towards education, but no fund was created for health. Ditto with a Social Welfare surcharge levied on customs. None of these lapses can be considered inadvertent. It is no secret that the Centre's reliance on cesses and surcharges to raise revenue has increased significantly since the States's share of the divisible pool of taxes was raised to 42% in line with the 14th Finance Commission's suggestions. Cess receipts are not part of this pool and though it is arguable whether such levies are in sync with a nation trying to simplify its tax regime, their intended use to fund specific public spending needs serves as an acceptable rationale, provided it is adhered to. With a climate of distrust hovering over India's federal polity — be it over the GST compensation dispute or the passage of Farm sector Bills without taking States on board — it is critical for the Centre to rebuild bridges. Cesses, starting with the excise duties on petrol and diesel, need to be rationalised, even if just to provide succour to a citizenry whose incomes and job prospects have been pummelled by the pandemic and a shrinking economy. Finally, absolute transparency is needed in the management of cess receipts so that Parliament and the people do not need to wait for audit findings to learn of this subterfuge.

GOVT. EXTENDS IBC PAUSE BY 3 MONTHS

Corporate India has got three more months of relief from invocation of insolvency and bankruptcy proceedings by lenders, with the government extending the suspension of relevant provisions of the Insolvency and Bankruptcy Code (IBC) against firms defaulting on their loans since March 25 this year. *The IBC's invocation was first suspended for a period of six months in view of the emergent stress on balance sheets due to the COVID-19 pandemic and the national lockdown announced in March. The Corporate Affairs Ministry notified a further three-month extension on Thursday evening, when that six-month period was due to end. Finance Minister Nirmala Sitharaman said that the extension of the suspension of sections 7, 9 and 10 of the IBC reinforces the government's commitment to protecting businesses. "It also gives companies breathing time to recover from financial stress," she said in a tweet. The government had issued an ordinance to amend the IBC in June to enable the suspension of the Code's provisions for firms committing defaults after March 25. The ordinance permits the government to extend the suspension of insolvency invocation for up to one year, and was passed as a legislation by Parliament this week.*

Comparing the performance, Ms. Sitharaman said the recovery rate under the Code was 42.5%, while under Lok Adalat (2018-19), the figure was 5.3%; DRT proceedings had led to 3.5% recovery and under the SARFAESI Act, 14.5% of the dues were recovered. Initiating the debate, Congress leader Adhir Ranjan Chowdhary said the proposed amendments had a lot of grey areas, leaving loopholes for large debtors. The worst casualty would be the MSME sector, which employed 1.2 million people and catered to large corporates.

IRDAI LISTS LIC, GIC, NEW INDIA AS SYSTEMICALLY IMPORTANT

The Insurance Regulatory and Development Authority of India (IRDAI) has identified the Life Insurance Corporation of India (LIC), General Insurance Corporation of India (GIC) and The New India Assurance Co. as Domestic Systemically Important Insurers (D-SIIs) for 2020-21. Given the nature of operations and their systemic importance, the regulator has asked the three public sector insurers to raise the level of corporate governance, identify all relevant risks and promote a sound risk management culture. As D-SIIs, they will also be subjected to enhanced regulatory supervision, IRDAI said in a statement.



Too big to fail

*D-SIIs refer to insurers of such size, market importance and domestic and global interconnectedness whose distress or failure would cause a significant dislocation in the domestic financial system. Their continued functioning is critical for the uninterrupted availability of insurance services to the national economy. D-SIIs are perceived as insurers that are **too big or too important to fail**. Such a perception and the expectation of government support may amplify risk taking, reduce market discipline, create competitive distortions and increase the possibility of distress in future. Thus, D-SIIs should be subjected to additional regulatory measures to deal with the systemic risks and moral hazard issues, IRDAI said. Size in terms of total revenue, including premium underwritten and the value of assets under management are among the parameters on which the insurers are identified. IRDAI said it will list D-SIIs on an annual basis.*

ONE INTERMEDIARY, MANY INSURERS (K. NITYA KALYANI - BUSINESS JOURNALIST SPECIALISING IN INSURANCE & CORPORATE HISTORY)

The agent who is a family friend, a corporate agent with whom you may already have dealings... we saw the role they play in your insurance journey. Enter the insurance broker, a relatively new entity in personal insurance in India. *The difference between an agent (including corporate agent) and a broker is that the former represents the company, but the latter represents the customer. He can represent every insurance company in India, if he wants to, and so, you can have different policies with different insurers, all purchased from and serviced by the same entity. Two decades ago, the insurance broker was confined to reinsurance, a business-to-business product for insurance companies to cover their risks and offered by firms in India and abroad. After the insurance sector reforms in 1999 when the Insurance Regulatory and Development Authority (IRDA, as it was then named) came into being, direct insurance brokers were registered to help customers buy products of multiple insurers. Their natural clients were large and medium business houses who needed sophisticated and high-value life and non-life insurance covers, tailored to their needs. Brokers could get them quotations from various insurance companies and negotiate premium rates and terms. They could also offer them risk management advice and claims consulting. In recent years, brokers have started selling to individuals as well, offering health and motor policies. Aided by their physical and online presence, this appears a promising business opportunity for them. Direct insurance brokers can be registered to sell only life insurance or only non-life insurance or both. Brokers who are registered to sell direct insurance and reinsurance are called **composite brokers**. Any broking company should carry on an insurance broking business exclusively.*

Checking authenticity

All registered brokers should have company names with the words 'Insurance Broker,' 'Insurance Brokers' or 'Insurance Broking.' You can also look up www.irdai.gov.in for a list of registered insurance brokers, numbering over 700 now, to check the authenticity of any entity you may be thinking of dealing with. Regulations specify financial, qualification and compliance requirements for setting up a broking company, the functions of a broker and code of conduct which help protect the customer. For example, a direct broker should have a share capital (or contribution if it is a limited liability partnership, LLP) of ₹75 lakh. This capital has to be from own funds of the promoters/ shareholders and the shares/contribution should not be encumbered by way of pledging and the like. The net worth at any point should not fall below ₹50 lakh. He should also maintain a deposit of ₹10 lakh with a scheduled bank that IRDAI has a lien on and should also



have a professional indemnity insurance cover. The objective is to ensure the financial health of the intermediary for the benefit of all stakeholders. An important point is an insurance broker cannot indulge in multi-level marketing. So, do be wary of anyone approaching you with such a proposal. The direct insurance broker's functions also include assisting in the negotiation of claims and maintaining proper records of claims. He should also help in opening of e-insurance accounts and in issuing e-insurance policies. Should you have a grievance, he should respond and resolve it within 14 days of receipt. Apart from care, diligence and confidentiality, your broker is also supposed to be insurer-neutral when he advises you, not favouring any particular firm but based on your requirement. At the time of a claim, the code of conduct specifies the broker should forward information from you to the insurer and advise you on the latter's decision and 'give all reasonable assistance to the customer in pursuing a claim.' Direct insurance brokers can also sell through the Internet (web aggregators), via the telephone (telemarketers) and through distance marketing. The regulations apply to all of them too and there are additional points on the code of conduct that applies to them.

SEBI'S MULTICAP DIRECTIVE — WHY ARE MUTUAL FUNDS UNHAPPY?

The latest directive by the Securities and Exchange Board of India (Sebi) slapping limits on stock market investments of multi-cap schemes of mutual funds seems to have upset the plans of mutual funds as they will have to churn around Rs 40,000 crore worth stock in their portfolios. Fund houses, which will be forced to go for a portfolio reshuffle over the next few months and shift their allocation of multi-cap funds from heavily weighted large-cap companies to mid and small-cap companies, wonder why they are being targeted while foreign portfolio investors (FPIs) — bigger players than domestic fund houses — are free to invest in any stocks without limits.

What's the Sebi directive to mutual funds?

In a circular issued on Friday, Securities and Exchange Board of India (Sebi) has specified that the minimum investment in equity and equity-related instruments of large, mid, and small cap companies in multi-cap schemes should be 25 per cent each of total assets under management of the scheme. So, if a multi-cap scheme of a fund house has an AUM of Rs 10,000 crore, it will have to invest at least Rs 2,500 crore each in the three categories of stocks. The fund manager is free to invest the remaining Rs 2,500 crore in any category they want. Earlier, there was no such minimum investment guideline (into the category of stocks) for multi-cap funds. While Sebi guidelines said that multi-cap funds should invest at least 65 per cent into equity and equity-related instruments, the fund managers were free to allocate the money into large, mid or small caps. In fact, data shows that few of the schemes have near nil allocation to small-cap companies and 9 out of the 35 multi-cap schemes invested less than 5 per cent into small-cap companies.

Why are mutual funds unhappy?

Mutual funds were getting decent returns by investing in large-cap stocks, which were leading the Sensex rally in the last two years. On the other hand, mid and small cap stocks fared rather poorly when compared to large stocks. *Fund managers also want the Sebi to slap similar curbs on foreign investors (FPIs).* "Investors won't benefit from this directive. Their returns may come down also or the schemes may carry higher risk. Mid and small caps don't offer the desired comfort level to fund managers. The move will only benefit small stocks and market players who have invested in such stocks. Do we have enough small stocks in which we can entrust the money of investors?"



Why are FPIs not given any such directives? *FPIs are free to invest in any stocks.* One also wonders whether it's to cool down the market when the economy is plunging," said the senior official of a private sector fund house. While FPIs have invested Rs 9.33 lakh crore in Indian equities, domestic MFs equity investments amount to Rs 7.69 lakh crore.

What are large-cap, mid-cap and small-cap companies?

According to the Sebi definition, the first 100 companies in terms of full market capitalisation are large-cap. The companies that are ranked 101-250 are mid cap and the 251st company onwards comes under small-cap companies. The categorisation has been done to ensure uniformity in respect of the investment universe for equity schemes. Mutual funds have been focusing on the top 100 large-caps as many of them are good performers and give decent returns to investors.

What does it mean?

Data sourced from the MF industry shows that multi-cap schemes have total assets under management of around Rs 1.45 lakh crore and of that around 1.05 lakh crore (72%) is invested in large-cap stocks. The exposure into mid-cap and small-cap stocks is around 16.4 per cent and around 6.25 per cent respectively. So, in order to meet the minimum 25 per cent location to mid and small caps, fund houses will have to move an aggregate investment of Rs 12,600 crore into mid-cap stocks and move an aggregate investment of Rs 27,000 crore to small caps. So, funds amounting to Rs 40,000 crore will move to mid-cap and small-cap companies. Though Sebi has given the MF industry four-months time to revise their portfolios, industry insiders say that the rebalancing of the portfolio will start as early as coming Monday.

What will this reshuffling lead to?

Since a lot of the rebalancing will result into funds moving out of large-cap companies to mid-cap and small-cap companies, this is expected to result into a decline in share prices of some large-cap companies and surge in share prices of mid and small-cap companies. As funds amounting to Rs 27,000 crore are set to chase good quality small-cap companies, market participants say that it may lead to a big surge in share prices of some good small-cap companies. *The move will also result in clearer differentiation between large-cap funds and multi-cap funds as a majority of the multi-cap funds currently have their investments in large-cap companies.* Data shows that in 27 out of the 35 multi-cap schemes, large-cap stocks account for over 60 per cent of the scheme's investment and in case of 18 schemes, large-cap companies account for more than 70 per cent of the scheme's investments.

What should investors do?

As mutual funds have to complete the whole exercise by January 2021, the rebalancing of portfolio will see MFs buying small-cap stocks worth at least Rs 27,000 crore purely on this account and mid-cap stocks worth Rs 12,600 crore. This will see a surge in share prices of mid-cap and small-cap companies. Since it is tricky to find out the stocks in which they would invest, investors can follow the passive mode of stock picking. They can invest into well-performing mid and small-cap schemes of mutual funds. As the mid and small-cap stocks rise on account of fresh purchase by mutual funds, the schemes that hold those companies will witness a rise in their NAV going forward. So, investors will see a better return in schemes investing in these companies.



RETROSPECTIVE TAXATION: THE VODAFONE CASE, AND THE HAGUE COURT RULING

In a unanimous decision, the Permanent Court of Arbitration at The Hague on Friday ruled that India's retrospective demand of Rs 22,100 crore as capital gains and withholding tax imposed on the British telecommunication company for a 2007 deal was "in breach of the guarantee of fair and equitable treatment". The court has also asked India not to pursue the tax demand any more against Vodafone Group.

What is the case?

In May 2007, Vodafone had bought a 67% stake in Hutchison Whampoa for \$11 billion. This included the mobile telephony business and other assets of Hutchison in India. In September that year, the India government for the first time raised a demand of Rs 7,990 crore in capital gains and withholding tax from Vodafone, saying the company should have deducted the tax at source before making a payment to Hutchison. Vodafone challenged the demand notice in the Bombay High Court, which ruled in favour of the Income Tax Department. Subsequently, Vodafone challenged the High Court judgment in the Supreme Court, which in 2012 ruled that Vodafone Group's interpretation of the Income Tax Act of 1961 was correct and that it did not have to pay any taxes for the stake purchase. The same year, the then Finance Minister, the late Pranab Mukherjee, circumvented the Supreme Court's ruling by proposing an amendment to the Finance Act, thereby giving the Income Tax Department the power to retrospectively tax such deals. The Act was passed by Parliament that year and the onus to pay the taxes fell back on Vodafone. The case had by then become infamous as the 'retrospective taxation case'.

What is retrospective taxation?

As the name suggests, *retrospective taxation allows a country to pass a rule on taxing certain products, items or services and deals and charge companies from a time behind the date on which the law is passed.* Countries use this route to correct any anomalies in their taxation policies that have, in the past, allowed companies to take advantage of such loopholes. While governments often use a retrospective amendment to taxation laws to "clarify" existing laws, it ends up hurting companies that had knowingly or unknowingly interpreted the tax rules differently. Apart from India, many countries including the US, the UK, the Netherlands, Canada, Belgium, Australia and Italy have retrospectively taxed companies, which had taken the benefit of loopholes in the previous law.

What happened after India passed the retrospective taxation law?

Once Parliament passed the amendment to the Finance Act in 2012, the onus to pay the taxes fell back on Vodafone. The amendment was criticised by investors globally, who said the change in law was "perverse" in nature. "The retrospective amendment that overturned the decision of the highest court of the land was badly drafted in its wide generalities and carried a perverse sense of vindictiveness," said Nigam Nuggehally, Dean of the School of Law at BML Munjal University. Following international criticism, India tried to settle the matter amicably with Vodafone, but was unable to do so. After the new NDA government came to power, it said it would not create any fresh tax liabilities for companies using the retrospective taxation route. *By 2014, all attempts by the telco and the Finance Ministry to settle the issue had failed. Vodafone Group then invoked Clause 9 of the Bilateral Investment Treaty (BIT) signed between India and the Netherlands in 1995.*



What is the Bilateral Investment Treaty?

On November 6, 1995, India and the Netherlands had signed a BIT for promotion and protection of investment by companies of each country in the other's jurisdiction. Among the various agreements, the treaty had then stated that both countries would strive to “encourage and promote favourable conditions for investors” of the other country. The two countries would, under the BIT, ensure that companies present in each other's jurisdictions would be “at all times be accorded fair and equitable treatment and shall enjoy full protection and security in the territory of the other”. *While the treaty was between India and the Netherlands, Vodafone invoked it as its Dutch unit, Vodafone International Holdings BV, had bought the Indian business operations of Hutchinson Telecommunication International Ltd.* This made it a transaction between a Dutch firm and an Indian firm. The BIT between India and the Netherlands expired on September 22, 2016.

What did the Permanent Court of Arbitration at The Hague say?

One of the major factors for the Court of Arbitration to rule in favour of Vodafone was the violation of the BIT and the United Nations Commission on International Trade Law (UNCITRAL). *In 2014, when the Vodafone Group had initiated arbitration against India at the Court of Arbitration, it had done so under Article 9 of the BIT between India and the Netherlands.* Article 9 of the BIT says that any dispute between “an investor of one contracting party and the other contracting party in connection with an investment in the territory of the other contracting party” shall as far as possible be settled amicably through negotiations. The other was Article 3 of the arbitration rules of UNCITRAL, which, among other things, says that “constitution of the arbitral tribunal shall not be hindered by any controversy with respect to the sufficiency of the notice of arbitration, which shall be finally resolved by the arbitral tribunal”. In its ruling, the arbitration tribunal also said that now since it had been established that India had breached the terms of the agreement, it must now stop efforts to recover the said taxes from Vodafone.

COUNTRY-OF-ORIGIN: ONUS IS ON IMPORTERS

Importers will have to do their due diligence from Monday to ensure that imported goods meet the prescribed 'rules of origin' provisions for availing concessional rate of customs duty under free trade agreements (FTAs). The *Customs (Administration of Rules of Origin under Trade Agreements) Rules, 2020 (CAROTAR, 2020)*, notified on August 21, shall come into force from September 21, the Ministry said in a statement on Friday. This follows completion of the 30-day period that was given to importers and other stakeholders to familiarise themselves with new provisions. “An importer is now required to do due diligence before importing the goods to ensure that they meet the prescribed originating criteria. A list of minimum information, which the importer is required to possess, has also been provided in the rules along with general guidance. “Also, an importer would now have to enter certain origin related information in the Bill of Entry, as available in the Certificate of Origin,” the Ministry added. Ministry sources said the *ASEAN (Association of Southeast Asian Nations) FTA allows imports of most items at nil or concessional basic customs duty from the 10-nation bloc. Major imports to India come from five ASEAN countries — Indonesia, Malaysia, Thailand, Singapore and Vietnam. The benefit of concessional customs duty rate applies only if an ASEAN member country is the country of origin of goods. This means that goods originating from China and routed through these countries will not be eligible for customs duty concessions under the ASEAN FTA. The new rules will support the importer to correctly ascertain the country of*



origin, properly claim the concessional duty and assist customs authorities in smooth clearance of legitimate imports under FTAs, the Ministry said.

‘Protect local industry’

In her Budget speech, Finance Minister Nirmala Sitharaman had mentioned the *need to protect domestic industry from misuse of free trade agreements. CAROTAR 2020 supplements the existing operational certification procedures prescribed under different trade agreements. India has inked FTAs with several countries, including Japan, South Korea and ASEAN members. Under such agreements, two trading partners significantly reduce or eliminate import/customs duties on the maximum number of goods traded between them.*

THE IMPENDING EXIT OF SHAPOORJI PALLONJI FROM TATA, AND WHAT HAPPENS NOW

The Shapoorji Pallonji Group said in the Supreme Court that it would exit from Tata Sons, provided the Group gets an “early resolution” and a “fair, equitable solution” in the protracted legal battle between the two sides. This could potentially mark an end to the 70-year old relationship between two of India’s oldest and biggest corporate groups.

Will Cyrus Mistry’s SP group exit from Tata Sons?

The Shapoorji Pallonji Mistry (SP) Group has offered to exit from Tata Sons in the wake of protracted litigation with the Tatas. The market value of SP Group’s stake in the listed entities of Tata Group is estimated to be around Rs 1,48,000 crore going by the market capitalization of all listed Tata Group firms.

What is the Supreme Court case about?

Tata Sons moved the Supreme Court earlier this month seeking to restrain the SP Group firms from raising capital against security of their shareholding in Tata Sons. The Tatas argued that the Articles of Association (AoA) stipulate that shares cannot change hands, including to lenders or other parties and the right of first refusal rests with Tata Sons. The SP Group was planning to raise funds for the Group’s real estate expansion by pledging Tata Sons shares.

What happened in Supreme Court on Tuesday?

The SP Group stated before the Supreme Court that “a separation from the Tata Group is necessary due to the potential impact this continuing litigation could have on livelihoods and the economy”. The Tata Group is open to buying the shares in Tata Sons held by the SP Group to aid the latter’s fund-raising efforts. *The Supreme Court restrained the SP Group from transferring or pledging Tata Sons shares.*

How much does SP Group own in Tata Sons, and what is its value?

The SP Group owns 18.37 per cent stake in Tata Sons, which is the holding company of the Tata Group. While the total market capitalisation of 17 listed entities of the Tata Group amounts to Rs 12.96 lakh crore, the valuation of SP Group’s holdings in listed entities of Tata Group companies comes at around Rs 1.48 lakh crore. Since Tata Sons is also the holding company of unlisted entities of Tata Group, SP Group would also have stake in the valuation of the same, which will have to be worked out separately.



Who can buy the Shapoorji Pallonji Group's stake?

While the SP Group has said that their separation from the Tata Group is necessary, the Tata Group has said that it is willing to buy the stake of SP Group in Tata Sons. *It is reliably learnt that the Tata Sons Articles of Association states that if any shareholder of Tata Sons wants to sell his/her shares, then he has to first offer it to Tata Sons. Tata Sons will then decide a fair market value and offer it to the shareholder.*



DreamIAS



LIFE & SCIENCE

READING LIFE SIGNATURE ON VENUS

Venus, the hottest planet in the solar system, has not enjoyed as much recent attention as Mars, as far as space missions are concerned. With surface temperatures of above 460° Celsius that can melt even a metal like lead, and a heavy atmosphere of carbon dioxide, the planet was considered hostile to life. This despite its being similar in size to the Earth and rocky, so much so that it is often called the Earth's "*sister planet*". There was some excitement when the European Space Agency's mission, Venus Express, found signs of ozone, made of three oxygen atoms and considered a biomarker, in the upper atmosphere of Venus, in 2011.

An international team of astronomers led by Jane S. Greaves of Cardiff University and University of Cambridge, U.K., has announced the discovery of traces of a molecule known as phosphine on Venus. The recent discovery of traces of phosphine, another biomarker, in its atmosphere has just given the search for extra-terrestrial life a shot in the arm. The paper, published on September 14 in Nature Astronomy, is a careful exposition of the work done over many years. Professor Greaves first observed phosphine on Venus using the James Clerk Maxwell Telescope in the Mauna Kea observatory in Hawaii in 2017. Pursuing the search further with the 45-telescope array ALMA (Atacama Large Millimeter/submillimeter Array) in Chile led to a confirmation of their observations by this extremely sensitive instrument in 2019.

Phosphine, a compound of one phosphorous atom and three hydrogen atoms, is given out by some microbes during biochemical processes. In an atmosphere rich in carbon dioxide, it is likely to get destroyed soon. However, In a paper published in Nature Astronomy, a team of scientists have reported traces of phosphine in a concentration of approximately 20 parts per billion, thousands to millions of times more than what could otherwise be expected. This fact, when added to the hostile conditions on its surface, yields tantalising possibilities — of phosphine's survival through extraordinary chemistry and thermodynamics or the stubborn triumph of biology and life.

Why is phosphine gas considered a biomarker of life?

On Earth, this molecule is produced by industrial processes. It is also produced by some anaerobic bacteria, which live in oxygen-sparse environments such as sewers, landfills, or even animal guts. If you can rule out the production of the gas through chemistry, it is the biochemical processes that form a source of the gas — the anaerobic bacteria — hence it is considered a biomarker in astronomy.

Has phosphine been found on other planets?

Yes, it has been seen on Jupiter and Saturn. As early as the 1970s, when the first exoplanets were not even discovered experimentally, phosphine was seen on Jupiter. But there it is said to form deep in the interiors of the gas giant and rise to the top, in a purely chemical process. But now, on Venus there is a doubt.

So, is there life on Venus?

No one is saying that as of now. What scientists have discovered is the presence of *a chemical which is known to be produced only through biological process, and not through any naturally*



occurring chemical process. There are some other ways in which this chemical might be produced, for example, in the underbelly of volcanoes or meteorite activity, but that would have shown in much lower concentrations. In any case, scientists have ruled out all those kinds of known possibilities which could be attributed for the presence of that gas. In fact, this discovery was made in 2017, and the scientists checked and re-checked their data over the last three years before deciding to make it public. The abstract to their paper in Nature Astronomy says this presence of phosphine is “unexplained” after an exhaustive study of all the possible other sources and “production routes in Venus’s atmosphere, clouds, surface and subsurface, or from lightning, volcanic or meteorite delivery”. So, the only possible explanation for the origin of this phosphine, based on our current knowledge, could be in the biological processes, the way it is produced on Earth, by some microbes. During an announcement on Monday, scientists were very careful to emphasise, repeatedly, that this was not a confirmation of the presence of life on Venus.

Why is it significant then?

This is the most credible evidence yet for the possibility of life away from Earth. Scientists say it is more significant, for example, than the discovery of water on the Moon or Mars. “In the search for extra-terrestrial life, this is the biggest finding, no doubt. Of course, this cannot be taken to mean that there is indeed life on Venus, or anywhere else, but if you are a scientist looking for life-forms on other planets, I think this is your first real breakthrough,” said Dibyendu Nandi of IISER, Kolkata. This is how Professor Sara Seager of the Department of Physics at the Massachusetts Institute of Technology, who is one of the authors of the study, also described the finding. She said *the detection of phosphine had raised Venus “higher up on the ladder of interesting targets” where the possible presence of life-forms can be explored.*

But Venus cannot support life, can it?

There are several things that we know of about Venus that make life, as we know it, unsustainable on that planet. *The temperature of Venus is too high, and its atmosphere is highly acidic, just two of the things that would make life impossible.* But Somak Raychaudhuri, director of Pune-based Inter-University Centre for Astronomy and Astrophysics, suggested that this phosphine could be remnants from a time when Venus was a much more hospitable place. “Look, this finding opens up many interesting possibilities. We don’t know how long phosphine molecules survive. Also, we know that Venus has not always been as inhospitable as it seems now. So, one of the possibilities, if we would like to explore the question of presence of life on Venus, could be *whether this phosphine is actually something remaining from a time when the planet did support life-forms.* These are open questions right now. All these will be explored. What we have got now is just a foothold in the door. We can now probe with greater enthusiasm,” he said. “I would personally not classify this discovery in the same league as the discovery of the first planet, or the recent confirmation of the gravitational waves, for example, but *it also certainly not as insipid as some signal of water molecule being found on some planet. In fact, in that way it is bigger than evidence for water. Water is only circumstantially related to life. It is not produced by life. Phosphine is produced by biological processes. So this is significant no doubt, and nothing like this has been discovered till now,*” he said. Varun Bhalerao of IIT Bombay said.

Have space missions been sent to Venus?

There have been several space missions to study Venus, and some of the recent dedicated missions are the *European Space Agency’s Venus Express and JAXA’s Akatsuki.* Many space missions have



flown by Venus: for example, *NASA's Parker Solar Probe* used the gravity of Venus to achieve gravity-assisted boosts to its velocity on its journey to the Sun. NASA is planning a mission to Venus to be launched next year. *The Indian Venus mission is being developed. Though formally unnamed, it is referred to as Shukrayaan-1.*

NASA IS PLANNING TO SEND HUMANS TO MOON AGAIN BY 2024

NASA published the outline for its Artemis program, which plans to send the next man and first woman to the lunar surface by the year 2024. The last time NASA sent humans to the Moon was in 1972, during the Apollo lunar mission.

What is the Artemis program?

With the Artemis program, NASA wishes to demonstrate new technologies, capabilities and business approaches that will ultimately be needed for the future exploration of Mars. The program is divided into three parts, the first called Artemis I is most likely to be launched next year and involves an uncrewed flight to test the SLS and Orion spacecraft. Artemis II will be the first crewed flight test and is targeted for 2023. Artemis III will land astronauts on the Moon's South Pole in 2024.

What does it take to go to the moon?

For NASA, going to the moon involves various elements – such as the exploration ground systems (the structures on the ground that are required to support the launch), the Space Launch System (SLS), Orion (the spacecraft for lunar missions), Gateway (the lunar outpost around the Moon), lunar landers (modern human landing systems) and the Artemis generation spacesuits – are all ready. NASA's new rocket called SLS will send astronauts aboard the Orion spacecraft a quarter of a million miles away from Earth to the lunar orbit. Once the astronauts dock Orion at the Gateway — which is a small spaceship in orbit around the moon — they will be able to live and work around the Moon, and from the spaceship, will take expeditions to the surface of the Moon. In June, NASA finalised a contract worth \$187 million with the Orbital Science Corporation of Dulles, Virginia, which will be responsible for the design and logistics. The astronauts going for the Artemis program will wear newly designed spacesuits, called Exploration Extravehicular Mobility Unit, or xEMU. These spacesuits feature advanced mobility and communications and interchangeable parts that can be configured for spacewalks in microgravity or on a planetary surface.

NASA and the moon

The US began trying to put people in space as early as 1961. Eight years later, on July 20, 1969, Neil Armstrong became the first human to step on the Moon as part of the Apollo 11 mission. While climbing down the ladder towards the surface of the Moon he famously proclaimed, "That's one small step for a man, one giant leap for mankind." Armstrong along with Edwin "Buzz" Aldrin walked around the moon for over three hours, doing experiments and picking up bits and pieces of Moondust and rocks. They left a US flag on the Moon along with a sign that said, "Here men from the planet Earth first set foot upon the moon July 1969, AD. We came in peace for all mankind." Apart from the purpose of space exploration itself, NASA's endeavour to send Americans to the Moon again is to demonstrate American leadership in space and to establish a strategic presence on the Moon, while expanding the US global economic impact. "When they land, our American astronauts will step foot where no human has ever been before: the Moon's South Pole," says NASA.



Moon exploration

In 1959, the Soviet Union's uncrewed Luna 1 and 2 became the first rover to visit the Moon. Since then, seven nations have followed suit. Before the US sent the Apollo 11 mission to the Moon, it sent three classes of robotic missions between 1961 and 1968. After July 1969, 12 American astronauts walked on the surface of the Moon until 1972. Together, the Apollo astronauts brought back over 382 kg of lunar rock and soil back to Earth for study. Then in the 1990s, the US resumed lunar exploration with robotic missions Clementine and Lunar Prospector. In 2009, it began a new series of robotic lunar missions with the launch of the Lunar Reconnaissance Orbiter (LRO) and the Lunar Crater Observation and Sensing Satellite (LCROSS). In 2011, NASA began the ARTEMIS (Acceleration, Reconnection, Turbulence, and Electrodynamics of the Moon's Interaction with the Sun) mission using a pair of repurposed spacecraft, and in 2012, the Gravity Recovery and Interior Laboratory (GRAIL) spacecraft studied the Moon's gravity. Apart from the US, the European Space Agency, Japan, China, and India have sent missions to explore the Moon. China landed two rovers on the surface, which includes the first-ever landing on the Moon's far side in 2019. The Indian Space Research Organisation (ISRO) recently announced India's third lunar mission Chandrayaan-3, which will comprise a lander and a rover

The Galactic Centre

Galactic Centre is the rotational centre of the Milky Way galaxy. It comprises a collection of celestial objects — neutron and white dwarf stars, clouds of dust and gas, and most notably, a supermassive black hole called Sagittarius A*, that weighs four million times the mass of the sun.

SOLAR CYCLE 25: THE SCIENTIFIC COMMUNITY'S FORECAST ABOUT ITS INTENSITY AND PEAK

NASA and the National Oceanic and Atmospheric Administration (NOAA) on Tuesday jointly released a consensus statement announcing the commencement of solar cycle 25. As the star governing our solar system, Sun's activities impact Earth and the overall space weather. The Indian Express explains how solar cycles are determined, and how they sometimes indicate a 'quiet' Sun.

What is a solar cycle?

Like seasons on Earth, the *Sun follows a cycle of 11 years*, during which solar activities fluctuate between solar *minima and maxima*. Depending on the number of sunspots detected on the Sun, scientists term it as *solar maxima* (highest number of sunspots) or *solar minima* (lowest number of sunspots). *Sunspots are small and dark, yet cooler areas formed on the solar surface, where there are strong magnetic forces. They start appearing at Sun's higher latitudes and later shift towards the equator as a cycle progresses.* In short, when the Sun is active, there are more sunspots in comparison to fewer sunspots during the lesser active phase. Maxima or minima is not a specific time in the 11-year cycle, but is a period that can last for a few years.



How are solar cycles determined?

One of the important elements researchers look out for on the Sun's surface is the number of sunspots. *A new cycle commences when the Sun has reached its lowest possible minima phase. Every time the cycle changes, the Sun's magnetic poles reverse.* Since the Sun is a highly variable star, data of sunspot formation and its progress need close monitoring. Data of six to eight months are required to confirm whether the star has undergone a minima phase. *A Solar Cycle Prediction Panel comprising solar physicists, led by NASA and NOAA, along with an international community, release a consensus statement once a decade.*

Traditionally, telescopes were used to record sunspots and recorded data since 1755 is available. With the advance in technology in the recent decades, satellites are also used to make real-time sunspot observations. On this basis, scientists announced the completion of *solar cycle 24, which lasted between December 2008 and December 2019.* With the Sun's activities having reached its lowest minima between the two cycles, the new solar cycle 25 has now commenced.

How has the transition between solar cycles 24 and 25 been?

The Sun's activities were notably lesser during 2019 and early 2020. There were no sunspots for 281 days in 2019 and 181 days in 2020. Since December 2019, the solar activities have slowly picked up, corroborating the beginning of the new cycle. The panel termed solar cycle 25 to be a weak one, with the intensity similar to that of Solar cycle 24.

Being the weakest in a century, solar cycle 24 was the fourth smallest in intensity since 1755. At its peak in April 2014, the highest number of sunspots observed were 114, whereas the average number is 179. The forecast suggests that solar cycle 25 would peak in July 2025 and the number of sunspots would be around 115.

What solar activities affect us on Earth?

Solar activities include solar flares, solar energetic particles, high-speed solar wind and Coronal Mass Ejections (CME). These influence the space weather which originates from the Sun. *Solar storms or flares can typically affect space-dependent operations like Global Positioning Systems (GPS), radio and satellite communications, besides hampering flight operations, power grids and space exploration programmes.* Ejections travelling at a speed of 500km/second are common during solar peaks and create disturbances in Earth's magnetosphere, the protective shield surrounding the planet. At the time of spacewalks, astronauts face a great health risk posed by exposure to solar radiation outside Earth's protective atmosphere. Such advance predictions are regularly sought out by countries who have made heavy investments in space missions. Besides, the life of functional satellites, and even those which have now turned into debris, depends a lot on the Sun's activities.

In May 1967, the US Air Force's Ballistic Missile Early Warning System radar sites in Alaska, Greenland and the UK got jammed due to the flare, causing US officials to mistakenly hold the Soviet Union responsible for the radar failures. It was only after scientists at the North American Aerospace Defence Command (NORAD) informed US leaders of the solar flare that the matter deescalated. Recently, scientists have developed a new model that can successfully predict seven of the Sun's biggest flares from the last solar cycle, out of a set of nine with the help of NASA's Solar Dynamics Observatory.



What are sunspots?

A Sunspot is an area on the Sun that appears dark on the surface and is relatively cooler than the surrounding parts. These spots, some as large as 50,000 km in diameter, are the visible markers of the Sun's magnetic field, which forms a blanket that protects the solar system from harmful cosmic radiation. When a Sunspot reaches up to 50,000 km in diameter, it may release a huge amount of energy that can lead to solar flares.

RUSTY MOON

On September 6, Union Minister Jitendra Singh said that images sent by Chandrayaan-1 suggest that the moon may be rusting along the poles. He was referring to a recently published study that found an oxidised iron mineral called hematite (Fe_2O_3) at high latitudes on the Moon. The researchers say that this lunar hematite is formed through oxidation of the iron on the Moon's surface by the oxygen from Earth's upper atmosphere. The team analysed the data acquired by the Moon Mineralogy Mapper onboard Chandrayaan-1. Along with the oxygen, water on the lunar surface and heat from interplanetary dust also helped in the oxidation process. The paper in Science Advances notes that the hematite is not absolutely absent on the lunar farside. The hematite formed at lunar craters of different ages may help understand the oxygen of Earth's atmosphere in the past 2.4 billion years and reveal facts about the evolution of Earth's atmosphere in the past billions of years. The team hopes that NASA's ARTEMIS missions can bring some hematite samples, and detailed chemical studies can confirm if the lunar hematite was indeed oxidised by Earth's oxygen.

WHY IT IS IMPORTANT TO SAVE A DECLINING RIVER SPECIES

In his Independence Day Speech this year, Prime Minister Narendra Modi announced the government's plan to launch a Project Dolphin. The proposed project is aimed at saving both river and marine dolphins.

What will Project Dolphin do?

Modi said in his speech that Project Dolphin will be on the lines of Project Tiger, which has helped increase the tiger population. Such an initiative got in-principle approval in December last year itself, at the first meeting of the National Ganga Council (NGC), headed by the Prime Minister. So far, the National Mission for Clean Ganga (NMCG), which implements the government's flagship scheme Namami Gange, has been taking some initiatives for saving dolphins. Now, Project Dolphin is expected to be implemented by the Ministry of Environment, Forest and Climate Change.

What is the Gangetic dolphin?

The Gangetic river system is home to a vast variety of aquatic life, including the Gangetic dolphin (*Platanista gangetica*). *The Gangetic dolphin is one of five species of river dolphin found around the world.* It is found mainly in the Indian subcontinent, particularly in *Ganga-Brahmaputra-Meghna* and *Karnaphuli-Sangu* river systems. The Conservation Action Plan for the Ganges River Dolphin, 2010-2020, describes male dolphins as being about 2-2.2 metres long and females as a little longer at 2.4-2.6 m. An adult dolphin could weigh between 70 kg and 90 kg. The breeding season of the Gangetic dolphin extends from January to June. They feed on several species of fishes, invertebrates etc.



Why is it important to save dolphins?

There was a time when Gangetic dolphins could be spotted in the Ganga at several places, from its delta in the Bay of Bengal to upstream in the Himalayan foothills. It was also found in the Ganga's tributaries. *Some experts have reported that during the 19th century, dolphins were seen in the Yamuna up to as far as Delhi.* However, *the construction of dams and barrages, and increasing pollution have led to a decline in the population of aquatic animals in the rivers in general and of dolphins in particular.* Aquatic life is an indicator of the health of river ecosystems. As the Gangetic dolphin is at the top of the food chain, protecting the species and its habitat will ensure conservation of aquatic lives of the river.

Have other governments used aquatic life as an indicator of the health of a river system?

Globally, there have been such examples. For instance, the Rhine Action Plan (1987) of the International Commission for the Protection of the Rhine (ICPR) — representing Switzerland, France, Germany, Luxemburg and the Netherlands — brought back the salmon. The return of the migratory fish is taken as an indicator of the river's improved health. *Salmon used to migrate from the North Sea to the Rhine every year and reproduce,* but this stopped when pollution increased in the river. After a chemical accident in 1986 that caused the death of fish and microorganisms, the Action Plan was launched. This led to improvement in the quality of the river water, and the salmons began to return. "While the salmon was considered lost in the Rhine in 1958, today several hundred salmon from the North Sea return to the accessible tributaries of the Rhine every year and reproduce naturally there," says Assessment Rhine 2020, and ICPR report.

How many Gangetic dolphins remain?

While no exact count is available, various estimates suggest that the Gangetic dolphin population in India could be about 2,500-3,000. However, Minister of State for Environment, Forest and Climate Change Babul Supriyo had told Lok Sabha last year that there were about 1,272 dolphins in Uttar Pradesh and 962 in Assam. Increasing pollution in the Ganga has brought down the number over the years.

What has been done to save Gangetic dolphins so far?

Although efforts to save them were started in the mid-1980s, but the estimates suggest the numbers have not risen as a result. The Gangetic dolphin remains listed as endangered by the International Union for the Conservation of Nature.

WILDLIFE ACT PROTECTION: *After the launch of Ganga Action Plan in 1985, the government on November 24, 1986 included Gangetic dolphins in the First Schedule of the Indian Wildlife (Protection), Act 1972.* This was aimed at checking hunting and providing conservation facilities such as wildlife sanctuaries. For instance, *Vikramshila Ganges Dolphin Sanctuary* was established in Bihar under this Act.

CONSERVATION PLAN: The government also prepared The Conservation Action Plan for the Ganges River Dolphin 2010-2020, which "identified threats to Gangetic Dolphins and impact of river traffic, irrigation canals and depletion of prey-base on Dolphins populations".

NATIONAL AQUATIC ANIMAL: *On October 5, 2009, the then Prime Minister Manmohan Singh, while chairing the maiden meeting of the National Ganga River Basin Authority, declared the*



Gangetic river dolphin as the national aquatic animal. A notification was issued by the Ministry of Environment and Forests the following year. Now, *the National Mission for Clean Ganga celebrates October 5 as National Ganga River Dolphin Day.*

HOW AFRICAN SAHARA AMPLIFIED A DROUGHT IN ASIA

About 4,000 to 5,000 years ago, a severe drought crippled countries of Southeast Asia forcing a shift in human settlement patterns of the area. Researchers have now told the story behind this mega-drought. By *studying the mineral deposits of caves in Vietnam* they point to a connection between the end of the Green Sahara and this mega-drought.

Rock samples

The team *collected stalagmite samples from the caves in Laos and examined the oxygen, carbon isotopes and trace metals.* They also conducted different modelling and paleoclimate experiments. The data suggested that during this period the Sahara started losing its vegetation. The reduced plant growth led to increased airborne dust which cooled the Indian Ocean, shifted the atmospheric circulation patterns and caused a condition similar to today's El Niño events. This ultimately led to a large reduction in monsoon moisture across Southeast Asia that lasted more than 1,000 years, says Kathleen Johnson in a release. She is an associate professor of Earth system science at the University of California and one of the corresponding authors of the paper published in Nature Communications. *Previous studies have shown that this demise of the Green Sahara also caused the collapse of the Akkadian Empire of Mesopotamia and the de-urbanisation of the Indus Valley Civilization.* This mega-drought period also brought about many lifestyle changes in the mainland Southeast Asian countries of Myanmar, Thailand, Laos, Cambodia and Vietnam. The first appearance of cultivated cereals - millet in central Thailand and rice in northeast Thailand were during this period. It also introduced the nucleated village agrarian lifeway. Studies of ancient DNA sequencing of human genomes have also pointed to population changes in mainland Southeast Asia about 4,000 years ago leading to some emigration in the region.

Decades long puzzle

"Archaeologists and anthropologists have been studying this event for decades now, in terms of societal adaptations and upheavals, but its exact cause has eluded the scientific community," said lead author Michael Griffiths in a release. "Results from this work could help us better understand, to varying degrees, the observed societal shifts across many parts of the tropics and extratropics." He is a professor of environmental science at William Paterson University, New Jersey.

WHAT IS BLOOD GOLD, AND WHY IS AN ANCIENT AMAZON TRIBE TALKING TO INDIANS ABOUT IT?

From the remote rainforests of Brazil, a little-known tribe has made an emotional appeal to Indians: "*The gold which has come from our Yanomami territory is Blood Gold*, gold at the cost of indigenous blood. I'd like to send a message to the people of India, to the Indian government and the companies which import it: You must stop buying Blood Gold. Buying Blood Gold is not good. It's important that the government thinks again, that the Indian people think again and do not buy Yanomami Blood Gold." *The appeal, by Dario Kopenawa of Brazil's indigenous Yanomami people, was posted in a video online with English subtitles by Survival International, an international human*



rights advocacy based in London, which campaigns for the rights of indigenous and tribal peoples around the world.

The Yanomami people

The Yanomami live in the rainforests and mountains of northern Brazil and southern Venezuela, and are, according to Survival International, the largest relatively isolated tribe in South America. *The Yanomami are believed to have crossed the Bering Strait from Asia into North America perhaps 15,000 years ago, and travelled southward to their home in the Amazon.* Survival International says the tribe numbers around 38,000 today, and its members live in contiguous forested territory of around 9.6 million hectares in Brazil and 8.2 million hectares in Venezuela. The Yanomami practise an ancient communal way of life. *They live in large, circular houses called yanos or shabonos, some of which can hold up to 400 people.* Rituals, feasts and games are held in the main, central area. Each family has its own hearth where food is prepared and cooked during the day. At night, hammocks are slung near the fire which is stoked all night to keep people warm. It is a Yanomami custom that a hunter does not eat the meat he has killed. "He shares it out among friends and family. In return, he will be given meat by another hunter," says the website of Survival International. The Yanomami consider all people to be equal, and do not have a chief. Instead, all decisions are based on consensus after long discussions and debates.

Gold rush in Yanomami country

Since the 1980s, the Yanomami have been facing an onslaught from illegal gold miners. According to Survival International, Yanomami land was invaded by up to 40,000 miners who killed the indigenous people, destroyed their villages, and brought them deadly diseases. A fifth of the Yanomami population perished in just seven years. Following a sustained campaign led by Survival International, the Brazilian government notified a 'Yanomami Park' in 1992, and the miners were expelled. However, they kept returning, and in 1993, they murdered 16 Yanomami including a baby in Haximú village. A Brazilian court subsequently found five miners guilty of the massacre. However, the illegal entry of gold miners in Yanomami country continued.

Why the appeal to Indians?

Watson says gold mined illegally in Yanomami land has most likely been coming to India since at least 2018 – "but it could be earlier than this as it has been traded on the black market for years". In June 2019, BBC Brasil reported that the state of Roraima, in which many Yanomami live, had exported 194 kg of gold to India since September 2018, quoting figures from Comex Stat, the Brazilian Ministry of Economy portal on foreign trade. Roraima, the report said, has no legal gold mines, but is the state where most of the illegal gold is mined. A report on the Yanomami published in The New Yorker magazine in November 2019 ('Blood gold in the Brazilian rainforest') said a third of the gold produced in Brazil is sold as jewellery in India and China, and that it was difficult for buyers to distinguish between legal and illegal gold. The BBC Brasil report said India was "the fourth largest importer of Brazilian gold in the world".

What now for Yanomami

The tribe has launched an initiative called MinersOutCovidOut to enlist the support of Brazilian society and the international community to lobby the Brazilian government to take urgent action to remove the miners and to prevent the spread of the coronavirus.



WHO IS MAGAWA, THE FIRST RAT TO BE AWARDED A GOLD MEDAL FOR BRAVERY?

A rat called Magawa was awarded the PDSA Gold Medal for his "life-saving" work in Cambodia. Magawa who is an African Giant Pouched Rat and is just under eight years old, is the first rat to win this medal and was given the award by PDSA's Director-General in a virtual presentation. PDSA was founded in 1917 by animal welfare pioneer Maria Dickin and is one of the UK's leading veterinary charities. It operates through 48 pet hospitals across the UK and provides low cost and free veterinary care to sick and injured pets.

The PDSA Gold Medal was initiated in 2002 and rewards civilian acts of animal bravery and "devotion to duty". It is the highest honour recognising extraordinary bravery of animals.

Why was it awarded to Magawa this year?

Since the early 1990s, a charity called APOPO has been training rats to detect landmines in Tanzania. It is estimated that over 80 million landmines are active and unknown across the world. *While the African Giant Pouched Rat is much larger than the usual pet rats, but it is still light enough to not trigger a landmine by walking over it. Rats like Magawa and others whose official job title is "HeroRAT" are considered easy to train. According to PDSA, Magawa has been at work in Cambodia – which has the highest number of mine amputees per capita in the world at over 40,000 people – since over seven years and can search an area the size of a tennis court in about 30 minutes, something that would take a human with a metal detector over four days. If the rats detect a landmine underneath because of the chemicals used, it signals to their handler, after which it is safely disposed of. Till now, Magawa has discovered over 39 landmines and 28 items of unexploded ordnance to date and has cleared over 141,000 sq. meters of land (equivalent to the size of two football pitches), which makes him the charity's most successful HeroRAT.*

BACTERIA BEHIND DEATHS OF 330 BOTSWANA ELEPHANTS

Toxins in water produced by cyanobacteria killed more than 300 elephants in Botswana this year, officials said on Monday, announcing the result of an investigation into the deaths which had baffled and alarmed conservationists. Cyanobacteria are microscopic organisms common in water and sometimes found in soil. Not all produce toxins but scientists say toxic ones are occurring more frequently as climate change drives up global temperatures. Cyril Taolo, deputy director of the Department of Wildlife and National Parks, told a news conference the number of dead elephants had risen to 330, from 281 reported in July.

Why not other animals?

The department's principal veterinary officer Mmadi Reuben told the news conference: "Our latest tests have detected cyanobacterial neurotoxins to be the cause of deaths. These are bacteria found in water. "However we have many questions still to be answered such as why the elephants only and why that area only? We have a number of hypotheses we are investigating." Other animals in the Okavango Panhandle region appeared unharmed.

Climate change

Some cyanobacterial blooms can harm people and animals and scientists are concerned about their potential impact as climate change leads to warmer water temperatures, which many cyanobacteria



prefer. Southern Africa's temperatures are rising at twice the global average, according to the Intergovernmental Panel on Climate Change. "It amounts to having the right conditions, in the right time, in the right place and these species will proliferate," said Professor Patricia Glibert, who has studied cyanobacteria.

WHY HAVE HUNDREDS OF WHALES DIED IN AUSTRALIA?

Since Monday, over 450 long-finned pilot whales have died in Australia in what is being called *the biggest stranding of whales on record in Australia*. The whales were beached at a remote beach in Tasmania's west coast.

Why do whales beach themselves?

Whales are known to strand themselves on beaches across the world and they do so singularly or in groups. While individual strandings are mostly attributed to injury or sickness, it is not clear why exactly whales beach themselves in groups. Even so, there are a few theories that might explain this behaviour. One reason could be that some whales follow schooling fish or other prey into shallow waters, which causes the whales to become disoriented, as a result of which they get stranded. Another reason could be panic from being trapped by a predator such as killer whales or sharks. Another possibility is that whales might be drawn to land by prey-rich currents. Further, the shape of the beach and the coastline could also have a role to play. For instance, if the beach has gently-sloping shorelines, whales that are dependent on echolocation for navigation can be deceived. According to Australia's Department of Agriculture, Water and the Environment, the species that most often get stranded on Australian beaches are those that use echolocation or sonar for navigation, such as pilot and sperm whales.

What happens when whales are stranded?

According to a press release issued by Tasmania's Department of Primary Industries, Parks, Water and Environment, from an aerial survey, most of the stranded whales appear to be dead. To save the ones that are still alive, scientists and workers involved in the rescue mission try to drag the whales away from the shore and guide them back into the water.

Are such strandings common?

Whale stranding is neither an uncommon nor a recent phenomenon. While dead individuals would naturally wash up ashore, *mass beaching has baffled humans since at least 300 BC*. "It is not known why they sometimes run aground on the seashore," noted Aristotle. "It is asserted that this happens when the fancy takes them and without any apparent reason." Centuries later, the Romans thought stranding was a whale's punishment for offending Neptune, the god of the seas. *Before this, the largest stranding that has occurred in Tasmania happened in 1935 when over 294 whales were stranded. This stranding also involved long-finned pilot whales.*

WILL RULING AGAINST CASTER SEMENYA SEE INTERSEX ATHLETES SWITCHING EVENTS?

South African middle-distance runner Caster Semenya has lost her appeal against World Athletics guidelines that restrict testosterone levels in female athletes. The Federal Supreme Court of Switzerland upheld the Court of Arbitration for Sport's (CAS) May, 2019 order that had endorsed the international governing body's regulation that made it *mandatory for athletes to lower their*



testosterone levels for competing in events between 400m and a mile. The rules, called Eligibility Regulations for Female Classification (Athletes with Differences in Sex Development) have seen several athletes switching to other events where there is no testosterone restriction. Meanwhile, sticking to her stand against medication or hormonal therapy, Semenya expressed her dismay at the order which ended her dream of winning a third straight Olympic medal. "Excluding female athletes or endangering our health solely because of our natural abilities puts World Athletics on the wrong side of history," she said in a statement.

What is the World Athletics ruling that Semenya was opposing?

In April 2018, World Athletics, called the International Association of Athletics Federations (IAAF) back then, introduced new eligibility regulations which said that *women athletes should have less than 5 nanomoles per litre of testosterone.* This guideline was *only for runners participating in races between 400 metres and a mile, events that combine speed and endurance.* The IAAF said the rule was put in place to ensure a 'level playing field for women athletes' since high levels of testosterone gives an athlete an unfair advantage. *The new guideline didn't go down well with female athletes with DSD* since they were born with high levels of testosterone. Semenya became the leading voice of athletes who believed that the new guidelines were discriminatory.

How did the international body come up with these guidelines?

The IAAF, based on data including performances at world championships reviewed by experts, concluded that *female athletes with testosterone of 7.3 nmol/L (male range starts from 7.7 nmol/L) have a 4.4 per cent advantage in muscle mass and a 12 per cent to 26 per cent increase in muscle strength. Most women, including elite female athletes, the IAAF said, have testosterone levels only between 0.12 to 1.79 nmol/L. It also said that female athletes with levels of testosterone of 5nmol/L or above are either intersex/DSD, doped athletes or athletes with adrenal or ovarian tumours.*

How can a DSD athlete with a naturally high testosterone level compete in international competitions?

An athlete affected by the DSD regulations has to show that her testosterone levels are below the upper limit for a period of six months before returning to international competition. The world body has said that an athlete does not have to undergo any kind of surgery. DSD athletes can compete in sprint events or events longer than a mile.

Will this rule see DSD athletes switching events?

Likely. Dr Payoshni Mitra, who was an expert on the panel for defending Semenya when she challenged the rules, told The Indian Express that athletes wary of reducing their natural testosterone level will switch events. Semenya has announced that she will target the 200 metres at the Tokyo Olympics but that won't be easy because just to qualify, she will have to improve her personal best by over a second and a half. In February this year, she ran her first competitive event in eight months, the 300 metres at the University of Johannesburg. She broke the national record in the not-often-competed distance, that is not part of the Olympics or World Championships. In June last year, she ran the 3,000 metres in Paris and won with a timing of 5 minutes and 38.19 seconds.



Will it be a level-playing field in sprints or events longer than a mile?

World Athletics says that based on the evidence experts reviewed, *it appears that 'restricted events' are the ones where performance gets boosted because of higher levels of testosterone.*

Are any Indian athletes affected by the ruling?

Currently, there are no known cases of an Indian athlete being affected or admitting to switching events because of the restrictions on testosterone levels. Sprinter Dutee Chand had successfully challenged the previous 'hyperandrogenism regulations' of the IAAF, that were used to ban her in 2014. Those rules required women to have testosterone of less than 10 nanomoles per litre. However, the IAAF excluded certain distances, including the 100 metres and 200 metres, when they came out with the new event-specific DSD regulations. Dutee has since won multiple medals, including two silver medals (100 metres and 200 metres) at the 2018 Asian Games.

WHAT IS #CANCELNETFLIX ALL ABOUT?

A petition created on change.org that has been signed by more than 600,000 people is urging people to cancel their Netflix subscriptions, after backlash over a French film called '*Cuties*', the content of which many are terming as inappropriate. "From *Cuties* to *Big Mouth* to other movies mocking religions and exploiting children, Netflix is no longer the family friendly streaming service I once believed it to be!" the petition says. A separate petition, titled "Petition to remove *Cuties* from Netflix", has been signed by more than 350,000 people. #CancelNetflix that is trending on social media is a variant of the phrase 'Cancel Culture', mentioned in the Merriam Webster's series called "Words We're Watching", which includes words that are increasingly in use but have not yet met their criteria for entry. According to the dictionary, "Cancel is getting a new use. Cancelling and cancel culture have to do with the removing of support for public figures in response to their objectionable behaviour or opinions. This can include boycotts or refusal to promote their work."

What is the controversy about?

The film that won the directing award at the Sundance Film Festival earlier this year, started getting noticed when Netflix started promoting the film towards the end of August. In its promotions, the streaming platform used a poster in which an 11-year-old girl, who is the lead character of the film, can be seen wearing short shorts and a metallic crop top along with a few other girls in the background. The now-deleted description that Netflix initially used read: *Amy (the lead) "becomes fascinated with a twerking dance crew" and "starts to explore her femininity, defying her family's traditions"*. Subsequently, a Twitter thread about the film became viral after it was posted on August 20 and described the ways in which the film was problematic. In the thread, the user pointed out that "minors shouldn't be sexualised like this". "And the fact that this is a black girl lead makes this even worse...". "#CancelNetflix" started trending on social media soon after as users started voicing their displeasure at the contents of the film that many likened to child porn. Others have pointed out that the fact that the film is meant for those in the 18+ age group is problematic considering the story itself is about an 11-year old girl. The second petition on change.org says the following, "This movie/show is disgusting as it sexualizes an ELEVEN year old for the viewing pleasure of paedophiles and also negatively influences our children! There is no need for this kind of content in that age group, especially when sex trafficking and pedophilia are so rampant! There is no excuse, this is dangerous content!". *The current description for the*



movie reads, "Eleven-year-old Amy starts to rebel against her conservative family's traditions when she becomes fascinated with a free-spirited dance crew."

What is the film about?

The French film, which is the debut feature of writer and director Maïmouna Doucouré, is a story about an 11-year-old who joins a dance group called "Cuties" in a bid to escape family dysfunction. The Sundance website describes the film as a "spirited film" that "depicts the tweens' youthful energy and vulnerabilities while exploring their fumbling eagerness to be identified as sexualized."

What has been Netflix's response?

After the social media backlash, Netflix changed the poster and description for the film and issued an apology on September 20. "We're deeply sorry for the inappropriate artwork that we used for Mignonees/Cuties. It was not OK, nor was it representative of this French film which won an award at the Sundance. We've now updated the pictures and description." However, some have pointed out on Twitter that changing the artwork and description isn't enough, since the premise of the film is "disturbing" and have called for a ban on the film.

THE UN'S GUIDELINES ON ACCESS TO SOCIAL JUSTICE FOR PEOPLE WITH DISABILITIES

The United Nations has released its first-ever guidelines on access to social justice for people with disabilities to make it easier for them to access justice systems around the world. The guidelines outline a set of 10 principles and detail the steps for implementation. The 10 principles are:

Principle 1 All persons with disabilities have legal capacity and, therefore, no one shall be denied access to justice on the basis of disability.

Principle 2 Facilities and services must be universally accessible to ensure equal access to justice without discrimination of persons with disabilities.

Principle 3 Persons with disabilities, including children with disabilities, have the right to appropriate procedural accommodations.

Principle 4 Persons with disabilities have the right to access legal notices and information in a timely and accessible manner on an equal basis with others.

Principle 5 Persons with disabilities are entitled to all substantive and procedural safeguards recognized in international law on an equal basis with others, and States must provide the necessary accommodations to guarantee due process.

Principle 6 Persons with disabilities have the right to free or affordable legal assistance.

Principle 7 Persons with disabilities have the right to participate in the administration of justice on an equal basis with others.

Principle 8 Persons with disabilities have the rights to report complaints and initiate legal proceedings concerning human rights violations and crimes, have their complaints investigated and be afforded effective remedies.



Principle 9 Effective and robust monitoring mechanisms play a critical role in supporting access to justice for persons with disabilities.

Principle 10 All those working in the justice system must be provided with awareness-raising and training programmes addressing the rights of persons with disabilities, in particular in the context of access to justice.

How does the UN define a person with a disability?

The UN Convention on the Rights of Persons with Disabilities, which was adopted in 2007 as the first major instrument of human rights in the 21st century, defines persons with disabilities as those “who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others”.

What does discrimination on the basis of disability mean?

“Discrimination on the basis of disability’ means any distinction, exclusion or restriction on the basis of disability which has the purpose or effect of impairing or nullifying the recognition, enjoyment or exercise, on an equal basis with others, of all human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field. It includes all forms of discrimination, including denial of reasonable accommodation”, states the UN. Reasonable accommodation means the modification and adjustment in a particular case so that persons with disabilities can enjoy and exercise human rights and fundamental freedoms on an equal basis.

How many people are disabled in India?

As per statistics maintained by the UN, in India 2.4 per cent of males are disabled and two per cent of females from all age groups are disabled. Disabilities include psychological impairment, intellectual impairment, speaking, multiple impairments, hearing, seeing among others. In comparison, the disability prevalence in the US is 12.9 per cent among females and 12.7 per cent among males. Disability prevalence in the UK is at 22.7 per cent among females and 18.7 per cent among males.

INHALING POLLUTED AIR CAN LEAD TO BRAIN DAMAGE

New research on mice shows that continually inhaling dirty air could be bad not just for the lungs but could also damage the brain tissue. In the study, led by Richard N. Zare of Stanford University, eight male mice were exposed to polluted air, and eight controls were exposed to filtered air. Afterwards, on examining the brain tissues of the 16 mice, *the researchers found that the mice that inhaled dirty air had developed amyloid deposits, neurofibrillary tangles and plaques, while those that had inhaled filtered air showed no such developments.* The study was conducted at the chemistry department of Fudan University of Shanghai, China, and the results are presented in a paper that has been accepted for publication in the journal Talanta Open.

Damaged brains

While the whole experiment lasted two years, the mice were exposed to dirty air six days a week, eight hours a day, for 24 weeks (six months). The researchers used a number of different analytical techniques to examine different tissues. As for the concentration of PM2.5 that made up the dirty



air for the experiment, Jinzhuo Zhao, from Department of Environmental Health, School of Public Health, Fudan University, says, "We used 70 microgram per cubic metre to perform the study." This is about twice the average value of PM2.5 seen in Shanghai.

Alzheimer's disease

Earlier studies have shown that ceramide is directly involved in the aggregation of amyloid beta and the progression of Alzheimer's disease. Sulphated galactosyl ceramide, also known as sulphatides (ST), are found in abundance at the myelin sheath of brain cells. "We found upregulation of sulphatide in the brain tissues from dirty air compared to the filtered air, suggesting damages in the myelin sheath and blood-brain function dysfunction as a result of particulate matter exposure," says Prof. Zare. "This hypothesis is supported by previous reports that have shown that the expression levels of sulphatides are associated with the physiological activity of the blood-brain barrier, and increased concentration of sulphatide has impact on myelin sheath at early stages of HIV-1 infection."

STUDY LINKS RICE INTAKE TO DIABETES

Higher consumption of white rice regularly is associated with an increased risk of diabetes, observes a paper published after studying 1,32,373 individuals from 21 countries over 9.5 years. A total of 6,129 individuals newly developed diabetes in this period. The paper published in the recent edition of the peer-reviewed journal Diabetes Care, indicates that the higher the consumption of white rice, the greater the risk of developing diabetes. The highest risk, according to the paper, was seen in South Asia, which had the highest consumption of white rice at 630 grams a day. In Southeast Asia, it was 239 g a day, and in China, which the paper says has no significant association, 200 g a day. "This is the largest study on white rice intake and incident diabetes ever done. It is also one of the first to be done across different countries and confirms that white rice intake is one of the contributors to the diabetes epidemic in South Asia." *The study acknowledges the role of reduced physical activity as a contributing factor, as also increase in obesity rates, while it does adjust for various other diabetogenic factors, including family history.*

Other factors too

"We cannot say that eating white rice is the only cause for diabetes. There are indeed other factors. However, it is clear that the combination of decreased physical activity and high consumption of carbohydrates doubles the risk of getting diabetes," said V. Mohan, chairman, Madras Diabetes Research Foundation and second author of the paper. Trying to establish the link, the paper advances a couple of theories. "It is known that excess rice consumption leads to postprandial glucose spikes that, in turn, lead to compensatory hyperinsulinemia [excess secretion of insulin] to maintain euglycemia [normal blood sugar levels]. Over time, the b-cells become exhausted, leading to b-cell failure and diabetes," the paper argues. Further, it reasons that it is possible that the type of rice is different in China (sticky rice), *that the vegetables, pulses or meat consumed with the rice blunts the GL (Glycaemic Load) of the rice*, or that the consumption of rice itself has decreased in China in recent times. "Our recommendation is not to stop eating white rice completely. We are saying, instead of making it 70%-80% of your meal, cut it down by 20%-30% and replace it with proteins, salads and vegetables, and healthy fats from nuts and seeds," Dr. Mohan added.



ALL YOU NEED TO KNOW ABOUT COLON CANCER

In the wake of Chadwick Boseman's death from colon cancer at age 43, many people have questions about the disease, especially about the risk of colon cancer in younger people. Here's what is known and what experts recommend.

Doesn't colon cancer mostly affect older people?

Although the majority of cases are found in older people, there has been an increase in cases in younger people in recent years. Among people over 65, rates of colorectal cancer, which includes tumours in the rectum or the colon, have actually been declining, probably because of more regular screening. Nonetheless, it is the second-leading cause of cancer deaths in the United States for men and women combined, and cases have been rising by about 2% annually in recent years in people under 50, according to a recent report by the American Cancer Society. Experts aren't sure exactly why. *For some patients, obesity, diabetes, smoking or a family history of cancer may play a role, but not all people who develop colorectal cancer have these risk factors.* "The bottom line is we just don't know,". Diet, medications like antibiotics, and the microbiome — which have all changed significantly for generations born in the 1960s and later — might be contributing to the cancer in younger people.

When is screening recommended?

Everybody should begin getting screenings at age 45, the American Cancer Society and other expert groups recommend. But people with a family history of colon cancer should start getting tested at age 40, or at 10 years younger than the age at which their family member was diagnosed, whichever is sooner. Mendelsohn recommends *early screening also for people with a history of inflammatory bowel disease, like ulcerative colitis or Crohn's disease, and for people who have previously received radiation in their abdomen or pelvis.* Screenings can be done with various tests on stool samples or with imaging-based tests like colonoscopies. The risks from these tests are relatively small. *The prep for a colonoscopy, drinking liquid to cleanse the colon the day before, can be uncomfortable. But the advantage of a colonoscopy is that if it reveals polyps that might be precancerous, they can be removed during the test.* "The five-year survival rate for young people for early-stage disease is 94%," said Rebecca Siegel, the scientific director of surveillance research at the American Cancer Society. For people with late stages of the disease, the survival rate can be as low as 20%, she said. Early diagnosis, Siegel said, is "the difference between life and death."

Are there racial disparities in the risk of colon cancer?

Yes. According to the recent American Cancer Society report, rates of colorectal cancer are higher among Black people. From 2012 to 2016, the rate of new cases in non-Hispanic Black people was 45.7 per 100,000, about 20% higher than the rate among non-Hispanic whites and 50% higher than the rate among Asian Americans and Pacific Islanders. Alaska Natives had the highest rate: 89 per 100,000.

What symptoms should prompt someone to see a doctor for possible colon cancer?

Common symptoms include bloody stool or bleeding from the rectum, doctors say. Other symptoms can include constipation or diarrhea, a change in bowel habits, dark sticky feces, a feeling of anemia, abdominal pain or cramps, nausea, vomiting or unexplained weight loss. "If you



feel something, you have to say something,” Salem said. “Don’t put it off because you’re busy or because you’re a young person or because you have too much on your plate.”

Are younger people less likely to receive a diagnosis early, and are they less likely to discuss their disease?

Unfortunately, yes. “There’s the embarrassment factor. ‘I’m bleeding from the rectum.’” Salem said that “there is a lot of shame somehow. Nobody likes to have bleeding, especially from their butt. Especially young people; they don’t like to discuss this or disclose this information. That’s understandable. But it’s our obligation to change that culture. It’s OK to talk about your pain in that area, or your bleeding, or your constipation, or your diarrhoea.” Doctors also need to get better at flagging a younger person’s symptoms as possible colorectal cancer, experts said. Once they receive a diagnosis, doctors said, younger people should not feel ashamed.

WHAT IS BRUCELLOSIS, THE BACTERIAL DISEASE THAT HAS INFECTED THOUSANDS IN CHINA?

As the novel coronavirus pandemic continues, the health commission of Lanzhou City in China announced this week that a leak in a biopharmaceutical company last year caused an outbreak of brucellosis disease. More than 3,000 people have been infected with the disease since and no fatalities have been reported so far.

What is brucellosis?

Brucellosis is a bacterial disease that mainly infects cattle, swine, goats, sheep and dogs. Humans can get infected if they come in direct contact with infected animals or by eating or drinking contaminated animal products or by inhaling airborne agents. According to the WHO, most cases of the disease are caused by ingesting unpasteurised milk or cheese from infected goats or sheep. Symptoms of the disease include fever, sweats, malaise, anorexia, headache and muscle pain. While some signs and symptoms can last for long periods of time, others may never go away. These include recurrent fevers, arthritis, swelling of the testicles and scrotum area, swelling of the heart, neurologic symptoms, chronic fatigue, depression and swelling of the liver or spleen. Human to human transmission of the virus is rare.

When did the current outbreak begin?

While in the process of producing a veterinary vaccine for the disease between July 24 and August 20, 2019, the factory used expired disinfectants that caused incomplete sterilisation of waste gas. This waste gas, which was carrying the disease-causing virus, subsequently formed aerosols as a result of which people were exposed.

Other disease outbreaks since COVID-19

Hantavirus: In March, China’s English daily Global Times reported the death of a person from Yunnan Province who tested positive for the hantavirus. The hantavirus is not novel and its first case dates back to 1993, according to the US Centers for Disease Control (CDC). It is contracted by humans from infected rodents.

African Swine Fever (ASF): Amid the COVID-19 lockdown, an outbreak of ASF killed thousands of pigs in Assam and Arunachal Pradesh. ASF is a severe viral disease that affects wild and



domestic pigs typically resulting in an acute haemorrhagic fever. The disease has a case fatality rate (CFR) of almost 100 per cent. Its routes of transmission include direct contact with an infected or wild pig (alive or dead), indirect contact through ingestion of contaminated material such as food waste, feed or garbage, or through biological vectors such as ticks.

WHAT IS SERIAL INTERVAL, AND HOW CAN IT BE MANAGED TO CONTROL COVID-19?

Ever since the Covid-19 outbreak, there has been a pandemic of epidemiological terms that have now become commonplace. A recent research paper published in the journal Science, written by Benjamin Cowling and other researchers at the University of Hong Kong, said China, which has now gone over a month without any locally transmitted Covid-19 cases, was able to contain Covid-19 due to its ability to manage the serial interval. What is serial interval? How can it be managed to control Covid-19? What steps did China take to manage the serial interval?

What is serial interval?

The serial interval is the duration between symptom onset of a primary case and symptom onset of secondary cases (contacts) generated by the primary case. *In simple terms, the serial interval is the gap between the onset of Covid-19 symptoms in Person A and Person B, who is infected by Person A.* The term was first used by British physician William Pickles, who had initially referred to it as transmission interval with reference to a hepatitis epidemic in the United Kingdom during 1942-45. Later, another British physician RE Hope Simpson used the term serial interval, defining it as the interval between successive illness onsets. The researchers, in their paper titled "Serial interval of SARS-CoV-2 was shortened over time by non-pharmaceutical interventions.

What does changes in serial interval indicate?

The serial interval helps to gauge the effectiveness of infection control interventions besides indicating rising population immunity and forecast future incidence. Thus, the more quickly persons who contracted Covid-19 are identified and isolated, the shorter the serial interval becomes and cuts down opportunities for transmission of the virus. *To manage serial interval, a robust system of contact tracing, quarantine, and isolation protocols should be in place.*

How did China and South Korea manage the serial interval?

In the paper, the researchers found that the serial interval in Wuhan came down from 7.8 days to 2.6 days between early January and early February. Quarantining contacts within 1 day from symptom onset helped reduce Covid-19 transmission by 60 per cent, the researchers said. This, the researchers suggest, was made possible due to aggressive contact tracing, quarantine, and isolation, thereby ensuring that infected patients, because they were isolated, could not infect any more people later in the infection cycle. The report also mentioned that interventions such as suspension of intra- and intercity travel, and different forms of social distancing widely implemented in different Chinese cities kept the serial interval low. Similarly, a separate study by researchers in Zurich and Seoul, published in the International Journal of Infectious Diseases, found that the serial interval in South Korea, another country whose Covid-19 response has been touted as a success story, was estimated to be 3.63 days, crediting the effectiveness of the country's intensive contact tracing efforts.



NEED FOR CAUTION

Russia's candidate vaccine for COVID-19 appears to have found a midwife in India. *The Russian Direct Investment Fund (RDIF), which is piloting the Sputnik V vaccine, has announced a partnership with the Hyderabad-based Dr. Reddy's Laboratories to conduct a Phase-3 trial, or large multi-location human trials here. Were the candidate vaccine, developed by Russia's Gamaleya, to prove safe and efficacious, the RDIF would supply 100 million doses through its partnership with Dr. Reddy's Laboratories. However, there is no agreement to manufacture the vaccine here unlike the deal between the Pune-based Serum Institute of India and the United Kingdom-based AstraZeneca, for the Oxford University-developed ChAdOx1 vaccine.* The trials had to be briefly paused after one of the trial participants in England had reported severe illness. But it has resumed now.

Sputnik V is being developed as a two-dose vaccine on a *human adenovirus vaccine* platform. Several vaccines that are in development are also being deployed on similar platforms, and the evidence so far is that none of these has been commercially approved for use in humans though there is an experimental vaccine for Ebola. Results of the Phase-1 and Phase-2 trials of the vaccine, published in The Lancet, suggest that the evidence so far is that it has proven safe and efficacious enough to progress to the next stage of trials. Controversially, Sputnik V has been granted a pre-approval by Russia's regulators even before Phase-3 trials have been completed.

The India trials of a vaccine candidate being developed by American company *Novavax* is likely to begin in late October, the government said in Lok Sabha on Friday. The Novavax vaccine candidate is currently undergoing phase-2 clinical trials in South Africa. Global phase-3 trials are expected to begin next month. In India, Novavax has entered into an agreement with Pune-based *Serum Institute of India* for production of 100 million doses of the vaccine. It is expected that at least 50 per cent of this would be meant for supplies within India. All in all, there seems to be a guarantee for only about 150 million doses for India, which given the country's population is minuscule. All of this of course does not account for the vaccines that are being indigenously developed in India: *Covaxin, by Bharat Biotech, based on a strain sourced from the Indian Council of Medical Research, and ZyCov-D, the plasmid DNA-vaccine being developed by Zydus Cadilla.* In Phase-2 trials now, both are being tested for their ability to produce a satisfactory immune response. India has the capabilities for vaccine manufacture, cold chain storage and distribution to ensure access to citizens — in reasonable time, but it must not forget that vaccines must go through their inevitably long gestation to ensure that only those that are safe and efficacious make their way to the market.

What happened in the case of AstraZeneca?

For the vaccine candidate, called AZD1222 for now, the company had begun recruiting 30,000 volunteers for Phase-3 trials in the United States. The Pune-based Serum Institute of India, which had been contracted to manufacture a hundred million doses for 92 countries including India, had also started to test the vaccine on a proposed group of 1,600 volunteers in India. However, it emerged that a recipient of the vaccine in the United Kingdom contracted *transverse myelitis*, an inflammation of the spinal cord, and this led AstraZeneca to pause its trials. Suspension of vaccine trials is not out of the ordinary but Serum Institute initially said it would not halt the India trial because no adverse reactions had been reported here. However, after a show-cause notice from



the regulator, the Drugs Controller- General of India, the company said it would halt recruitment of volunteers until AstraZeneca finishes evaluation of the safety data.

What has the independent review said?

According to a release from Oxford University, the independent review process has concluded and following the recommendations of both the independent safety review committee and the U.K. regulator, the MHRA (the Medicines and Healthcare products Regulatory Agency), trials will restart in the U.K.

What happens in Phase-4?

A drug or vaccine candidate that clears Phase-3 is usually approved and licensed and the entire infrastructure of the company is devoted to ramping up production and working out the logistics of storing the drug or vaccine safely without it degrading or losing potency. *Once the product goes out into the field, there is post-marketing surveillance, or a Phase-4, where all instances of the product's failure and adverse events are recorded. Companies are expected to furnish periodic data to the drug regulator.*

WHAT IS THE REASON FOR DECREASED INFLUENZA ACTIVITY DURING THE PANDEMIC?

The US Centres for Disease Prevention and Control's (CDC) recent Morbidity and Mortality Weekly Report (MMWR) states that influenza activity in the US and the rest of the world has come down in the midst of the pandemic. As a result of the mitigation measures adopted to control the spread of the SARS-CoV-2 virus, the percentage of respiratory symptoms submitted for influenza testing in the US has come down to 2.3 per cent, as compared to just under 20 per cent otherwise.

What is influenza?

Influenza, which is also referred to as flu, is caused by influenza viruses that affect the nose, throat and sometimes the lungs. Influenza can cause mild to severe illness and, in some cases, death. The best way to prevent influenza is by getting vaccinated each year. Flu viruses are spread through tiny droplets that are released when infected people cough, sneeze or talk. Some of the symptoms of the flu and COVID-19 are similar, these include fever, cough, shortness of breath, fatigue, sore throat, stuffy nose and muscle pain among others.

There could be a few reasons, one being the interventions aimed at controlling the transmission of SARS-CoV-2 and the administration of influenza vaccination that could have reduced the incidence of influenza in the 2020-2021 northern hemisphere season.

SLEEP APNOEA MAY INCREASE RISK FOR COVID-19 PATIENTS

Among various factors that make certain groups of people more vulnerable to severe Covid-19 outcomes, here's one more: obstructive sleep apnoea. This is a condition that causes a pause in breathing, where a person is asleep. A new study has found that people diagnosed with obstructive sleep apnoea could be at increased risk of adverse outcomes from Covid-19. The study, from the University of Warwick, is published in the journal Sleep Medicine Reviews. The conclusion is drawn from a systematic review of studies that reported outcomes for Covid-19 patients who were also diagnosed with obstructive sleep apnoea. The researchers flagged the need to further



investigate the impact of the virus on those with the sleep condition and to better identify those currently undiagnosed with it. The systematic review looked at 18 studies up to June 2020 — eight mainly related to the risk of death for Covid-19, and 10 related to sleep apnoea. The review found evidence to suggest that many patients who presented to intensive care had obstructive sleep apnoea.

SUBSTANCE USE DISORDERS LINKED TO COVID-19 VULNERABILITY

A study has found that people with substance use disorders are more susceptible to Covid-19 and its complications. The research was published on Monday in the journal *Molecular Psychiatry*. It suggests healthcare providers closely monitor patients with substance use disorders and develop plans to help shield them from infection and severe outcomes. The researchers analysed the non-identifiable electronic health records of millions of patients in the US. *They found that while individuals with a substance use disorder constituted 10.3 per cent of the total study population, they represented 15.6 per cent of the Covid-19 cases.* Those with a recent diagnosis of substance use disorder on record, the analysis found, were more likely to develop Covid-19 than those without such a disorder. *This effect was strongest for opioid use disorder, followed by tobacco use disorder.* Individuals with a diagnosis of substance use disorder were also more likely to experience world Covid-19 outcomes (hospitalisation, death) than people without. The lungs and cardiovascular system are often compromised in people with substance use disorder, which may partially explain their heightened susceptibility to Covid-19.

HOW OBESITY IMPAIRS BODY'S ABILITY TO FIGHT COVID-19 INFECTION

Obesity can make it more difficult to fight a Covid-19 infection, according to a manuscript published in *Endocrinology*, the journal of the international medical organisation Endocrine Society. It says obesity can cause a hyperactive immune system response to Covid-19 infection, which makes it difficult to fight off the virus. Obesity is known to lead to problems like heart disease and diabetes, and also to influence the immune system in many ways. For example, obesity causes a chronic activation of some parts of the immune system. When someone with this pre-existing condition is faced with an infection, this could lead to the immune system becoming hyperactive — in a detrimental way that does not fight infection. “Our manuscript focuses on what is already known about the interaction of obesity, macrophages and other infections like influenza. These findings highlight the importance of understanding how obesity might interact with new drugs or vaccines that are developed for Covid-19,” the study’s corresponding author, Durga Singer of the University of Michigan in Ann Arbor, said in a statement. “

GRAPHENE MASK INACTIVATES CORONAVIRUSES UNDER SUNLIGHT

Researchers from the City University of Hong Kong have produced graphene masks with an anti-bacterial efficiency of 80 per cent, which they say can be raised to almost 100 per cent with exposure to sunlight for 10 minutes. Initial tests showed promising results in the deactivation of two coronavirus species, they said. Their findings are published in *ACS Nano*. Graphene is known for anti-bacterial properties. The researchers created a laser-induced form of graphene and tested it on *E coli*. It showed anti-bacterial efficiency of about 82 per cent. Most of the *E coli* were dead after 8 hours. Initial tests on two human coronavirus species showed the graphene inactivated



over 90 per cent of the virus in five minutes and almost 100 per cent in 10 minutes under sunlight. The team also plans to test the graphene on the Covid-19 virus.

1 IN 100 COVID-19 PATIENTS FOUND TO HAVE PUNCTURED LUNGS

A study has found that one in 100 patients admitted to hospital with Covid-19 develop a *pneumothorax – a ‘punctured lung’*. Damage to the lungs can lead to a puncture, just like it happens in the inner tube of a tyre. As air leaks out of the puncture, it builds up in the cavity between the lung and chest wall, and causes the lung to collapse. This typically affects very tall young men or older patients with severe underlying lung disease. Researchers observed Covid-19 patients not belonging to these two categories, but who had developed punctured lungs. Data from 16 hospitals revealed an incidence of 0.91 per cent. Just under two-thirds (63 per cent) of patients with a punctured lung survived.

HOW STEROIDS ACT IN COVID-19 CASES

The World Health Organization (WHO) issued new guidelines on the use of corticosteroids for the treatment of novel coronavirus infection. Following the results of meta-analysis that pooled data from eight randomised clinical trials, *the WHO has made two recommendations: that corticosteroid therapy be used for 7 to 10 days in patients with severe and critical Covid-19; that it not be used in patients with non-severe Covid-19.*

What are corticosteroids?

Corticosteroids are low-cost anti-inflammatory drugs that closely mimic cortisol, the hormone naturally produced by the adrenal glands in humans. *They are commonly used in treatment for rheumatological inflammatory conditions: inflammations of muscles, inflammation of blood vessels, chronic arthritis, and lupus.* They are used in lung diseases, kidney inflammation, eye inflammation, and to reduce swelling associated with tumours of the brain and spine. *Three commonly used corticosteroids are dexamethasone, hydrocortisone, and methylprednisolone.* Earlier, Oxford researchers leading the RECOVERY clinical trials in the UK had announced that dexamethasone reduced death by up to one-third in hospitalised Covid-19 patients who develop acute respiratory complications. Since then, dexamethasone has been part of standard clinical management protocol adopted by many countries.

IS COVID-19 SETTING OFF A BRADYKININ STORM IN THE BODY?

Scientists are still trying to understand the causes for the rapid deterioration in some patients with COVID-19. While the cytokine storm is able to explain certain aspects of what goes wrong, doctors treating patients are often foxed by the severity with which the SARS-CoV-2 virus seems to affect some people. *A supercomputer’s recent analysis of data on the contents collected earlier from the lungs of patients with the COVID-19 infection has showed that a phenomenon called a ‘bradykinin storm’ might explain how the virus works in the body, including some of the more puzzling extreme events.*

What is the bradykinin hypothesis?

Bradykinin is a compound that is related to pain sensation and lowering blood pressure in the human body. According to the researchers, “SARS-CoV-2 uses a human enzyme called ACE2 like a ‘Trojan 3rd floor and 4th floor Shatabdi Tower, Sakchi, Jamshedpur; Telegram: http://t.me/DreamIAS_Jamshedpur”



Horse' to sneak into the cells of its host. *ACE2 lowers blood pressure in the human body and works against another enzyme known as ACE (which has the opposite effect).*" The analyses further found that *the virus caused the levels of ACE to fall in the lungs, and consequently pushed up the levels of ACE2. As a chain reaction, this increases the levels of the molecule bradykinin in the cells, causing a bradykinin storm. Bradykinin causes the blood vessels to expand and become leaky, leading to swelling of the surrounding tissue. In addition, the levels of a substance called hyaluronic acid, which can absorb more than 1,000 times its own weight in water to form a hydrogel, increased.* "In effect, the *bradykinin storm-induced leakage of fluid into the lungs combined with the excess hyaluronic acid would likely result in a Jello-like substance that is preventing oxygen uptake and carbon dioxide in the lungs of severely affected COVID-19 patients,*" the researchers explain. This rapid accumulation of fluid in the lungs of patients sometimes makes even the most sophisticated intensive care, including ventilators, futile.

SECOND CASE OF CONFIRMED CORONAVIRUS REINFECTION REPORTED

Researchers in Hong Kong recently reported the first known case of reinfection. A 33-year-old Chinese was found carrying the disease four-and-a-half months after recovering from the first infection. The patient had travelled to Spain in between. Just a day later, one similar case of reinfection was reported from Belgium and another from the Netherlands. *About five days after the first case of confirmed reinfection by novel coronavirus (SARS-CoV-2), 142 days after the first symptomatic episode in a 33-year-old adult was first reported, a second such case has now been reported in the U.S. Like the first reported case of reinfection in Hong Kong, the second case of reinfection by SARS-CoV-2 virus in Nevada, U.S. was confirmed through genetic sequencing.* "It is likely that there are many re-infections that happen which are asymptomatic but are not identified, such as the Hong Kong case, who was identified based on routine screening at entry," Gagandeep Kang from the Division of Gastrointestinal Sciences at CMC Vellore says in an email to The Hindu. The results of the confirmed reinfection case in Reno in Nevada have been posted on a preprint server. Preprints are yet to be peer-reviewed and published in scientific journals. *While the Hong Kong adult exhibited overt symptoms when infected for the first time in March but was only asymptomatic during the second infection in mid-August, the adult in Nevada had overt symptoms during both infections. In fact, the second infection caused severe symptoms, including hypoxia (lack of oxygen in the body) and breathlessness.*

Symptoms recurring

The Nevada adult first tested positive for the virus on March 25 and needed hospitalisation. Symptoms included sore throat, cough, headache, nausea, diarrhoea. The symptoms resolved on April 27 and the patient twice tested negative for the virus by RT-PCR on May 9 and May 26. But one month after recovering, the patient once again exhibited symptoms and sought care on May 31 and was hospitalised on June 5 when found to be hypoxic. The patient tested positive for SARS-CoV-2.

Genome samples

Researchers at the Reno School of Medicine, *University of Nevada sequenced the genome of the samples collected during the first and second infections and found them distinctly different. Though the genome sequences from both infections belong to the same clade (20C), there are distinct differences in mutations between the two.* The authors rule out the possibility of the virus



experiencing mutations to become the virus that caused the second infection within the patient's body. They conclude that the "odds of this occurring are vanishingly remote and virtually assure that these are two distinct viral infection events". "The [case of the] U.S. person who was re-infected is likely to be a rare event; this is apparently a young person who was symptomatic twice, with more severe symptoms the second time. For young people to be symptomatic is not unusual, but for a second symptomatic infection in a short time frame means that this person was not protected by the first infection," Prof. Kang says. The fact that the first infection did not reduce disease severity on reinfection is surprising. "This is unusual and I do not expect it to be the norm for everyone who is infected with SARS-CoV-2 on a second exposure. The response is dependent on the host, and there is heterogeneity. Some people are better able to handle certain kinds of pathogens than others," says Prof. Kang.

Other viruses, including those from the coronavirus family, especially those that cause respiratory illnesses, infect a large number of people every year, and those who have been infected once are not considered immune from them. As the Hong Kong researchers themselves point out, reinfection is common for these other seasonal coronaviruses. There is no reason to believe why SARS-CoV2, the virus that causes Covid-19 disease, would be any different. The difference, of course, is that unlike other viruses, there is no treatment available for Covid-19 right now. But these first cases of re-infection do not mean that everyone is equally susceptible to reinfection. Who all can get re-infected, and how long an infected person can expect to remain protected from a reinfection, are both open questions right now that need further investigation. The Hong Kong researchers noted that in the Chinese patent, the disease was be milder in reinfection as compared to the first infection.

On vaccines

Shahid Jameel, a virologist, believes these cases of reinfection do not raise any fresh question marks over the effectiveness of the vaccines being developed. That is because a reinfection would happen only from the different variants of the virus that are currently in circulation, and most of the vaccines being developed are meant to provide protection against all the variants of the virus. For blocking the virus, they are targeting regions that are common in all these variants. "Effectiveness of the vaccines because of the possibility of re-infection does not seem to be a concern right now," he said. "Of course, once these vaccines are in use, it is possible that the virus is forced to mutate in new ways because of natural selection pressures. In that case, the virus may change in a form that cannot be targeted with present vaccines. But that is in the future," he said. But as in the case of natural immunity, the longevity of protection offered by vaccine remains an open question. The Hong Kong researchers do point out that vaccines may not be able to provide lifelong protection against Covid-19 disease. But there are vaccines for several other diseases as well that need to be repeated periodically because they do not offer permanent protection. The researchers, however, say that there is now a case for testing the vaccines being developed on recovered patients as well.

"This variation is likely to be seen with SARS-CoV-2 vaccines, as it is with other vaccines as well. Some people will respond well, others not so well and a subset may not respond and be protected at all. Does the finding of symptomatic reinfection in one case mean that vaccines will not work? No, it does not."



A ROBOT TO MEASURE COVID-19 PATIENTS' VITAL SIGNS

Researchers have shown that a robot can measure vital signs such as body temperature and breathing rate in people, from a distance. They now plan to test it in patients with Covid-19 symptoms, and hope the innovation can reduce the risk faced by healthcare workers who assess people with symptoms of Covid-19.

What is this robot?

*The robot, called **Spot**, has been developed by Boston Dynamics, of Massachusetts Institute of Technology (MIT). Controlled by a handheld device, it can walk on four legs, similarly to a dog.* Researchers from MIT and Brigham and Women's Hospital, Massachusetts showed it can measure skin temperature, breathing rate, pulse rate, and blood oxygen saturation in healthy patients, from 2 metres away. The findings are currently on a preprint server.

How does the robot make these measurements?

On the robot are mounted four cameras — one infrared, three monochrome.

BODY TEMPERATURE: The infrared camera measures skin temperature on the face. An algorithm then correlates the facial skin temperature with core body temperature.

BREATHING RATE: When a patient wearing a mask breathes, their breath changes the temperature of the mask. The infrared camera measures this temperature change, enabling researchers to calculate the breathing rate.

PULSE RATE & OXYGEN LEVEL: When haemoglobin binds to oxygen and flows through blood vessels, it results in slight changes in colour. These changes are measured with the help of the three monochrome cameras, which filter lights of three different wavelengths (670, 810, 880 nanometres). Using these measurements, the algorithm calculates pulse rate and blood oxygen saturation.

How far can it be useful against Covid-19?

The researchers said that in triage areas where suspected cases of Covid-19 assemble, healthcare workers can avoid exposing themselves to risk, by manoeuvring the robot to wherever patients are sitting. The robot can also carry a tablet that allows doctors to ask patients about their symptoms without being in the same room. In the longer term, the researchers suggest that these robots could be deployed in hospital rooms.