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INDEX

PRELIMS and MAINS TOPICS

- TOPIC 1. QUOTA WITHIN QUOTA
- TOPIC 2. ATAL TUNNEL
- TOPIC 3. HURRICANE LAURA
- TOPIC 4. SERVICES SECTOR
- TOPIC 5. GREENLAND
- TOPIC 6. CORONAVIRUS HIT MEN HARDER
- TOPIC 7. RBI CONTINGENCY FUND
- TOPIC 8. PHISHING SCAM
- TOPIC 9. CONTEMPT
- TOPIC 10. SALIVA TESTS
- TOPIC 11. LIBYA
- TOPIC 12. BRAHMAPUTRA ROPEWAY
- TOPIC 13. PESTICIDES
- TOPIC 14. INDIA'S FARM SECTOR
- TOPIC 15. SUPER APPS
- TOPIC 16. INDIA - CHINA
- TOPIC 17. CANCEL CULTURE
- TOPIC 18. MONETARY POLICY COMMITTEE
- TOPIC 19. BIS STANDARD FOR DRINKING WATER SUPPLY
- TOPIC 20. WILDFIRES
- TOPIC 21. PAKISTAN AND SAUDI ARABIA
- TOPIC 22. FOOD WASTAGE
- TOPIC 23. IRAN
- TOPIC 24. ONLINE PHARMACY MARKET
- TOPIC 25. ZEBRA STRIPES
- TOPIC 26. GROWTH
- TOPIC 27. BORDER AREAS
- TOPIC 28. INDIAN ECONOMY
- TOPIC 29. NUTRITION
- TOPIC 30. EXPORTS - IMPORTS
- TOPIC 31. INTERNET
- TOPIC 32. GOI AND RBI
- TOPIC 33. EXPORT PREPAREDNESS INDEX 2020
- TOPIC 34. MARRIAGE AGE AND WOMEN'S HEALTH

FACTS for ANSWER WRITING

- FACT 1. BANK FRAUDS
- FACT 2. H1-B
- FACT 3. INFRASTRUCTURE

TOPIC 1. QUOTA WITHIN QUOTA

1. On Thursday, a five-judge Constitution Bench of Supreme Court reopened legal debate on sub-categorisation of Scheduled Castes and Scheduled Tribes for reservations, or what is commonly referred to as “quota within quota” for SCs and STs.
2. While the Bench ruled in favour of **giving preferential treatment to certain Scheduled Castes over others to ensure equal representation of all Scheduled Castes, it referred the issue to a larger Bench to decide**. This was because in a 2005 ruling, also by a five-judge Bench, the Supreme Court had ruled that state governments had no power to create sub-categories of SCs for the purpose of reservation.
3. Since a Bench of equal strength (five judges in this case) cannot overrule a previous decision, the court referred it to a larger Bench to settle the law. The larger Bench, whenever it is set up by the Chief Justice of India, will reconsider both judgments.

4. What is sub-categorisation of SCs?

- a. States have argued that among Scheduled Castes, there are some that remain grossly under-represented despite reservation in comparison to other Scheduled Castes. This inequality within Scheduled Castes is underlined in several reports, and special quotas have been framed to address it.
- b. For example, in Andhra Pradesh, Punjab, Tamil Nadu and Bihar, special quotas were introduced for the most vulnerable Dalits. In 2007, Bihar set up the Mahadalit Commission to identify the castes within SCs that were left behind.
- c. In Tamil Nadu, a 3% quota within the SC quota is accorded to the Arundhatiyar caste, after the Justice M S Janarthanam report stated that despite being 16% of the SC population in the state, they held only 0-5% of the jobs.
- d. In 2000, the Andhra Pradesh legislature, based on the findings of Justice Ramachandra Raju, passed a law reorganising 57 SCs into sub-groups and split the 15% SC quota in educational institutions and government jobs in proportion to their population. However, this law was declared unconstitutional in the 2005 Supreme Court ruling that held states did not have the power to tinker with the Presidential list that identifies SCs and STs.
- e. Punjab too has had laws that gave preference to Balmikis and Mazhabi Sikhs within the SC quota; this was challenged and eventually led to the latest ruling.

5. What is the Presidential list?

- a. The Constitution, while providing for special treatment of SCs and STs to achieve equality, does not specify the castes and tribes that are to be called Scheduled Castes and Scheduled Tribes. This power is left to the central executive — the President.
- b. As per **Article 341**, those castes notified by the President are called SCs and STs. A caste notified as SC in one state may not be a SC in another state. These vary from state to state to prevent disputes as to whether a particular caste is accorded reservation or not.
- c. According to the annual report of the Ministry of Social Justice and Empowerment, there were 1,263 SCs in the country in 2018-19. No community has been specified as SC in Arunachal Pradesh and Nagaland, and Andaman & Nicobar Islands and Lakshadweep.
- d. In 2005 decision in *E V Chinnaiah v State of Andhra Pradesh and Others*, Supreme Court ruled that only President has the power to notify the inclusion or exclusion of a caste as a Scheduled Caste, and states cannot tinker with the list. Andhra Pradesh had submitted that the law was enacted as states had the power to legislate on the subject of education, and reservation in admission fell within its legislative domain. The court, however, rejected this argument.
- e. The Constitution treats all Schedule Castes as a single homogeneous group.

6.If all SCs are treated as one group, what are the grounds for sub-categorisation?

- a. The basis of special protections for SCs comes, in the first place, from the fact that all these castes suffered social inequity. Untouchability was practised against all these castes irrespective of economic, education and other such factors.
- b. However, the Supreme Court has engaged with the argument on whether the benefits of reservation have trickled down to the “weakest of the weak”. The concept of a “creamy layer” within SCs was upheld by the court in a 2018 judgment in Jarnail Singh v Lachhmi Narain Gupta.
- c. The “creamy layer” concept puts an income ceiling on those eligible for reservation. While this concept applies to Other Backward Castes, it was applied to promotions of Scheduled Castes for the first time in 2018.
- d. The central government has sought a review of the 2018 verdict and case is currently pending.
- e. Punjab’s law applies a creamy layer for SCs, STs in reverse — by giving preference to Balmikis and Mazhabi Sikhs. This is the case that has now led to reopening the debate on sub-categorisation of scheduled castes.
- f. In the E V Chinnaiah case in 2005, the court had held that special protection of SCs is based on the premise that “all Scheduled Castes can and must collectively enjoy the benefits of reservation regardless of interse inequality” because the protection is not based on educational, economic or other such factors but solely on those who suffered untouchability.
- g. The court had held that merely giving preference does not tinker, rearrange, subclassify, disturb or interfere with the list in any manner since there is no inclusion or exclusion of any caste in the list as notified under Article 341.
- h. The states have argued that classification is done for a certain reason and does not violate right to equality. The reason they have given is that categorization would achieve equitable representation of all SCs in government service and would be about “real equality” or “proportional equality”.

7.What are the arguments against sub-categorization?

- a. The argument is that the test or requirement of social and educational backwardness cannot be applied to Scheduled Castes and Scheduled Tribes. The special treatment is given to the SCs due to untouchability with which they suffer. In a 1976 case, State of Kerala v N M Thomas, the Supreme Court laid down that “Scheduled Castes are not castes, they are class.”
- b. The petitioner’s argument against allowing states to change proportion of reservation is also based on perception that such decisions will be made to appease one vote-bank or the other. A watertight President’s list was envisaged to protect from such potential arbitrary change.
- c. Also, in the current case, the court relied on its 2018 ruling in Jarnail Singh to buttress the point that social inequities exist even among SCs. However, since that ruling is pending for review, the petitioners argued against relying on it.
- d. In the Jarnail Singh case, the court held that the objective of reservation is to ensure that all backward classes march hand in hand and that will not be possible if only a select few get all the coveted services of the government.
- e. “The constitutional goal of social transformation cannot be achieved without taking into account changing social realities,” the court ruled.

TOPIC 2. ATAL TUNNEL

1. Atal Tunnel at Rohtang, near Manali, is almost complete in all respects with **finishing touches being given to it** before PM Modi inaugurates it late September. The 9-km-long tunnel under Pir Panjal range, named after former PM Atal Bihari Vajpayee, will be world's longest highway tunnel above the altitude of 10,000 feet (3000 metres). It was scheduled to be completed by May 2020, in a revised estimate, but the Covid-19 pandemic pushed back the completion by a few months due to lockdown conditions.

2. Rohtang tunnel: What is the genesis of the project?

- a. A feasibility study of project Rohtang Tunnel was carried out in May 1990 following which the geological report was submitted in June 2004. This was followed by a design and specification report which was prepared and finalised in December 2006. Border Roads Organisation (BRO) officials say the project received final technical approval in 2003. Following approval by Cabinet Committee on Security in 2005, tenders were floated in 2007 and the foundation stone was laid in July 2010 by UPA chairperson Sonia Gandhi. The project was scheduled to be completed by February 2015 but it got delayed due to unexpected problems. It was originally designed to be 8.8 km long but GPS readings taken on completion show it to be 9 km long.

3. What were the problems faced by the Rohtang tunnel project?

- a. The construction teams faced fast flowing water from Seri Nullah, which flowed on top of the tunnel route and impeded construction efforts. The sheer volume of water prevented construction for several months while project engineers grappled with a way to tackle the problem. The rock structures faced by the engineers too caused impediments.
- b. A BRO official told The Indian Express on a site visit that the south portal of the tunnel had schist, migmatites and phyllite rocks while the north portal had incoherently folded gneiss and biotite schist which were brittle and ductile in nature.

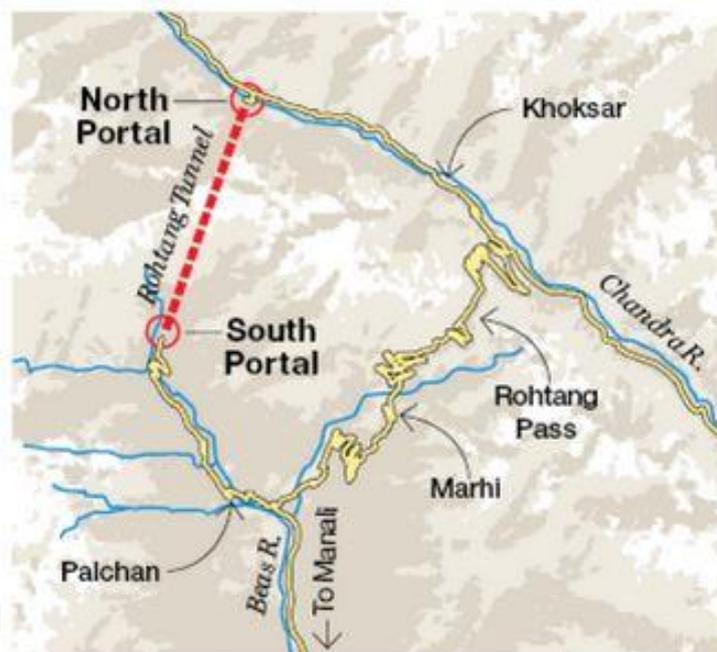


4. What is the strategic advantage of the Rohtang tunnel?

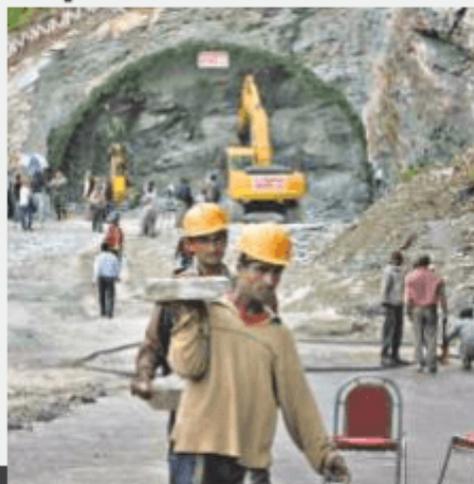
- a. Cutting through the Pir Panjal range, tunnel will reduce the distance between Manali and Leh by 46 km. The Rohtang Pass, to which the tunnel provides an alternate, is located at a height of 13,050 feet, and a journey from Manali Valley to Lahaul and Spiti Valley, which normally takes around five hours to negotiate, would now be completed in little over ten minutes.
- b. While the tunnel will be a boon to the residents of the Lahaul and Spiti Valley who remain cut off from the rest of the country in winters for nearly six months due to heavy snowfall, the tunnel will provide almost all-weather connectivity to the troops stationed in Ladakh.
- c. The tunnel will be the world's longest above an altitude of 3,000 metres and will reduce the distance between Manali and Leh by 46 kilometres.
- d. However, for full all-weather connectivity, additional tunnels will have to be built on the Manali-Leh route so that the high passes on the axis do not impede movement due to snowfall. A 13.2 km long tunnel will have to be built to negotiate the 16,040 feet high Baralacha pass and another 14.78 km long tunnel will be required at the Lachung La pass at 16,800 feet. A third 7.32 km long tunnel will be required at Tanglang La pass at 17,480 feet.

5. What are the salient features of the Rohtang tunnel?

- The unique features of this tunnel begin a fair distance away from it on the approach roads to the north and south portals. Bridges in rivers on the approach to the tunnel from both the portals have also been completed and are now being painted. Snow galleries have also been built at the approach road to the tunnel from Manali side, and this will ensure all-weather connectivity.
- Other features include an emergency escape tunnel under the main tunnel. This would provide an emergency exit in case of any untoward incident which may render the main tunnel unuseable.
- The tunnel also provides a telephone every 150 metres, fire hydrant every 60 metres, emergency exit every 500 metres, turning cavern every 2.2 km, air quality monitoring every one km, broadcasting system and automatic incident detection system with CCTV cameras every 250 metres.
- BRO officials say vehicles will travel at a maximum speed of 80 km per hour. Up to 1,500 trucks and 3,000 cars are expected to use it per day when the situation gets to normal post Covid-19 restrictions.



Top of the world



Labourers working at the south portal of the Rohtang tunnel in Solang Valley, Himachal Pradesh, on June 27, 2010. ■ PTI

- The 8.8-km-long tunnel below the Rohtang Pass will keep the route open even during winter, when the pass can be obstructed by heavy snowfall
- The journey between Manali and Leh will be cut short by 46 km
- Once completed, it will be the world's longest tunnel above an altitude of 3,000 m

TOPIC 3. HURRICANE LAURA



1. Hurricane Laura, a **Category 4 storm**, made landfall in southwestern Louisiana on Thursday with wind speeds reaching up to 250 km (150 miles) an hour. The US National Hurricane Center (NHC) warned of “life-threatening conditions”.

2. What are hurricanes and how do they form?

- a. Tropical cyclones or hurricanes use **warm, moist air as fuel**, and therefore form **over warm ocean waters near the equator**. As NASA describes it, when the warm, moist air rises upward from the surface of the ocean, it creates an area of low air pressure below. When this happens, the air from the surrounding areas rushes to fill this place, eventually rising when it becomes warm and moist too.
- b. When warm air rises and cools off, moisture forms clouds. This system of clouds and winds continues to grow and spin, fuelled by ocean’s heat and water that evaporates from its surface.
- c. As such storm systems rotate faster and faster, an eye forms in the centre. Storms that form towards the north of the equator rotate counterclockwise, while those that form to the south spin clockwise because of the rotation of the Earth.

3. What is the difference between a hurricane and a tropical storm?

- a. There is no difference. Depending on where they occur, hurricanes may be called typhoons or cyclones. As per NASA, the scientific name for all these kinds of storms is tropical cyclones.
- b. The tropical cyclones that form over the Atlantic Ocean or the eastern Pacific Ocean are called **hurricanes** and the ones that form in the Northwest Pacific are called **typhoons**. Tropical storms that form in the Bay of Bengal or the Arabian Sea are called **cyclones**.

4. How severe is Hurricane Laura?

- a. Hurricanes are categorised on the **Saffir-Simpson Hurricane Wind Scale**, which rates them on a scale of 1 to 5 based on wind speed. Hurricanes that reach category three or higher are classified as major hurricanes because of their potential to cause devastating damage to property and life.
- b. Hurricane Laura is a Category 4 storm, which means well-built framed houses can suffer severe damage with loss of most of roof structure and exterior walls. A Category 4 storm has wind speeds between 130-156 mph and can uproot trees and bring down power lines. The resulting power outages can last for weeks or months, rendering area uninhabitable for weeks or months.
- c. The NHC said in a tweet Wednesday, “Unsurvivable storm surge with large and destructive waves will cause catastrophic damage from Sea Rim State Park, Texas, to Intracoastal City, Louisiana, including Calcasieu and Sabine Lakes. This surge could penetrate up to 30 miles inland from the immediate coastline. #Laura”.

- d. The last storm, Hurricane Hanna, which made landfall on the Texan coast late last month reached wind speeds of up to 90 mph, and was listed as a Category 1 storm. It was the first hurricane of the 2020 Atlantic hurricane season. As the hurricane made landfall, power outages were reported across the state, and it caused extensive damage to property.

5. How can you protect yourself during a hurricane?

- a. During a hurricane, storm surge (abnormal rise of water generated by a storm) and inland flooding are the two main reasons that can cause loss of life.
- b. NHC has advised that the “safest place” to be during a major landfalling hurricane is in a reinforced interior room away from windows. “Get under a table or other piece of sturdy furniture. Use mattresses, blankets or pillows to cover your head and body. Remain in place through the passage of these life-threatening conditions,” it said in an advisory.

6. Why do hurricanes hit the east coast of the US at this time every year?

- a. In May, the National Oceanic and Atmospheric Administration (NOAA) said it expected an “above-normal” hurricane season this year. The outlook predicted a 60 per cent chance of an above-normal season, 30 per cent chance of a near-normal season and a 10 per cent chance of a below-normal season.
- b. The Atlantic hurricane season runs from June 1 to November 30, and as per NOAA, an average hurricane season produces 12 storms, of which, six become hurricanes, including three major hurricanes. In the East Pacific, the season runs from May 15 to November 30.
- c. While hurricanes can occur outside of this window, the period accounts for 97 per cent of the tropical activity. Until 1965, June 15 and November 15 were the official start and end dates of the season, after which it was decided to extend it from June 1 to November 30.

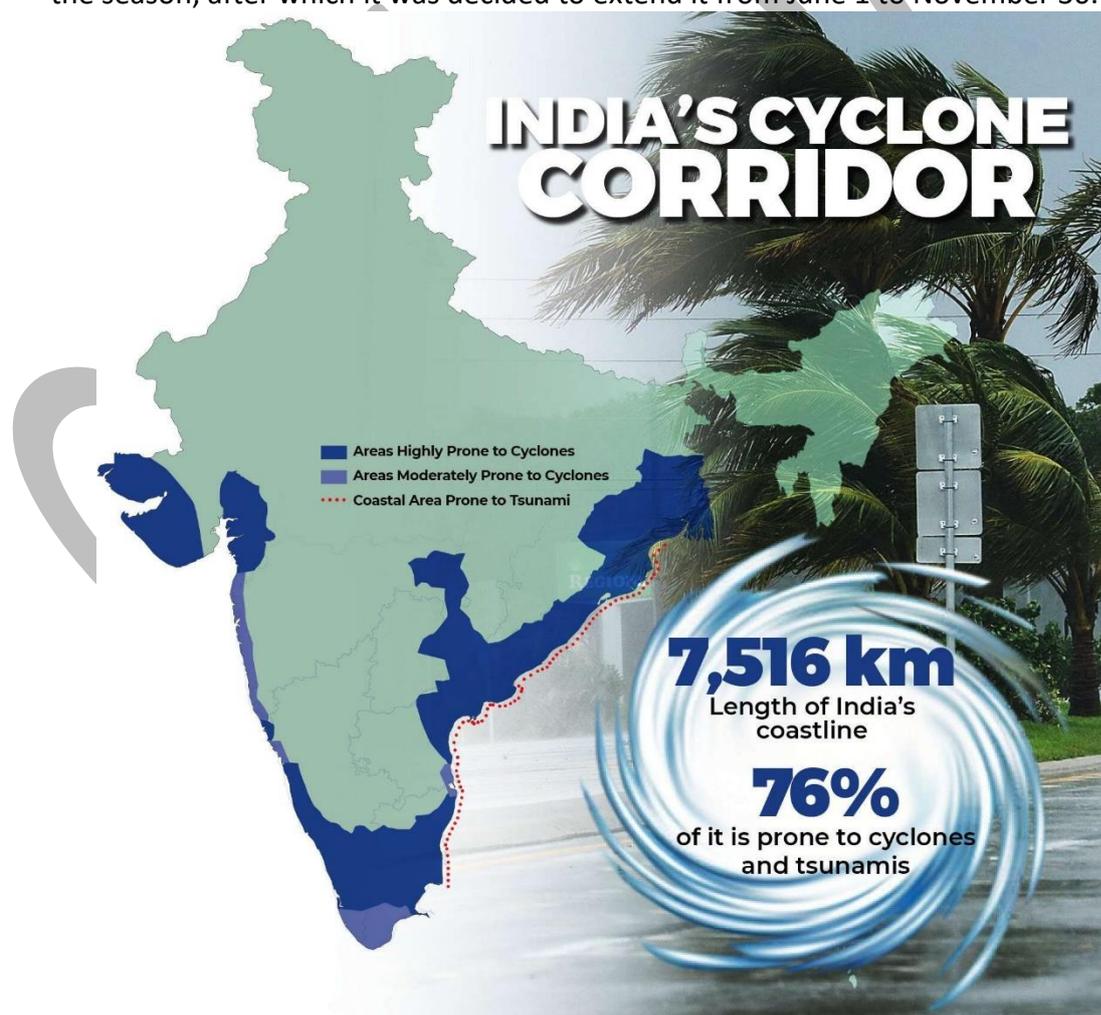
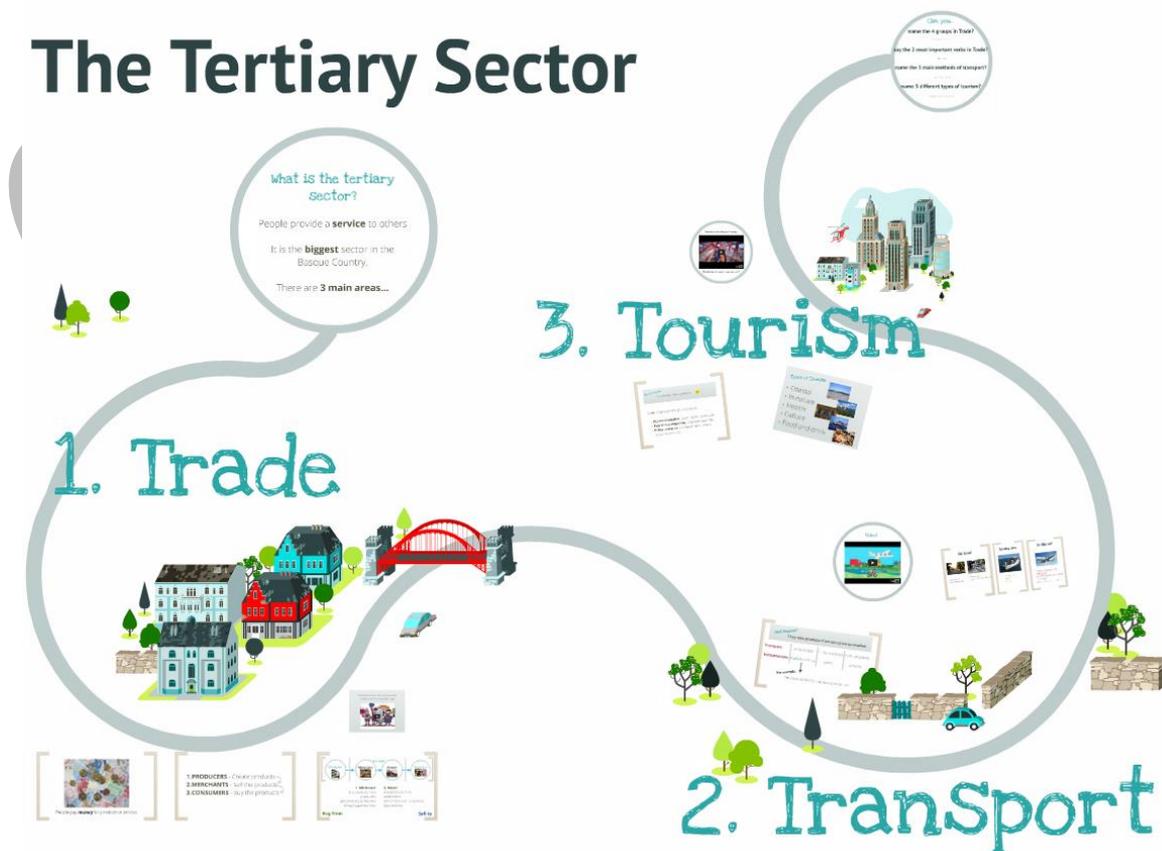


Fig: Cyclone prone areas in India.

TOPIC 4. SERVICES SECTOR

1. The services sector has been a key driver of both the global and Indian economy over last three decades. India's growth story has been driven by services, which has a 55 % share in economy.
2. Services exports have outperformed goods exports in recent years, due to which India's share in the world's commercial services exports has risen steadily over the past decade to reach 3.5 per cent in 2018 — twice the sector's share in the world's merchandise exports, 1.7 per cent.
3. However, IHS Markit India Services index reports that the services sector has been contracting for five consecutive months since March, with an index of 34.2. In PMI jargon, the 50-mark level separates expansion from contraction.
4. Given the uncertainty in the world market and the projected slowdown of developed economies by 8 per cent this year, India's services-led growth has to depend mostly on the domestic economy.
5. But "have we done enough to revive the services sector?" ask Geethanjali Nataraj and Rishika Singh in their **opinion piece in *The Indian Express***.
6. The Centre rolled out a whopping Rs 20.9 lakh crore stimulus package to pull the economy out from the ravages of the pandemic.
7. "While the package is a beam of hope for some, it has overlooked the plight of the services sector. The sector finds little mention or attention in the government's Atmanirbhar Reform Package. From tourism, aviation, shipping, space to call centres and delivery services, the standstill in activities is bound to have a knock-out effect on employment, production and economy as a whole," they write.
8. Most of services sectors are worst affected and unfortunately, there aren't any specific fiscal and monetary stimulus for them. In fact, some sectors would find it difficult to survive if pandemic continues.
9. **So what can the government do?**
 - a. "In the short run, the government needs to make cuts in VAT, which ranges from 0-30 per cent on aviation fuel, make provisions for GST holidays, compensate for wages of workers under distress and draft flexible terms for working capital credit," they write.
 - b. Similarly, they point out that the government is also in the process of scrapping or rationalising most of the export-incentive schemes affecting both goods and services exports in order to comply with WTO rules. This is expected to further hurt exporters.
 - c. So unless the government focuses on the sector in the forthcoming Foreign Trade Policy (FTP), the sector will take a long time to revive, **they state**.

The Tertiary Sector



TOPIC 5. GREENLAND



1. The world's second largest body of ice, the Greenland Ice Sheet, is **melting at an unprecedented rate** due to rising temperatures induced by climate change, and may now be past the point of no return, a recent study has warned.
 2. The study published by a team of researchers from the Ohio State University, suggests that the glacier is melting at such a rapid rate that the annual snowfall is not enough to replenish it anymore. Even if climate change is somehow contained, the Greenland Ice Sheet will continue to lose ice.
 3. "We've passed the point of no return but there's obviously more to come," Ian Howat, a co-author of the study and a professor at Ohio State University, told *CNN*. "Rather than being a single tipping point in which we've gone from a happy ice sheet to a rapidly collapsing ice sheet, it's more of a staircase where we've fallen off the first step but there's many more steps to go down into the pit."
 4. Once the ice sheet melts completely in less than a hundred years, sea levels will rise drastically — leaving coastal cities across the globe completely submerged.
- 5. How was the study conducted?**
- a. The team of researchers analysed 40 years-worth of monthly satellite data from more than 200 large glaciers across Greenland's ice sheet, which are currently melting and draining into the ocean around the country.
 - b. The researchers measured the amount of ice that broke off from Greenland's glaciers and ice shelves to form icebergs, floating freely in the ocean. They also observed the total amount of melted ice that directly mixed with the ocean water.
 - c. They went on to measure the amount of snowfall received in the region, each year — to assess the extent to which the glaciers were replenished after large swathes of ice were lost.
 - d. "We've been looking at these remote sensing observations to study how ice discharge and accumulation have varied," Michalea King, lead author of the study and a researcher at Ohio State University's Byrd Polar and Climate Research Center, said in a press release.
 - e. "What we've found is that the ice that's discharging into the ocean is far surpassing the snow that's accumulating on the surface of the ice sheet," she added.
- 6. What were the major findings of the study?**
- a. In the period between 1980 and 1990, researchers found that snowfall was largely able to replenish the amount of ice lost from the melting of glaciers — maintaining a delicate balance. During this time, ice sheets lost around 450 gigatons (about 450 billion tons) of ice each year, which was then recharged by ample snowfall.
 - b. "We are measuring the pulse of the ice sheet—how much ice glaciers drain at the edges of the ice sheet—which increases in the summer," King explained in the press release. "And what we see is that it was relatively steady until a big increase in ice discharging to the ocean during a short five- to six-year period."
 - c. It was only at the turn of the century, in the year 2000, when the amount of ice being lost annually began increasing. At this point, the ice sheet started to lose around 500 gigaton of ice

each year. While the amount of snowfall remained the same, temperatures continued to soar, causing Greenland's Ice Sheet to shrink faster than it was being replenished.

- d. Since 1985, Greenland's many glaciers have retreated about 3 km on an average. "That's a lot of distance," King pointed out. Due to this, many of them are now floating in the water as icebergs — the warm water causes the glacier ice to melt further, making it difficult for it to return to its previous location.
- e. "Glacier retreat has knocked the dynamics of the whole ice sheet into a constant state of loss," Howat said. "Even if the climate were to stay the same or even get a little colder, the ice sheet would still be losing mass."
- f. Given the sweltering heat caused by rising temperatures over the last two decades, researchers believe that Greenland's Ice Sheet will only be able to gain mass once every hundred years or so.

7. What is causing temperatures to rise at such a rapid rate?

- a. A study conducted in 2019 by a team of researchers from the University of Bern in Switzerland, found that global temperatures in the 20th century were rising at a higher rate than seen in over 2,000 years.
- b. Study showed that climate change during recent centuries was not caused by random fluctuation, but instead by anthropogenic emissions of CO₂, as well as other greenhouse gases.
- c. With increased human activities — like burning fossil fuels, deforestation and farming — during and after the industrial age, the rise in temperature has become more marked.

8. What does this mean in the long run?

- a. Currently, the ice sheet is already the single greatest contributor to the rise in sea levels worldwide — with over 280 billion metric tonnes of melting ice flooding the ocean every year. Greenland's ice sheet could melt completely by the year 3000, resulting in a 23-foot rise in sea levels across the planet, according to a *Business Insider* report.
- b. Due to melting glaciers, the sea level rises by more than a millimetre each year. Climate change is accelerating this phenomenon to a point where researchers fear that the world's heaving oceans could potentially wash away a huge chunk of coastal land, *CNN* reported.
- c. According to Michaela King, the loss of ice over the years has been so monumental, that it has caused a change in the gravitational field over the country. After melting or breaking off from Greenland's ice sheets, the frigid ice is carried by the Atlantic Ocean and then brought to the other oceans of the world.
- d. However, King points out that grim predictions and realities presented in her study also provide an opportunity to explore science behind the world's glacial environments further.
- e. "It's always a positive thing to learn more about glacier environments, because we can only improve our predictions for how rapidly things will change in the future," she said. "And that can only help us with adaptation and mitigation strategies. The more we know, the better we can prepare."

TOPIC 6. CORONAVIRUS HIT MEN HARDER

1. The coronavirus may infect anyone, young or old, but older men are up to twice as likely to become severely sick and to die as women of the same age.
2. Why? The first study to look at immune response by sex has turned up a clue: Men produce a weaker immune response to the virus than do women, the researchers concluded.
3. The findings, published Wednesday in *Nature*, suggest that men, particularly those older than age 60, may need to depend more on vaccines to protect against the infection.
4. “Natural infection is clearly failing” to spark adequate immune responses in men, said Akiko Iwasaki, an immunologist at Yale University who led the work.
5. The results are consistent with what’s known about sex differences following various challenges to the immune system.
6. Women mount faster and stronger immune responses, perhaps because their bodies are rigged to fight pathogens that threaten unborn or newborn children.
7. But over time, an immune system in a constant state of high alert can be harmful. Most autoimmune diseases — characterized by an overly strong immune response — are much more prevalent in women than in men, for example.
8. “We are looking at two sides of the same coin,” said Dr. Marcus Altfeld, an immunologist at the Heinrich Pette Institute and at the University Medical Center Hamburg-Eppendorf in Germany.
9. The findings underscore the need for companies pursuing coronavirus vaccines to parse their data by sex and may influence decisions about dosing, Altfeld and other experts said.
10. “You could imagine scenarios where a single shot of a vaccine might be sufficient in young individuals or maybe young women, while older men might need to have three shots of vaccine,” Altfeld said.
11. Companies pursuing coronavirus vaccines have not yet released clinical data analyzed by the participants’ sex, but the Food and Drug Administration has asked them to do so, as well as by racial and ethnic background, said Dr. William Gruber, a vice president at Pfizer.
12. Iwasaki’s team analyzed immune responses in 17 men and 22 women who were admitted to the hospital soon after they were infected with the coronavirus. The researchers collected blood, nasopharyngeal swabs, saliva, urine and stool from the patients every three to seven days.
13. The analysis excluded patients on ventilators and those taking drugs that affect the immune system “to make sure that we’re measuring natural immune response to the virus,” Iwasaki said.
14. The researchers also analyzed data from an additional 59 men and women who did not meet those criteria.
15. Overall, the scientists found, the women’s bodies produced more T-cells, which can kill virus-infected cells and stop the infection from spreading.
16. Men showed much weaker activation of T-cells, and that lag was linked to how sick the men became. The older the men, the weaker their T-cell responses.
17. “When they age, they lose their ability to stimulate T-cells,” Iwasaki said. “If you look at the ones that really failed to make T-cells, they were the ones who did worse with disease.”
18. But “women who are older — even very old, like 90 years old — these women are still making pretty good, decent immune response,” she added.
19. Compared with health care workers and healthy controls, the patients all had elevated blood levels of cytokines, proteins that rouse the immune system to action. Some types of cytokines, called interleukin-8 and interleukin-18, were elevated in all men but only in some women.
20. Women who had high levels of other cytokines became more seriously ill, the researchers found. Those women might do better if given drugs that blunt these proteins, Iwasaki said.
21. The study has limitations. It was small, and the patients were older than 60 on average, making it difficult to assess how the immune response changes with age.
22. “We know that age is proving to be a very important factor in COVID-19 outcomes, and the intersection of age and sex must be explored,” said Sabra Klein, a vaccine expert at the Johns Hopkins Bloomberg School of Public Health.
23. The study also did not offer a reason for the differences between men and women. Because the women were past menopause, on average, “it is doubtful that sex steroid hormones are involved,” Klein said.
24. Still, the new findings are “exciting” because they begin to explain why men fare so much worse with the coronavirus, she said. “The more robust T-cell responses in older women could be an important clue to protection and must be explored further.”

TOPIC 7. RBI CONTINGENCY FUND



EXPRESS
explained.
ECONOMICS

RBI'S CONTINGENCY FUND

(In ₹ crore)

2020	2,64,034
2019	1,96,344
2018	2,32,108
2017	2,28,207
2016	2,20,183
2015	2,21,614
2014	2,21,652
2013	2,21,652
2012	1,95,405

1. Reserve Bank of India (RBI), government's banker, has retained a whopping amount of Rs 73,615 crore within RBI by transferring it to Contingency Fund (CF) of central bank, thus leading to a sharp fall in transfer of surplus to government in current year. As a result, CF has swelled to a new high of Rs 264,034 crore, according to Annual Report of RBI.
2. The central bank's main risk provision accounts – **Contingency Fund, Currency and Gold Revaluation Account (CGRA), Investment Revaluation Account Foreign Securities (IRA-FS) and Investment Revaluation Account-Rupee Securities (IRA-RS)** — together now amount to Rs 13.88 lakh crore.

3. What is the Contingency Fund (CF)?

- a. This is a specific provision meant for meeting unexpected and unforeseen contingencies, including depreciation in the value of securities, risks arising out of monetary/exchange rate policy operations, systemic risks and any risk arising on account of the special responsibilities enjoined upon the Reserve Bank.
- b. This amount is retained within the RBI. With a higher provision of Rs 73,615 crore towards CF, the balance in CF as of June 2020 was Rs 264,034 crore as compared to Rs 196,344 crore in June 2019 and Rs 232,108 crore in June 2018. Last year, it withdrew Rs 52,637 crore from CF to pay a higher surplus to the government.

4. What did the government get as surplus this year?

- a. The Central Board of the RBI recently approved the transfer of Rs 57,128 crore as surplus – or dividend — to the Central government for the accounting year 2019-20, sharply lower by 67.5 per cent from Rs 1.76 lakh crore that it paid to the government last year.
- b. While the RBI's transfer this year is as per the economic capital framework (ECF) adopted by the RBI board last year, last year's transfer included Rs 123,414 crore of dividends due from the previous financial year 2018-19 and Rs 52,637 crore taken out from CF as per the revised ECF.
- c. As per Section 47 of the RBI Act, profits or surplus of the RBI are to be transferred to the government, after making various contingency provisions, public policy mandate of the RBI, including financial stability considerations.

5. Why did surplus transfer rise last year?

- a. The government, which was looking for funds to bridge the deficit, sought higher surplus from the RBI pointing out the high reserves/ surplus retained by the RBI. It was initially resisted by the RBI which was then headed by Urjit Patel.
- b. The RBI relented later appointed the Bimal Jalan committee to work out the modalities of the transfer. Last year, the RBI said as the central bank's financial resilience was within the desired range, the excess risk provision amounting to Rs 52,637 crore was written back from Contingency Fund to income, facilitating the transfer of Rs 1.76 lakh crore surplus to the government.

6. What's the CGRA account?

- a. The Currency and Gold Revaluation Account (CGRA) is maintained by the Reserve Bank to take care of currency risk, interest rate risk and movement in gold prices.
- b. Unrealised gains or losses on valuation of foreign currency assets (FCA) and gold are not taken to the income account but instead accounted for in the CGRA. Net balance in CGRA, therefore, varies with the size of the asset base, its valuation and movement in the exchange rate and price of gold.
- c. CGRA provides a buffer against exchange rate/ gold price fluctuations. It can come under pressure if there is an appreciation of rupee vis-à-vis major currencies or a fall in price of gold.
- d. When CGRA is not sufficient to fully meet exchange losses, it is replenished from the CF.
- e. During 2019-20, the balance in CGRA increased from Rs 664,480 crore as on June 30, 2019 to Rs 977,141 crore as on June 30, 2020 mainly due to depreciation of rupee and the rise in the international price of gold.

7. Why did RBI's income decline this year?

- a. RBI's income declined by 29 % to Rs 149,672 crore as of June 2020 when compared to Rs 193,036 crore in 2018-19. This is because previous year's income included a write-back from Contingency Fund amounting to Rs 52,637 crore which was then transferred to government.
- b. A comparison excluding same from previous year's income, shows a marginal increase in income for 2019-20. The expenditure of Reserve Bank for year 2019-20 is Rs 92,540 crore which includes a risk provision of Rs 73,615 crore towards Contingency Fund as compared to an expenditure of Rs 17,045 crore in 2018-19. The year ended with an overall surplus of Rs 57,128 crore which will be transferred to government this year.

8. What are IRA-FS and IRA-RS accounts?

- a. The unrealised gains or losses on revaluation in foreign dated securities are recorded in the Investment Revaluation Account Foreign Securities (IRA-FS). The balance in IRA-FS increased from Rs 15,735 crore as on June 30, 2019 to Rs 53,834 crore as on June 30, 2020.
- b. Similarly, the unrealised gains or losses on revaluation is accounted for in Investment Revaluation Account-Rupee Securities (IRA-RS). The balance in IRA-RS increased from Rs 49,476 crore as on June 30, 2019 to Rs 93,415 crore as on June 30, 2020 due to increase in portfolio of rupee securities and decline in yields on government of India securities held by the Reserve Bank during the year.

TOPIC 8. PHISHING SCAM



1. With the Haryana Police making arrests and launching an investigation into a **multi-state phishing scam involving more than 300 bank accounts**, questions over internet safety and cyber-hygiene have once again come to the forefront. In this particular case, perpetrators allegedly swapped SIMs of potential victims into e-SIMs before gaining access to their bank accounts.

2. What is the case being investigated by Haryana Police?

- a. So far, the police have pieced together the preliminary modus operandi of a new phishing racket that they suspect has been used to access over 300 nationalised and private bank accounts across five states — Punjab, Haryana, Bihar, West Bengal and Jharkhand. Police are yet to ascertain the amount of money involved. But they have made five arrests — among the first in a racket involving e-SIM frauds. And four of those five are from Jharkhand's Jamtara, a district that has gained notoriety as a hub of cyber crime, even inspiring a popular web series. "The case is unique, with the use of e-SIMs as the main conduit and with preliminary investigations establishing procedural infirmities and lack of due diligence on the part of banks and telecom companies," said O P Singh, Commissioner of Police, Faridabad.

3. How did the perpetrators allegedly defraud their victims in this case?

- a. According to the police, what sets this case apart from other phishing cases is "the novel modus operandi adopted, and mind-boggling layering done by apparently low-tech offenders".
- b. To begin with, they acquire a series of mobile numbers, use all of them to try and log in to a bank account. If a number prompts an OTP, they call the number's owner and pretend to be customer care executives of the mobile operator offering to upgrade SIM cards or Know Your Customer (KYC) details.
- c. Then, they send an email to the victim containing text to be sent to the official customer care number. It's a ruse to register your email ID with the victim's number, so that you can put in an official request to convert the SIM into an e-SIM. Once done, the victim's phone number and everything else it is linked to, including the bank account, is under your control.

4. How is India placed as far as internet-related monetary frauds are concerned?

- a. In 2019-20, banks reported 2,678 card and internet-related fraud, totalling Rs 195 crore in value, which was more than double the value of such frauds reported by banks in 2018-19, according to the latest data from Reserve Bank of India (RBI).

- b. In the current fiscal, between April and June, banks reported 530 fraudulent transactions involving debit and credit cards, or techniques such as phishing done over the internet, which has led to Rs 27 crore being stolen until now. "The Reserve Bank is engaged in interlinking various databases and information systems to improve fraud monitoring and detection," the RBI has said.
- c. Earlier this year in July, cybercriminals had adopted a similar e-SIM swap approach to swindle a total of Rs 21 lakh from the bank accounts of several people. In the case being investigated by Haryana Police, the full extent of the monies involved is yet to be ascertained.

5. Have the authorities taken any measures to prevent such frauds?

- a. The Reserve Bank of India, in June this year, said it has been taking measures to improve awareness through its e-BAAT programmes and organising campaigns on safe use of digital payment modes, to avoid sharing critical personal information like PIN, OTP, passwords, etc. However, it pointed out, despite these initiatives, "incidence of frauds continue to bedevil digital users, often using the same modus operandi users were cautioned about, such as luring them to disclose vital payment information, swapping sim cards, opening links received in messages and mails, etc."
- b. The central bank therefore directed all banks and authorised payment system operators to undertake targeted multi-lingual campaigns by way of SMSs, advertisements in print and visual media, etc, to educate their users on safe and secure use of digital payments. Additionally, the Maharashtra Police also recently issued advisories to people on how to avoid phishing. "The goal is to trick the person into performing a specific action that will benefit the attacker, typically, this involves getting the victims to click on malicious links, open an infected attachment or authorise a transfer of funds," the state police's cyber cell had warned.



TOPIC 9. CONTEMPT

1. On Tuesday, the Supreme Court deferred the hearing in a 2009 contempt-of-court case against advocate Prashant Bhushan, and reserved its verdict on the quantum of sentencing in the contempt case initiated this year. The three-judge Bench led by Justice Arun Mishra directed that the case records of 2009 be placed before the Chief Justice of India, who can list it before an appropriate Bench. The Bench **deferred the hearing** as the case involved “larger” questions, and since Justice Mishra retires on September 2 and would not be able to conclude the hearing.

2. Prashant Bhushan: What are the cases against him about?

- a. 2009 case against Bhushan was filed by senior advocate Harish Salve in connection with an interview published in *Tehelka* magazine, in which he made allegations of corruption in judiciary. Apart from Bhushan, then Tehelka editor Tarun Tejpal was also charged with contempt of court.
- b. In 2010, a three-judge Bench headed by Justice Altamas Kabir had issued notices to Bhushan and Tejpal, but the case only came up for hearing when the SC recently initiated a fresh contempt case against Bhushan.
- c. The fresh case involves two tweets by Bhushan about the Supreme Court’s functioning and the Chief Justice of India. On August 14, the Supreme Court found the two tweets amounting to “**serious contempt of court**”. In this case, Bhushan has **refused to apologise** and has stood his ground that the tweets reflected his “bonafide beliefs”, even as the Supreme Court gave him time to rethink and tender an unconditional apology or withdraw his statement. The court has now reserved its verdict on the quantum of punishment, if any, to be imposed on Bhushan.

3. What are the “larger” questions in the 2009 case?

- a. Bhushan has argued that the 2009 case would involve questions that required interpretation of the Constitution and hence it must be referred to a larger Bench.
- b. On August 24, through his lawyer Kamini Jaiswal, he submitted a list of 10 questions that needed to be addressed by a Constitution Bench. The most crucial of these questions is whether expressing “bonafide opinion about the extent of corruption in any section of the judiciary” would amount to contempt of court.
- c. Bhushan also pointed out several conflicting rulings on the subjects of contempt of court, and bar against speaking in the public domain about complaints against a judge, and sought reference to a larger Bench to settle the law on these issues. In a 1995 ruling, *Ravichandran Iyer v Justice A M Bhattacharjee*, the Supreme Court had said that lawyers must inform the Chief Justice of that court about allegations against any judge, with prima facie evidence, so that the CJ can look into the matter.
- d. Bhushan asked if this procedure is compatible with the “reasonable restrictions” imposed on free speech by the Constitution.
- e. Although the 1971 Contempt of Courts Act recognises truth as a defence in cases, one of the questions that Bhushan has raised is whether the contemnor has to prove the allegation or remark on corruption.

4. How is a reference to a larger Bench made?

- a. As per **Article 145(3)** of Constitution “minimum number of Judges who are to sit for purpose of deciding any case involving a substantial question of law as to interpretation of this Constitution ” shall be 5. A bench of at least 5 judges is set up to hear significant Constitution cases.
- b. When different rulings of same Bench strength are not consistent with one another, a ruling by a larger Bench of an odd number of judges is preferred to harmonise the law. Once the questions to be settled are identified, these are placed before the CJI who will then assign it to a larger Bench. The CJI, as the master of the roster, decides which Bench would hear the case.
- c. In Bhushan’s case, the case will be listed before another Bench on September 10.

5. What about the other case?

- a. The Supreme Court has already held Bhushan guilty of “serious contempt of court” for his two tweets. Generally, a separate hearing for sentencing follows conviction, with the court hearing arguments again to decide the quantum of punishment.
- b. On August 20, during the sentencing hearing, the Supreme Court gave Bhushan more time to “think over” and tender an apology to the court. This extension was despite Bhushan’s stand that he had not tweeted in a “fit of absent-mindedness” but had expressed what he termed a “bonafide belief” he held on the state of the judiciary.

- c. On August 24, he filed another affidavit, reiterating his stand and informing the court that tendering an insincere apology would in fact constitute contempt of court. The court once again heard arguments by Bhushan's lawyer and Attorney General for India K K Venugopal on why the court must not award any punishment to Bhushan and concluded the hearing.
- d. Venugopal also told the court that while Bhushan may be warned, he should not be awarded a punishment.

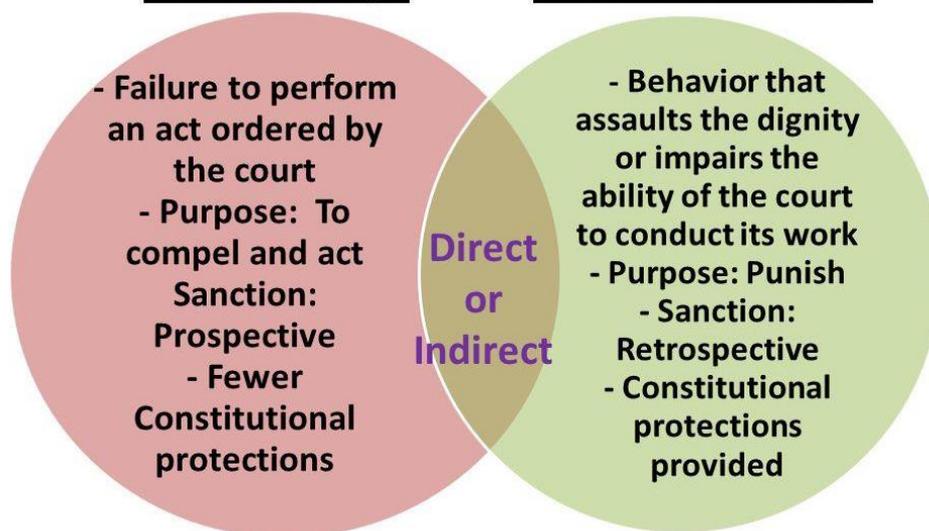
6. Why is the court repeatedly asking for an apology?

- a. The Contempt of Courts Act 1971 lays down the procedure to be followed in contempt cases. It also says that the offence is punishable with simple imprisonment for a term which may extend to six months, or with fine which may extend to Rs 2,000, or both.
- b. However, Section 12 of the Act also adds an exception to the punishment prescribed. "Provided that the accused may be discharged or the punishment awarded may be remitted on apology being made to the satisfaction of the court," the law says.
- c. Hence, a statement of apology to court by Bhushan would allow court to let him off without punishment even though Supreme Court has found him guilty of contempt of court.

CIVIL v. CRIMINAL CONTEMPT

Civil Contempt

Criminal Contempt



*** MEANING & DEFINITION OF CONTEMPT OF COURT AS PER INDIAN LAW**

1. CONTEMPT OF COURT - POSITION UNDER INDIAN CONSTITUTION –

- **1. ARTICLE, 129 : Supreme Court to be a court of record -**
The Supreme Court shall be a court of record and shall have all the powers of such a court including the power to punish for contempt of itself.
- **2. ARTICLE , 215: High Courts to be courts of record -** Every High Court shall be a court of record and shall have all the powers of such a court including the power to punish for contempt of itself.
- **3. ARTICLE .144 :Civil and judicial authorities to act in aid of the Supreme Court -** All authorities, civil and judicial, in the territory of India shall act in aid of the Supreme Court.
- **4. ARTICLE.141 Law declared by Supreme Court to be binding on all courts -** The law declared by the Supreme Court shall be binding on all courts within the territory of India.

TOPIC 10. SALIVA TESTS

1. How do two tests compare?

- a. On August 15, US Food and Drug Administration (FDA) approved a new method of testing for Covid-19 — processing saliva samples — and termed it “ground-breaking”. It issued emergency-use authorisation to Yale School of Public Health’s diagnostic kit, called SalivaDirect. “This is 5th test that USFDA has authorized that uses saliva as a sample for testing,” it said.
- b. Like RT-PCR, a saliva test too detects the virus. It converts the virus RNA into DNA, then amplifies the DNA to detect presence of the virus.
- c. What makes the SalivaDirect kit unique is that the Yale researchers have done away with a separate step or specialised equipment to extract the virus RNA.
- d. “Our approach can be broadly implemented as it does not require saliva collection tubes containing preservatives and does not require specialized reagents or equipment for nucleic acid extraction”.

2. So, how does it work? Has it been tested? How is it different from RT-PCR tests? What are its advantages, and limitations? All your questions answered:

- a. The saliva test was first tested on a group of NBA players and support staff. The saliva test is less invasive than the RT PCR test.
- b. saliva “does not require a certified swab and collection receptacle and does not necessarily have to be obtained by a skilled healthcare provider, both of which increase diagnostic-associated costs”.
- c. A saliva test is reported to be prone to less error than has been reported in nasal swab collection, which sometimes give false negatives.

#QUIXPLAINED

UNDER THE MICROSCOPE

EXPRESS explained.



Unlike the traditional RT PCR method, the SalivaDirect test does not require saliva collection tubes to have preservatives nor does it require specialized reagents or equipment for nucleic acid extraction

#QUIXPLAINED

SALIVA DIRECT TEST

EXPRESS explained.



The US Food and Drugs Administration has issued an emergency use authorisation to Yale School of Public Health for its diagnostic kit - SalivaDirect. It was initially tested on a group of basketball players of the National Basketball Association (NBA) and its support staff, and has been validated as a test for asymptomatic individuals.

#QUIXPLAINED

LIMITATIONS OF THE SALIVA TEST

EXPRESS explained.



- Negative results do not preclude SARS-CoV-2 infection. It will have to be complemented by other clinical observations
- Saliva from patients can contain blood or mucus that can make it difficult to pipet

#QUIXPLAINED

DIFFERENCE IN THE RT PCR TESTS

EXPRESS explained.



Traditional Molecular Test

- Is invasive and can have false negatives since it triggers irritation
- Relies heavily on PPE gear to keep away droplets from infecting healthcare worker

Latest SalivaDirect Test

- Is less invasive
- Is safer for healthcare workers collecting sample therefore PPE kit usage is reduced by nearly 90 per cent

TOPIC 11. LIBYA

1. Rival authorities have backed a ceasefire in Libya, raising the prospect of a de-escalation in the country's long-running conflict. Achieving a lasting deal will require political and economic agreements that have proved elusive for years, and cooperation from foreign powers.

2. Who's been fighting who?

- Khalifa Haftar's self-proclaimed Libyan National Army (LNA) has been battling forces aligned with Tripoli-based, internationally recognized Government of National Accord (GNA). Both sides are formed from local armed factions, whose shifting loyalties have helped steer course of conflict. Both have depended heavily on foreign allies pursuing strategic and political goals in Libya.
- Turkey stepped up its military support for the GNA in January after signing a maritime deal with Tripoli, allowing it to repel a 14-month LNA offensive against the capital.
- Haftar has long enjoyed backing from countries including United Arab Emirates, Egypt, Russia and Jordan.

3. How did we get here?

- Libya's fault lines surfaced nine years ago as local groups took different positions in the NATO-backed uprising that toppled Muammar Gaddafi. An attempted democratic transition slid out of control as armed groups built local power bases and coalesced round rival political factions.
- After a battle for Tripoli in 2014, one faction moved east and set up a parallel government and institutions. It recognized Haftar as military chief as he began a long campaign against Islamist groups and other opponents in Benghazi.
- The GNA emerged from a December 2015, UN-backed agreement struck as Islamic State gained a foothold in Libya and migrant smuggling to Europe surged. But eastern factions spurned the deal. Instead, Haftar consolidated control of east and swept south in early 2019 before launching his offensive on Tripoli.



4. Who controls what?

- Front lines are drawn at LNA-held Sirte, roughly the midpoint of Libya's Mediterranean coastline and a gateway to major oil ports. The GNA and affiliated groups control Libya's densely populated northwest and the LNA holds the east.
- Allegiances in the south are more tenuous.

5. What's the damage?

- Nearly 400,000 Libyans have been displaced over the past nine years. Thousands more have died. The conflict has cost tens of billions of dollars in lost oil revenue, damaged infrastructure, and sharply reduced living standards. Coronavirus infections have started to surge. The collapse of public services has fuelled protests in western Libya against the political elite.

6. What chance of peace?

- Fighting stopped in June but both sides have continued to mobilise. The ceasefire call by GNA head Fayeze al-Sarraj proposed demilitarising Sirte, allowing an oil restart by freezing revenues

until a political deal is reached, and elections in March. But it is unclear how much backing those ideas have in the west, let alone the east.

- b. LNA dismissed Sarraj's announcement as a ploy. A parallel ceasefire call by Aguila Saleh, head of an eastern parliament aligned with Haftar, proposed Sirte as the seat of a new government.
- c. The United Nations is pushing the two sides to resolve issues including oil revenue distribution, the make-up of a unity government and the status of armed groups. Foreign powers officially back the process, but have also shipped arms to their allies, undercutting diplomatic efforts.

7. What happened to the oil?

- a. OPEC member Libya holds Africa's largest oil reserves, producing 1.6 million barrels per day before 2011. Blockades have caused output to fluctuate sharply since then.
- b. Production climbed to around one million bpd from late 2016, then plunged to less than 100,000 bpd as the LNA's allies closed ports and pipelines in January. The National Oil Corporation says it will restart exports only if military forces leave oil facilities.



TOPIC 12. BRAHMAPUTRA ROPEWAY

1. Assam government has inaugurated a 1.8-km ropeway across the Brahmaputra river, and described it as India's longest river ropeway. *The Indian Express* takes stock of the project and its utility.

2. Why a river ropeway

- Thousands of people commute every day between capital city of Guwahati and town of North Guwahati, where IIT Guwahati is located. The ropeway cuts travel time between two banks to 8 mins. The current travel options between two banks are by ferry (30 mins or more, depending on current and season) or by road through a bridge that usually takes over an hour in traffic.
- "One-way travel on the ropeway will take say 9-10 minutes. So in 20 minutes if a person can complete a round trip between Guwahati and North Guwahati, it will be immensely beneficial," said Umananda Doley, CEO of Guwahati Metropolitan Development Authority.

BRAHMAPUTRA & OTHER ROPEWAYS

1.8 km

Between Guwahati city and North Guwahati town, across the river Brahmaputra.

2.5 km

In Gulmarg, J&K. One of the world's highest (4,390 m) cable-based lift services.

4 km

In Auli in Uttarakhand, said to be the longest in the country (not a river ropeway)

2 km

In Darjeeling, West Bengal, one of the oldest ropeway services in India, started 1968).

3. Tourism potential

- "Apart from substantially reducing travel time, the ropeway will provide a breathtaking view of the mighty Brahmaputra and promote tourism in the State," CM Sarbananda Sonowal tweeted.
- "Tourists can take ropeway to North Guwahati and spend quality time that side. Hospitality services will also develop on that side and thus ropeway is expected to be an overall boost for tourism in city."
- Connecting Kachari Ghat (Guwahati) to Dol Govinda Temple on northern bank, ropeway passed the famous Umananda temple on a small island.



4. Design and fare

- Assam minister Himanta Biswa Sarma, who inaugurated the ropeway, tweeted: "This is one of the most advanced & longest river crossing Aerial Tramway systems in India". The ropeway uses a "twin-track, single-haul, bi-cable double reversible jig back" system, officials said.
- The ropeway comprises two cabins — each with a capacity of 30 passengers plus one operator. The project was built at a cost of Rs 56 crore.
- Tickets have been fixed at Rs 100 for a round trip, and Rs 60 for a one-way trip.

TOPIC 13. PESTICIDES

1. Punjab government, through a notification, has banned the usage of nine pesticides, generally used for Basmati and non Basmati crops, for 60 days — August 14 to October 14. There are over 10,000 pesticide dealers in Punjab and almost all of them had stocked up ahead of the sowing season. The government has directed the dealers to either return the stock to the manufactures or remove them from display of their stores. More than half of these pesticides are also used by farmers for other crops such as wheat, vegetables, fruits, sugarcane as well as for seed treatment. Farm experts, pesticide dealers and farmers said that such temporary bans cannot stop usage of such pesticides even for Basmati and non-Basmati crop, which is the main target of the government.

2. What are the pesticides whose sale has been banned for 60 days?

- a. 9 pesticide that have been banned temporarily include Acephate, Carbendazim, Thiamethoxam, Triazofos, Tricyclazole, Buprofezin, Carbofuron, Propiconazole, and Thiophanate Methyl.

3. Why is this ban only for 60 days?

- a. Experts say that farmers use these pesticides even after grain formation stage in rice crop. It leads to presence of pesticides beyond permissible maximum residue limit (MRL) on grains after harvesting of crop.
- b. EU has fixed MRL for all these agro-chemicals at 0.01 mg per kg except for Triazophos for which MRL is 0.02 mg. The harvesting of early varieties of Basmati and non-Basmati crops starts in late September and early October, respectively.
- c. If farmers do not stop spraying these pesticides at least 40-50 days before harvesting, a MRL cannot be ruled out.
- d. Also, 60-day ban has been ordered with main focus on Basmati varieties, which is mainly grown for export. Government does not want to annoy big exporters who face rejection of consignments by European Union (EU), USA, and Middle East. The EU had earlier rejected Indian Basmati due to presence of MRL beyond specified limit.

4. Is it possible to put a complete stop on usage of pesticides on Basmati and non-Basmati crop?

- a. An attempt to do so had failed last year when Punjab government had restricted the usage of all these pesticides during paddy season and various awareness camps were also organised for farmers across state. The farmers, however, had even used the pesticides and Punjab government admitted as much in its notification last week that samples tested in state's two labs had found pesticides in rice much above the specified MRL value.

5. Why was chemical residue found in grains last year despite restrictions on pesticide usage?

- a. Most farmers stock up on the pesticides ahead of the sowing season. They used it on the crop even after the Punjab government's notification, following which Food Safety Laboratory (Kharar) had found high MRL in nine samples and Punjab Biotechnology Incubator Agri and Food Testing Laboratory (SAS Nagar) in seven samples.
- b. This year too, big farmers stocked up on a couple pesticides before the ban order came in. "Several farmers purchased the pesticides in the beginning of the season. They even use banned Carbendazim, a fungicide, to treat the seed for better germination," said Khalsa.
- c. He said that while government has warned dealers of heavy fine, there was no way to stop the farmers who already have the chemicals with them.
- d. "Farmers in Punjab are more concerned about their crop output and don't mind using such chemicals," said a farmer, adding that checking pf dealers in remote areas too is difficult.

6. How can the government stop the complete usage of these chemicals on rice crop?

- a. The only way government can completely stop its usage on rice crop is if it bans these nine pesticides for all other crops such as vegetables, fruits, and sugarcane or bars manufacturers from producing these agro-chemicals.
- b. "Government says that safety of human beings is of paramount importance and that these pesticides should not be used then what it not putting a halt on their manufacturing," asked Khalsa, adding that an agro-chemical harmful for one crop is harmful for every other crop.

“Wheat and rice are used months after their harvesting but the vegetables are consumed immediately. We are only trying to protect the Basmati as it is exported. Ironically, the Basmati rejected by the EU was consumed in India. How was something not fit for consumption in 28 countries, was good for our people,” he asked.

7. What do experts say about this temporary ban?

- Agriculture department officials said that the farmers can grow every crop without using any chemical. They said of the nine banned pesticides, one — Tricyclazole — is used only for Basmati and can be permanently banned. Four of the remaining eight — Acephate, Carbofuron, Cabendenzim and Thiophinate Methyl — figure in the list of 27 pesticides proposed to be banned by Centre. For remaining four — Buprofezin, Propiconazole, Trizophos and Thiamethoxam — PAU had recommended safe alternatives as stated by government in its notification. “Government cannot discriminate against its own people by banning these pesticides for just one crop, which is to be consumed by people in places other than India,”.

IMPACTS OF PESTICIDES

Pesticides are used in our countryside, urban areas, homes and gardens

IMPACTS HEALTH

Exposure can cause fertility and reproductive issues, diabetes, obesity, degenerative diseases e.g. Parkinson's, cancers, asthma, depression, anxiety, ADHD etc.

PREGNANT MOTHERS AND CHILDREN

This group is particularly sensitive as exposure can cause disruption to endocrine systems, childhood cancers, neuro-developmental issues and other disorders.

DRAINS ECONOMIES

Pesticides cause illness and injury resulting in lost work days. Exploitative markets keep farmers on the pesticide treadmill, crops develop resistance, and incorrect use affects yields.

DECREASES BIODIVERSITY

Pesticides have been linked to declines in bees and pollinators, beneficial insects, birds, mammals, aquatic animals and non-target plants etc.

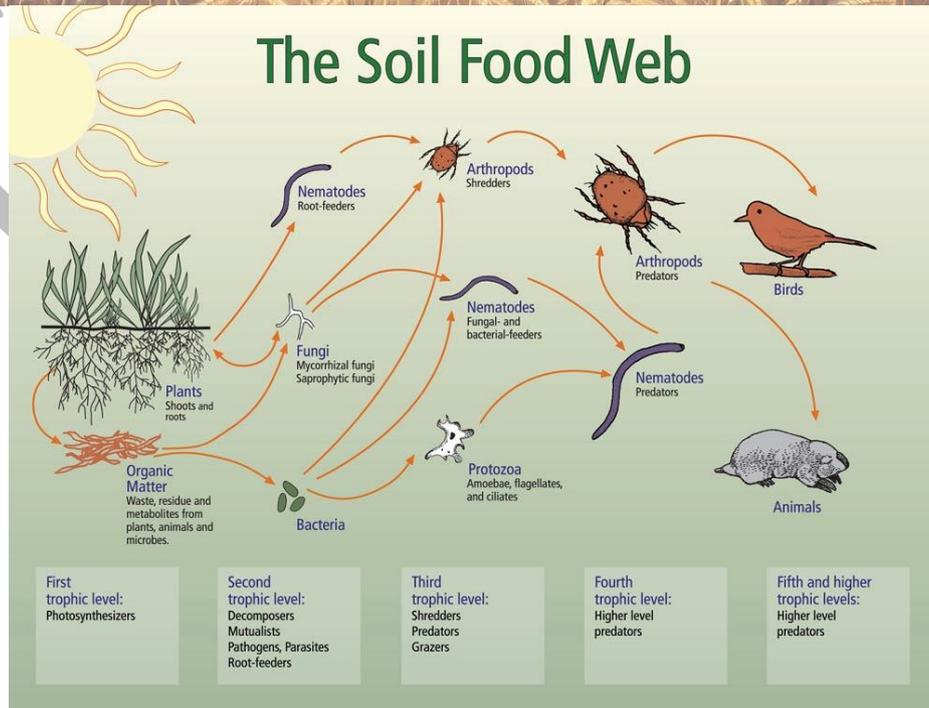
IMPACTS ON WATER, SOIL AND AIR

Run-off contaminates surface and ground water. Soil microorganisms and earthworms are poisoned, affecting soil fertility, and drift and volatilisation contaminates air, rain, fog and snow.

MONOPOLISATION OF AGRICULTURAL SYSTEMS & CORRUPTION OF SCIENCE

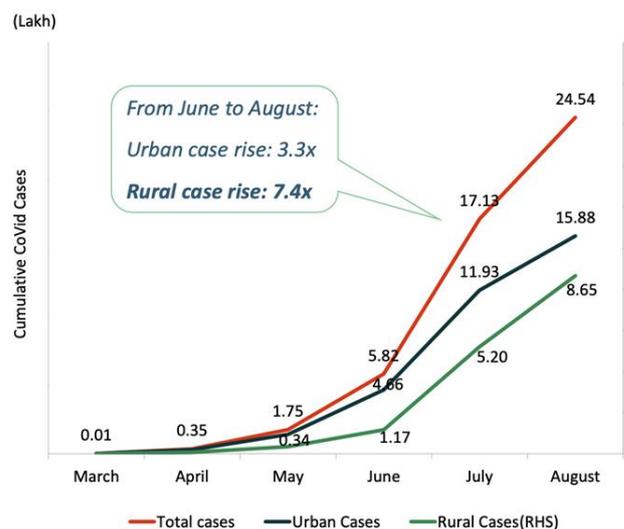
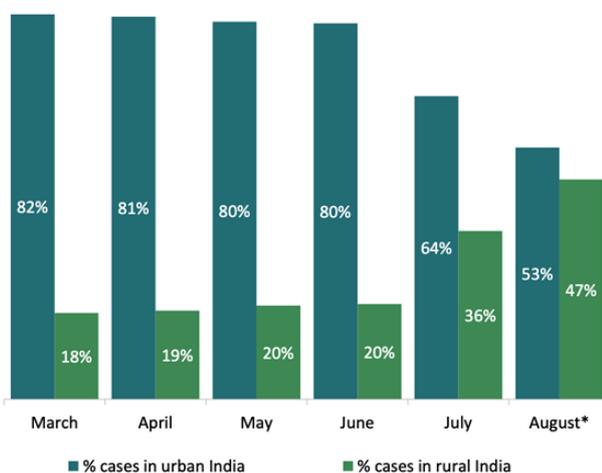
LINKS TO SUICIDES: 15-20% OF SUICIDES ARE A RESULT OF PESTICIDE SELF-POISONING DUE TO EASE OF ACCESSIBILITY AND HIGH TOXICITY

PESTICIDE ACTION NETWORK UK



TOPIC 14. INDIA'S FARM SECTOR

1. While it is clear that India's broader economy will contract this year, it is also true that well-distributed rainfall has meant that the agriculture sector per se may be quite productive this year.
2. A new report by Crisil throws light on prospects of farm sector. Here's a closer look at farm sectors and its prospects.
3. **What is the status of Southwest monsoon?**
 - a. As of August 21, monsoon is 7 % above normal, according to Crisil report. "Rains in India, normal and most well spread in three years – across time and regions so far," it states.
4. **What is the likely impact?**
 - a. Overall, better rains would allow the crop acreage — sown area — to increase across most crop groups such as cereals, oilseeds and pulses. Acreage for fruits and spices will also likely go up.
 - b. But acreage for cotton and vegetables is likely to decline marginally. Apart from the sown area going up, productivity too is expected to go up by around 3 %.
5. **Would these imply a reduction in prices?**
 - a. Yes, according to Crisil, surplus production will exert downward pressure on prices of 10 out of 14 field crops. Horticulture prices will also moderate.
6. **What about farm-level profitability?**
 - a. According to Crisil, sugarcane and paddy will continue to be the highest profit-making field crops, thanks to government support in the form of minimum support prices. Apple will lead profitability among horticulture produce.
7. **What is the outlook on regional distribution?**
 - a. According to Crisil, thanks to a low base, eastern states will see healthy growth in crop profitability.
 - b. Southern and Western states will likely bear the brunt of lower cotton and maize prices. Overall, however, North India is expected to continue to remain the most profitable region for Kharif season 2020.
8. **What do these trends imply for agriculture-related industries?**
 - a. Agriculture input industries such as fertiliser, seeds and pesticides are expected to grow 2-3 % in current financial year. Farm equipment industries will also likely see 5-7 % higher profits due to labour shortage and higher mechanisation.
9. **What are the major risks to the farm sector?**
 - a. The rapid spread of Covid-19 in rural India is main threat to well being of farm sector. As Chart 1 below shows, districts with more than 60 % rural population account for almost half cases as of August.
 - b. As Chart 2 shows, rate of increase in rural cases is much faster than rate of increase in urban cases.



TOPIC 15. SUPER APPS

1. Salt-to-software conglomerate Tata Group is **planning to launch an all-in-one super app** by end of this year or early next year. The omnichannel digital platform, expected to bring together all consumer-facing businesses of group, is likely to be developed by the newly formed entity Tata Digital.

2. What are super apps?

- a. A super app is a platform developed by a company offering various services under one umbrella. For example, China's WeChat, which started out as a messaging app, expanded into payments, cabs, shopping, food ordering, cab services to become a super app. A physical world comparison of a super app would be a mall, which allows retail space to various brands and shops across businesses and verticals.

3. Who makes super apps?

- a. Typically, companies that have a slew of services and products to offer tend to consolidate these offerings into a super app.
- b. The concept first emerged in China and southeast Asia where internet companies like WeChat, GoJek, Grab leveraged the opportunity of customer traffic on their platforms that originally came for social media and communication needs by offering these customers additional services leading to increased revenue realizations.
- c. However, in west Asia region, a different approach has been taken. There, traditional business conglomerates — such as real estate firms Majid Al Futtaim Group, Emaar, Chalhoub Group — having a large portfolio with presence in shopping malls, grocery and entertainment are building digital assets.
- d. According to internet consultancy firm RedSeer, these businesses observe high customer footfall and high repeat purchase frequency, which when seen from lens of online players is most critical parameter for a super app in any region to grow. The plan of Tatas to get into aggregating its consumer offerings align more with firms in the Gulf region than the technology companies in China and southeast Asia.

4. Which companies in India are building super apps?

- a. The Tata Group will be an entrant in an already crowded super app ecosystem of India. Currently, Reliance Industries, under its Jio umbrella, is consolidated various services and offerings such as shopping, content streaming, groceries, payments, cloud storage services, ticket bookings, etc.
- b. Further, Alibaba Group investee Paytm has also brought together services like payments, ticket bookings, games, online shopping, banking, consumer finance, etc. into one app. Flipkart Group-owned payments app PhonePe has tied up with companies such as Ola Cabs, Swiggy, Grofers, AJio, Decathlon, Delhi Metro, booking.com, etc. to offer these services from within its own app.

5. Why do Indian companies want to build super-apps?

- a. A country or a region becomes super app-ready when its large base of the population is smartphone first instead of desktop and the ecosystem of apps customised to local needs is not evolved. India has already become a market where a majority of those experiencing the internet for the first time are doing so on their mobile phones.
- b. This is one of the main reasons why Indian companies are looking at building super apps. Apart from increased revenue realisation due to consolidation of services at one place, such apps also provide companies large swaths of consumer data which can then be harnessed to learn more about user behaviour.

6. What are the concerns about super apps?

- a. The very concept of a conglomerate trying to keep a customer within its own ecosystem for most services they might require increases the possibility of a monopoly. This is in addition to concerns of privacy in cases where a super app has onboarded third-party service providers.
- b. Experts pointed out that data collected by the master app could then be used to train machines in artificial intelligence and predict consumer behaviour even more accurately. It is one of the main reasons why super apps have not picked pace in countries such as the US and the UK.

TOPIC 16. INDIA - CHINA

1. After loss of lives of Indian soldiers at Galwan, there have been calls for the boycott of Chinese goods. Counter views have been expressed that the Indian economy is so dependent on China that the costs of taking steps to stop imports would be disproportionately higher for India as most manufacturing in India is dependent on global supply chains where China has a leading role.
2. "But this is a fatalistic view," write Meera Shankar and Ajay Shankar, both retired bureaucrats belonging to the IFS and IAS respectively. "Our dependence can be reduced substantially if there is a national will and resolve to do so," they state in their *opinion piece in The Indian Express*.
3. "The size of the Indian market and its potential in the coming years provides India considerable leverage; a leverage we should be willing to use fully. But to use this leverage, Indians, individual consumers as well as firms, have to accept that there would be a period of adjustment in which they would have to pay higher prices," they write.
4. The bottom line that needs to become clear to China has to be that without a mutually satisfactory border settlement and a permanent end to these border incidents, it cannot be business as usual and the Indian market would start shrinking for them.
5. The Chinese have competitive advantage and are integral to global supply chains. But whatever they sell is, and can be, made elsewhere in the world. In fact, most of what we import from China was, is and can be made in India itself. With volumes and economies of scale, the cost of production in India would decline as it did in China.
6. "The initial focus should be on items which are still being made in India and where imports from China have been increasing," they state. If the RBI were to undo the real exchange rate appreciation, it would be equivalent to an increase in import duties of about 10 per cent.
7. Further, selective imposition of China-specific safeguard duties and use of non-tariff trade barriers should be enough in segments like electrical appliances to let Indian producers expand production and increase market share.
8. "The government should also facilitate the flow of finances for expansion and provide technical support for testing, improving quality and lowering costs of production," they write.
9. The authors, who were India's Ambassador to US and Secretary, Department of Industrial Policy and Promotion, respectively, go on to detail how the Chinese dependence can be countered in each sector.
10. "We should signal India's firm resolve and willingness to bear the cost. China could choose to settle border amicably and have full access to our market," **they conclude**.

TOPIC 17. CANCEL CULTURE



1. One of the reasons why the term's exact meaning is still being ascertained is perhaps because it is relatively new and its scope is still evolving with developing online behavior.
2. The term 'cancel' is a relatively straightforward one; a purchase is 'cancelled' if it isn't needed any more. Merriam Webster says an advertisement campaign is 'cancelled' if it is inappropriate or is an unsuccessful marketing strategy. A television show is 'cancelled' if it manages only abysmal ratings. For the longest time, the meaning of the term 'cancel' hasn't been very complex, but sometime in the past decade, it has acquired a new definition, particularly in context of internet lingo.
3. Today, everything and everyone can be 'cancelled' if the internet collectively decides that it needs to be so. The term 'collectively' is important here because the cancelling of something is really a result of a mass movement, collective in form and force. J.K. Rowling is 'cancelled' because of her transphobic views. Cardi B and Nicki Minaj are 'cancelled' because they made homophobic comments. Trump is 'cancelled' because of his racist, inappropriate conduct and words towards women, people of colour and immigrants. Kanye West is 'cancelled' for saying slavery was a 'choice' and for supporting Trump.
4. But it isn't only public figures who get 'cancelled' by forces-that-be in realms of online space. Very simply, cancelling means to stop giving support and credence to something or someone, including organizations and establishments, and so anyone in public consciousness can be subjected to this cancelling.

5. What is cancel culture?

- a. Cancel culture is relatively new; it only surfaced in the last five to six years and has been largely a product of internet culture. One of the reasons why the term's exact meaning is still being ascertained is perhaps because it is relatively new and its scope is still evolving with developing online behaviour. The visible examples of cancel culture occur when a celebrity or public figure says or writes something or engages in an act that is deemed offensive and inappropriate by the public.
- b. It works like this; when a large number of people on social media platforms collectively object to any action by a public figure, it leads to calls to 'cancel' the person. This cancelling occurs by pressuring the individual's workplace to fire them, pressuring brands to drop their association with the offending individual, using threats of boycott or engaging in any other action that impacts the individual's reputation or finances.

6. When did cancel culture arrive?

- a. The specific date is debatable, but some observers believe that its arrival coincided with the #MeToo movement, that first started with women opening up about being subjected to violence and abuse using public platforms to share their experiences. According to some others, conservatives in the United States have historically engaged in a form of cancel culture that existed in days prior to the arrival of the internet, when things or people did not align with their conservative views.

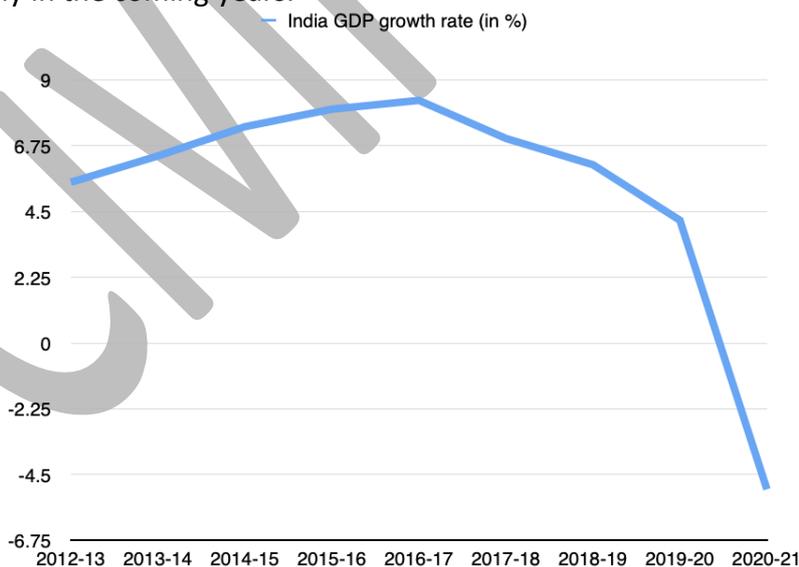
- b. Columnist Mehdi Hasan writes in The Washington Post: “The list of conservative “cancel culture” targets stretches back decades, long before the dawn of the Internet. In 1966, right-wing Christians tried to cancel John Lennon, after he claimed the Beatles were “more popular” than Jesus. The British band received death threats in the United States and a Birmingham, Ala., radio station announced a bonfire and invited teens to burn their Beatles records.”
- c. One of the characteristics of cancel culture is also the tendency to ‘pile on’, where social media users engage in mass behaviour by specifically targeting the individual who is being publicly called out. Last month during a speech that he made at Mt. Rushmore, US President Donald Trump appeared to call out “cancel culture”, perhaps because he himself has been a target so often, particularly since he first announced his presidential campaign. It is “the very definition of totalitarianism,” and “completely alien to our culture and our values” with “absolutely no place in the United States of America”, Trump had said.
- d. Following Trump’s speech, White House press secretary Kayleigh McEnany doubled down on Trump’s stance saying: “President Trump stands against ... cancel culture, which seeks to erase our history.”
- e. The usage of the term ‘cancel culture’ has become so ubiquitous that it is seemingly found everywhere, from everyday conversation to larger socio-cultural contexts: “cancel XYZ brand”, “today’s weather is cancelled”, “Actor XYZ is cancelled”, “Trump is cancelled”.

7. Does cancel culture actually work?

- a. The debates surrounding cancel culture have also led to discussions on whether ‘cancelling’ someone or something has any long-term impact. In a broader sense, cancel culture is a form of collective punishment meted out to public figures and these days, more increasingly private individuals, who have suddenly found themselves in the public gaze due to words and actions of their own.
- b. Cancel culture is also about enforcing some degree of accountability on an individual, although there have been arguments whether it is justified or not, particularly from a legal perspective. An example of this would be discussions that followed when reports surfaced of public figures having engaged in inappropriate acts or acts of violence and abuse against women when the #MeToo movement gained traction in 2016.
- c. One of the most visible examples of the application of cancel culture was when Affleck was sued by two women for sexual harassment on the set of the mockumentary ‘I’m Still Here’. The actor had settled both cases out of court, but these reports resurfaced during the 2017 Oscars when he was nominated and subsequently won the award for ‘Best Actor’ for ‘Manchester By the Sea’. At that time, social media users had tried to ‘cancel’ Affleck, to hold him accountable for both incidents and public opinion was strongly against the actor being lauded and recognised by the Academy Awards.
- d. Vox points to the example of American actor Kevin Hart who didn’t appear to face any real accountability for his homophobic tweets and the purported jokes the actor had made in the past. When these reports surfaced, Hart was forced to step down as host of the 2019 Academy Awards. Critics pointed to how Hart neither genuinely apologised for his conduct and nor was he impacted financially or career-wise for these tweets and jokes.
- e. During the 2016 elections, when reports surfaced of Trump speaking about women in an offensive and degrading manner, not only did it not significantly impact his business interests, but he went on to occupy the highest public office in the United States.

TOPIC 18. MONETARY POLICY COMMITTEE

1. Alice Rivlin, an American economist who served as the Vice-Chair of the Federal Reserve (the US central bank), is credited with saying that “The job of the Central Bank is to worry”.
2. Chances are that if you asked the members of India’s first-ever **Monetary Policy Committee (MPC)**, which ended its term on August 6, they might wholeheartedly agree with Rivlin’s observation.
3. Just look at the four-year-long tenure of the first MPC — it is more packed with nerve-racking twists and turns than your favourite thriller.
4. If you don’t recall, let me recap.
5. Urjit Patel took charge of India’s central bank, the Reserve Bank of India, in September 2016. Patel’s predecessor was the Chicago Booth School economist Raghuram Rajan who ended his initial three-year tenure on a rather acrimonious note.
6. It was no secret that **Rajan’s repeated comments**, especially on matters unrelated to monetary policy, were seen as direct criticism by the political masters. There was also the growing frustration in the government, especially in the Finance Ministry that was led by Arun Jaitley at that time, about the RBI not bringing down the interest rates in the economy. The government’s view was that higher-than-merited interest rates were holding back India’s economic growth.
7. In many ways, the inception of MPC itself was to make decision making of the RBI more broad-based. Thus, instead of the RBI, led by the Governor, single-handedly deciding on the benchmark repo-rate (the rate at which the RBI lends money to the banks), it was decided that an MPC will be constituted which will have three members of the RBI and three members nominated by the government.
8. The first monetary policy review meeting of MPC took place in October 2016 and immediately, under leadership of a new Governor (Patel), MPC delivered a cut in the repo rate by a unanimous decision.
9. Many observers thought this signalled a phase where the government and the RBI would be more in sync and consequently a quiet phase would follow.
10. But the MPC and the RBI had no such luck. Just a month after MPC’s first meeting, Prime Minister Narendra Modi, on November 8, 2016, announced the demonetisation of 86% of all currency in a bid to curb black money in the economy.
11. That one decision set off a chain of events that saw India losing its growth momentum (See Chart Below) progressively in the coming years.



India’s economic growth was fast losing steam during 2017 and 2018

12. From the monetary policy perspective, demonetisation created such uncertainty that the MPC avoided cutting interest rates for the next 10 months. What further exacerbated their worries was the roll-out of the Seventh Pay Commission award (which increased fiscal constraints and pushed up inflation) and the inept implementation of the Goods and Services Tax (GST) regime. But thanks to the uncertainty, the MPC could not cut rates even though the economy started losing momentum.

13. By August 2017, the MPC felt there was an “urgent need to reinvigorate private investment” in the economy, and consequently cut the repo rate.
14. But this cut was the last one for a long while. Even though in the months since, the economy was buffeted by the growing challenges of GST’s implementation.
15. In the October 2017 policy, the MPC stated: “The implementation of the GST so far also appears to have had an adverse impact, rendering prospects for the manufacturing sector uncertain in the short term. This may further delay the revival of investment activity, which is already hampered by stressed balance sheets of banks and corporates”.
16. Again in April 2018, MPC stated: “(GST) implementation had an adverse, even if transient, effect on urban consumption through loss of output and employment in labour-intensive unorganized sector”.
17. As can be seen from the chart above, India’s economic growth was fast losing steam during 2017 and 2018 but the MPC found itself unable to cut interest rates because there were growing fiscal pressures in the form of a flurry of farm loan waivers (PM Modi’s electoral promise in the run-up to the Assembly elections in Uttar Pradesh in early 2017 provided a huge fillip to this fading trend) as well as hardening crude oil prices. In fact, in June 2018, the MPC had to raise the repo rate as the Indian basket of crude oil rose by 12 per cent within a couple of months.
18. Two other issues were at play, albeit behind the scenes, that proved significant for the MPC.
19. One was the now-famous February 2018 circular on the Insolvency and Bankruptcy Code (IBC) by the RBI that became a massive flashpoint between Patel and the government. The other was the issue of RBI reserves and the government’s demand for a much bigger dividend from the RBI — essentially to bridge the ever-expanding fiscal deficit.
20. Eventually, these two issues led to the unceremonious exit of Governor Patel, who decided to move on before the end of his term.
21. Patel’s position was filled by the incumbent — Shaktikanta Das — who had earlier served as the Revenue Secretary and the Economic Affairs Secretary, and for those reasons was seen as someone who would finally be able to bring the MPC and RBI’s decision making in sync with the government’s.
22. Not surprisingly, under Governor Das, the MPC has repeatedly cut the repo rate. In fact, between February 2019 and May 2020, the MPC has cut the repo rate by 250 basis points (or 2.5 percentage points). But again, as the plummeting growth rate in the chart above shows, this has possibly been the most worrying period for the MPC.
23. The first-ever MPC appears to have reached a rather humbling end.
24. For a body that was supposed to solely target retail inflation and keep it at 4% (+/– 2%), the MPC saw retail inflation staying above the 6% mark on all months since December last year (barring March 2020 when it was lower by a whisker).
25. What is worse, the MPC has no clear understanding of how inflation will pan out. It is not clear whether Covid-19 disruption will be inflationary, disinflationary or, even deflationary.
26. On the growth front, the picture is even worse. India is staring at a historic contraction of GDP.
27. Almost all other factors one can consider are also in very bad shape — and not just because of Covid alone.
28. For instance, monetary transmission continues to struggle. As I mentioned in **the last Explained Speaking**, the gap between the repo rate and the lending rate on the street is at a historic high.
29. **Bank NPAs have been rising** and are likely to rise further. There is growing concern about the trust in the banking system as well.
30. But perhaps the worst bit about the first MPC’s end is that it has left many wondering about the very efficacy of monetary policy.
31. If repeated repo rate cuts by the MPC cannot spur economic activity then what is the point of such cuts? Indeed, observers are justified in asking if monetary policy can be of much use when a country’s fiscal policy is massively over-extended.
32. Those are sobering questions as we look forward to new MPC members. Let’s hope future MPCs live in less interesting times.

TOPIC 19. BIS STANDARD FOR DRINKING WATER SUPPLY



1. Bureau of Indian Standards (BIS) has prepared a draft standard for supply system of piped drinking water and has invited comments from water utilities, including the Delhi Jal Board (DJB), on it.
2. Labelled '**Drinking water supply quality management system — requirements for piped drinking water supply service**', draft has been prepared by the BIS' Public Drinking Water Supply Services Sectional Committee. It outlines the process of water supply, from raw water sources to household taps, and has been developed keeping in view the Centre's Jal Jeevan Mission for providing safe and adequate drinking water to all rural households by 2024 through tap connections.
3. The standard holds importance as it is expected to make the process of piped water supply more uniform, especially in rural and underdeveloped areas of the country where the system runs on various government orders and circulars.

At present the standard is not expected to be made mandatory, BIS officials said. After the draft is notified, states or water utilities planning to implement the standard can approach BIS for a license.

4. What does the draft say?

- a. The draft outlines the requirements for a water supplier or a water utility on how they should establish, operate, maintain and improve their piped drinking water supply service.
- b. The process begins with identification of a water source, which can either be groundwater or surface water sources such as rivers, streams or reservoirs.
- c. It doesn't mention how water utilities should treat the water, but states that the process should be planned in such a manner that after treatment the drinking water should conform to the Indian Standard (IS) 10500 developed by the BIS.
- d. The IS 10500 outlines the acceptable limit of various substances in drinking water, including heavy metals such as arsenic, and other parameters like the pH value of water, its turbidity, the total dissolved solids in it, and the colour and odour.
- e. The draft standard also contains guidelines for top management of the water utility, in terms of accountability and customer focus, establishing a quality policy for their service, monitoring the quality of water released to people, and conducting a water audit.

5. What is the water supply process?

- a. The supply system as outlined in the draft should begin with the identification of a raw water source. Water should then be pumped into the treatment plant and treated to achieve the acceptable drinking standards.

- b. After water is released from plant, there should be reservoirs in distribution system for storage of this water, and disinfection facilities to get rid of contamination at any stage of distribution.
- c. "Pumping stations or boosters, if necessary, should be provided to maintain adequate pressure throughout the distribution system. Valves and meters and other appurtenances shall be installed throughout the distribution system as control devices and for water audit. Emphasis should be given to operate the systems on automation mode," the draft reads.
- d. The document also states that concept of district metering area (DMA) should be adopted where possible. DMA is a concept for controlling leakages in water network, which is essentially divided into a number of sectors, called DMAs, and where flow meters are installed to detect leaks.
- e. "The water supplier/utility may provide bulk water meters in the water distribution system to ensure water audit, however the provisions should be made for domestic meters also. The water supplier/utility shall ensure that the consumers do not have direct access to the meters to avoid possible tampering of the meters. Provision should also be made to have automatic meters at household level which shall support in water audit," the document reads.
- f. The draft also mentions that water should be sampled at treatment plant every four hours against quality parameters. In distribution system, the sampling should be done every eight hours at the water reservoirs. Random sampling should also be done at household levels.

6. What's there in the draft in addition to the water supply process?

- a. There are guidelines on water audit, which is a calculation of the amount of water put into distribution against the amount that is consumed. The draft states that a water audit should be conducted on a quarterly basis.
- b. "Effort should be made by the water agency to bring down the water loss up to 15% of the total water supplied in the system," the document reads. The water utilities are also required to conduct surveys among consumers and obtain feedback on their service as per the draft.
- c. Guidelines on internal audit, management review, documenting performance indicators for improvement, and timely action against non-conformity issues also find mention.

Table 15.3 Standard characteristics of drinking water

S.No	Characteristics	Desirable limit
I	Physico-chemical Characteristics	
i)	pH	6.5 to 8.5
ii)	Total Dissolved Solids (TDS)	500 ppm
iii)	Total Hardness (as CaCO ₃)	300 ppm
iv)	Nitrate	45 ppm
v)	Chloride	250 ppm
vi)	Sulphate	200 ppm
vii)	Fluoride	1 ppm
II	Biological Characteristics	
i)	Escherichia Coli (E.Coli)	Not at all
ii)	Coliforms	Not to exceed 10 (In 100 ml water sample)

TOPIC 20. WILDFIRES

1. Again, California is aflame.
2. More than 400,000 acres have been burned in Northern and Central California, with many of the fires set off by nearly 11,000 lightning strikes. High temperatures and strong winds have made the situation even worse.
3. Evacuation orders in Santa Cruz County covered 48,000 people, including the campus of the University of California, Santa Cruz, and those being evacuated must weigh the risks of seeking refuge in evacuation shelters in the midst of the coronavirus pandemic. People living far beyond the burn zone are struggling with the smoke, and beloved sites like Big Basin Redwoods State Park have been badly damaged.
4. What is it about California that makes wildfires so catastrophic? There are four key ingredients.

5. The (Changing) Climate

- a. The first is California's climate.
- b. "Fire, in some ways, is a very simple thing," said Park Williams, a bioclimatologist at Columbia University's Lamont-Doherty Earth Observatory. "As long as stuff is dry enough and there's a spark, then that stuff will burn."
- c. California, like much of the West, gets most of its moisture in the fall and winter. Its vegetation then spends much of the summer slowly drying out because of a lack of rainfall and warmer temperatures. That vegetation then serves as kindling for fires.
- d. But while California's climate has always been fire-prone, the link between climate change and bigger fires is inextricable. "Behind the scenes of all of this, you've got temperatures that are about 2 to 3 degrees Fahrenheit warmer now than they would've been without global warming," Williams said. That dries out vegetation even more, making it more likely to burn.
- e. California's fire record dates back to 1932; the 10 largest fires since then have occurred since 2000, including the 2018 Mendocino Complex Fire, the largest in state history, and this year's LNU Lightning Complex, which is burning west of Sacramento.
- f. "In pretty much every single way, a perfect recipe for fire is just kind of written in California," Williams said. "Nature creates the perfect conditions for fire, as long as people are there to start the fires. But then climate change, in a few different ways, seems to also load the dice toward more fire in the future."



6. People

- a. Even if the conditions are right for a wildfire, you still need something or someone to ignite it. Sometimes the trigger is nature, like a lightning strike, but more often than not humans are responsible.
- b. "Many of these large fires that you're seeing in Southern California and impacting the areas where people are living are human-caused," said Nina Oakley, an assistant research professor of atmospheric science at the Desert Research Institute.
- c. Many deadly fires have been started by downed power lines. The 2018 Carr Fire, the state's sixth-largest on record, started when a truck blew out its tire and its rim scraped the pavement, sending out sparks.

- d. "California has a lot of people and a really long dry season," Williams said. "People are always creating possible sparks, and as the dry season wears on and stuff is drying out more and more, the chance that a spark comes off a person at the wrong time just goes up. And that's putting aside arson."
- e. There's another way people have contributed to wildfires: in their choices of where to live. People are increasingly moving into areas near forests, known as the urban-wildland interface, that are inclined to burn.
- f. "In Nevada, we have many, many large fires, but typically they're burning open spaces," Oakley said. "They're not burning through neighborhoods."

7. Fire Suppression

- a. It's counterintuitive, but the U.S.' history of suppressing wildfires has actually made present-day wildfires worse.
- b. "For the last century we fought fire, and we did pretty well at it across all of the Western United States," Williams said. "And every time we fought a fire successfully, that means that a bunch of stuff that would have burned didn't burn. And so over the last hundred years we've had an accumulation of plants in a lot of areas."
- c. "And so in a lot of California now when fires start, those fires are burning through places that have a lot more plants to burn than they would have if we had been allowing fires to burn for the last hundred years."
- d. In recent years, the U.S. Forest Service has been trying to rectify the previous practice through the use of prescribed, or "controlled," burns.

8. The Santa Ana Winds

- a. The second stage of this year's fire season is yet to come.
- b. Each fall, strong gusts known as the Santa Ana winds bring dry air from the Great Basin area of the West into Southern California, said Fengpeng Sun, an assistant professor in the department of geosciences at the University of Missouri-Kansas City.
- c. Sun is a co-author of a 2015 study that suggests that California has two distinct fire seasons. One, which runs from June through September and is driven by a combination of warmer and drier weather, is the Western fire season that most people think of. Those wildfires tend to be more inland, in higher-elevation forests.
- d. But Sun and his co-authors also identified a second fire season that runs from October through April and is driven by the Santa Ana winds. Those fires tend to spread three times faster and burn closer to urban areas, and they were responsible for 80% of the economic losses over two decades beginning in 1990.
- e. It's not just that the Santa Ana winds dry out vegetation; they also move embers around, spreading fires.
- f. Which brings us back to climate change.
- g. Ultimately, determining the links between any individual fire and climate change takes time and analysis from the evolving discipline of attribution science. But the effects of the greenhouse gases humans produce underlie everything that occurs in the atmosphere, and the tendency of climate change to make dry places drier over time is a warning to the West of a fiery future.

TOPIC 21. PAKISTAN AND SAUDI ARABIA

1. The rift between Pakistan and Saudi Arabia over Jammu and Kashmir is out in the open. A delegation led by Pakistan Army chief Gen Qamar Javed Bajwa visited Saudi Arabia, but **were denied a meeting** with Crown Prince Mohammed bin Salman (MBS). Now, Pakistan's Foreign Minister Shah Mahmood Qureshi has met Chinese Foreign Minister Wang Yi to secure support.

2. Saudi-Pakistan ties

- a. The relationship between Saudi Arabia and Pakistan was most prominent during the 1971 war between India and Pakistan. According to reports of that time, Saudi Arabia had denounced the Indian action as "treacherous and contrary to all international covenants and human values" and found no justification for the Indian aggression except "India's desire to dismember Pakistan and tarnish its Islamic creed".
- b. Saudi Arabia is also reported to have transferred arms and equipment including loan of some 75 aircraft to Pakistan. After the war, Saudi Arabia consistently supported the call for the return of Pakistan's prisoners of war and for dropping the Dacca (Dhaka) Trial against 195 of them.
- c. After war, Saudi Arabia gave loans to Pakistan enabling it to buy arms worth about \$1 million by 1977, including F-16s and Harpoon missiles from US. Saudi oil and dollars have kept Pakistan's economy on its feet after sanctions following nuclear tests. Over last two decades, Saudi Arabia has provided oil on deferred payments to Pakistan whenever it ran into economic difficulty.
- d. Saudi funding of madrasas have also led to their mushrooming, later giving rise to religious extremism.
- e. In 1990, Pakistan sent its ground forces to defend Saudi Arabia against Iraq's invasion of Kuwait.



3. Alignment over Kashmir

- a. The alignment over Kashmir at the Organisation of Islamic Conference (OIC) crystallised since 1990, when insurgency in Jammu and Kashmir began. While the OIC has issued statements over the last three decades, it became a ritual of little significance to India.
- b. Last year, after India revoked Article 370 in Kashmir, Pakistan lobbied with the OIC for its condemnation of India's move. To Pakistan's surprise, Saudi Arabia and the UAE issued statements that were nuanced rather than harshly critical of New Delhi.
- c. Over the last one year, Pakistan has tried to rouse the sentiments among the Islamic countries, but only a handful of them — Turkey and Malaysia — publicly criticised India.
- d. The Saudi perspective
- e. Saudi Arabia's change in position has been a gradual process under Crown Prince MBS. As it seeks to diversify from its heavily oil-dependent economy, it sees India as a valuable partner in the region.
- f. New Delhi, for its part, has wooed the Arab world over the last six years. From Saudi Arabia to the UAE, it worked the diplomatic levers through high-level visits and dangled opportunities for investment and business
- g. MBS, who is looking to invest in India, has taken a realistic view, along with UAE's crown prince Mohammed bin Zayed. Saudi Arabia is India's fourth largest trade partner (after China, US and Japan) and a major source of energy: India imports around 18% of its crude oil requirement from the Kingdom. Saudi Arabia is also a major source of LPG for India.

- h. And, with India stopping oil imports from Iran due to threat of US sanctions, Saudi Arabia is key in this respect as well.

4. Saudi-Pakistan tension

- a. The tension between Saudi Arabia and Pakistan has been brewing for some time. In 2015, Pakistan's Parliament decided not to support the Saudi military effort to restore an internationally recognised government in Yemen.
- b. Later, Pakistan's then Army chief General Raheel Sharif led the Saudi-led Islamic Military Alliance to Fight Terrorism, comprising 41 Muslim countries.
- c. In February 2019, after the Pulwama terror attack, it was Saudi Arabia and the UAE that pulled their weight to get Wing Commander Abhinandan released, apart from the US.
- d. The Saudi Crown Prince visited Pakistan and India at that time, and made it clear that he valued economic opportunities. He did not wade into the Kashmir issue in India, or the terrorism issue in Pakistan.
- e. A year after Article 370 was revoked, Qureshi belled the cat. His accusation that Saudi Arabia has failed to deliver on the Kashmir cause was an indication of Islamabad — and Rawalpindi's — frustration that OIC had not played a leadership role in backing Pakistan against India.
- f. This angered Saudi Arabia, which in November 2018 had announced a \$6.2 billion loan package for Pakistan. The package included of \$3 billion in loans and an oil credit facility amounting to \$3.2 billion. Riyadh demanded the return of the \$3 billion loan and refused to sell oil to Islamabad on deferred payment. Pakistan immediately returned \$1 billion, displaying the rift.
- g. But, in the current economic situation, Pakistan is unable to pay the next tranche. Gen Bajwa went to Riyadh in a patch-up exercise, but MBS refused to meet him.
- h. What has also angered Saudi Arabia is that Pakistan has been trying to pander to Turkey and Malaysia. Turkey's President Recep Tayyip Erdogan is seen as trying to position himself as the new leader of Muslim world, challenging Saudi Arabia's long-held position.

5. The China factor

- a. Pakistan and China have called themselves "all-weather allies" and "iron brothers". Over the last one year, Beijing has supported Pakistan on Kashmir, raising the issue at the UN Security Council thrice.
- b. China has also emerged as Pakistan's biggest benefactor through its funding of the China-Pakistan Economic Corridor. Originally valued at \$46 billion, China's commitment to Pakistan now stands at \$62 billion.
- c. Saudi Arabia too has invested in CPEC projects, to the tune of \$10 billion, but Pakistan now looks towards Beijing for both diplomatic and economic support.
- d. Qureshi's visit to China needs to be seen in this context. Ostensibly, he has gone for strategic dialogue with the Chinese Foreign Minister in south China's Hainan province. He called his visit a "very important trip", and Pakistan's Foreign Ministry said it will "play an important role in further strengthening Pakistan-China All-Weather Strategic Cooperative Partnership".

6. Implications for India

- a. India, which is closely watching the developments between Pakistan and Saudi Arabia, has not said anything publicly. But, Saudi's silence on J&K as well as CAA-NRC has emboldened the Indian government.
- b. Both New Delhi and Riyadh see value in their relationship. At a time when India and China are locked in a border standoff, India would be wary of Pakistan and China teaming up. But with Saudi Arabia in its corner for now, it may have a leverage over Pakistan — Riyadh would not want a conflict and regional instability.
- c. What is key to India's calculus is that the Pakistan-China and the Pakistan-Saudi axes are not fused together at the moment: It is not a Saudi-Pakistan-China triangle. How New Delhi leverages that may decide the future of the region.

TOPIC 22. FOOD WASTAGE

1. China's President Xi Jinping last week called on his country's citizens to drastically cut down on food waste in a new initiative called the 'Clean Plates Campaign'. The push came as the Covid-19 pandemic, devastating floods and worsening relations with major international partners have raised fears about food shortage in the world's most populous country.
2. Restaurants, catering associations and even the military have swiftly responded to the President's appeal by introducing new measures.
3. **The campaign**
 - a. Xi announced the campaign, promising to strengthen legislation and other mechanisms in support, calling the problem of food waste in the country "shocking and distressing". Studies in recent years show that China produces around 17-18 million tonnes of food waste annually. Just as a matter of comparison, the United States, the global leader in food waste, throws away approximately 40 million tonnes of food a year.
 - b. Following Xi's announcement, the State-run media ran "exposes" on restaurant customers ordering more than they could eat, as well as named and shamed a growing number of shows on China's popular social media platforms with people live-streaming themselves eating large quantities and varieties of food, saying this was promoting a culture of extravagance.
 - c. The compliance has been swift. A few streaming platforms pledged to crack down on such content, while the Wuhan Catering Industry Association urged restaurants in the city to devise an "N-1" system — the number of dishes served to a group of customers in a restaurant must be at least one less than the number of people in the group. Several restaurants around the country announced their own measures in support of the campaign, including the introduction of "waste prevention supervisors" —staff members who would help customers order just enough food to ensure there's no wasting.
 - d. On Thursday, the PLA Daily, the mouthpiece of China's People's Liberation Army, reported that the military was introducing new high-tech, high-efficiency equipment and processes — including robot cooks — to streamline cooking and cut down on wastage of food and other resources.
4. **The backlash**
 - a. Apart from the N-1 system that has generated some criticism, one restaurant in Changsha city had to apologise and backtrack following a torrent of online abuse for its decision to weigh customers before serving them. It said the weight data would be fed into an app which would then recommend the amount of food a customer should be served.
 - b. China has bad memories of food regulation. Between 1958 and 1962, during his 'Great Leap Forward', Chairman Mao had dictated strict rules regarding what farmers could sow, and imposed food rationing. Millions of people are estimated to have starved to death.
5. **The timing**
 - a. According to China's National Bureau of Statistics, food prices in the country are 10% higher this July compared to last year. The disruption caused by the coronavirus pandemic in international trade has had a severe impact on China's economy and cut off many of the supply chains through which it procured various kinds of food items.
 - b. China's worsening relations with countries in its own neighbourhood, and also with the US and Australia — two major sources of food imports — have added to food security concerns. To make matters worse, the recent floods across large swathes of southern China have laid to waste farms and destroyed tonnes of produce. Parts of the country have also had to deal with locust swarms destroying crops.
 - c. The State media, however, has dismissed suggestions that China is facing a crisis of food shortage.
6. **The History**
 - a. In 2013, soon after Xi became President, the Chinese government had announced a similarly named "Clean your plates" campaign to reduce food waste. However, that campaign was focused more on ensuring that government officials followed austerity and cut down on extravagant feasts and receptions. According to China's Commerce Ministry, these measures had resulted in a fall of sales of luxury food items by almost half in 2013 compared to the previous year.

TOPIC 23. IRAN

1. US President Donald Trump's administration on Thursday triggered a process aimed at restoring all UN sanctions on Iran after the UN Security Council rejected a US bid to extend a conventional arms embargo on the country. Here is a look at the events leading to this showdown and an explanation of what could happen next.
2. **Why is the arms embargo on Iran expiring?**
 - a. Security Council imposed an arms embargo on Iran in 2007. The embargo is due to expire in mid-October, as agreed to under 2015 nuclear deal among Iran, Russia, China, Germany, Britain, France and United States that seeks to prevent Tehran from developing nuclear weapons in return for economic sanctions relief. That accord is enshrined in a 2015 Security Council resolution.
 - b. In 2018, US President Donald Trump quit the accord reached under his predecessor Barack Obama, calling it "worst deal ever." The United States failed on Friday in a bid to extend Iran embargo at Security Council.
3. **What does this mean for the 2015 nuclear deal?**
 - a. The remaining parties to nuclear deal have said they are committed to maintaining 2015 agreement. Iran's Foreign Minister Mohammad Javad Zarif has described next few weeks and months as critical.
4. **What sanctions would snap back?**
 - a. A snapback of UN sanctions would require Iran to suspend all nuclear enrichment-related and reprocessing activities, including research and development, and ban imports of anything that could contribute to those activities or to the development of nuclear weapon delivery systems.
 - b. It would reimpose the arms embargo, ban Iran from developing ballistic missiles capable of delivering nuclear weapons and bring back targeted sanctions on dozens of individuals and entities. Countries also would be urged to inspect shipments to and from Iran and authorized to seize any banned cargo.
5. **How does the US trigger a sanctions snapback?**
 - a. The United States submitted a complaint about Iran breaching the nuclear deal to the Security Council on Thursday. If a Security Council resolution extending sanctions relief on Iran is not adopted within the next 30 days, then UN sanctions are supposed to be reimposed. A vote on such a resolution would allow the United States to cast a veto and give it a cleaner argument that the snapback has been executed.
 - b. "We're confident that a resolution will be introduced," US Secretary of State Mike Pompeo told reporters on Thursday, though he would not say by whom.
 - c. Under the 2015 UN resolution enshrining the nuclear deal, if such a resolution is not put forward within 10 days then the council president – Indonesia for August or Niger for September – would put a text forward before the 30 day deadline.
 - d. However, there is a caveat that the president will "take into account the views of the states involved" and diplomats say that given most council members oppose the US move Indonesia and Niger would not have to put a draft resolution to a vote. The United States could try and put forward the resolution itself and then veto its own text, but diplomats say this would likely spark messy procedural battles in the Security Council. If no resolution is put forward, the United States would simply assert in 30 days time that UN sanctions be reimposed.
6. **How might a Biden administration handle Iran?**
 - a. Three senior Iranian officials told Reuters this week Iran's leadership is determined to remain committed to the nuclear deal, hoping that a victory by Trump's political rival Joe Biden in the November 3 presidential election will salvage the pact.
 - b. Biden, who was vice president when the Obama administration negotiated the nuclear accord, said he would rejoin the deal if Iran first resumed compliance.
 - c. "If Iran returns to strict compliance with the nuclear deal, the United States would rejoin the agreement and build on it, while working with allies to push back on Iran's destabilizing actions," Biden campaign spokesman Andrew Bates told Reuters on Thursday.

TOPIC 24. ONLINE PHARMACY MARKET

1. In just last one week, India's online pharmacy market saw two significant merger and acquisition deals Reliance Retail picking up majority stake in Chennai-based e-pharmacy Netmeds, and PharmEasy moving to merge with smaller rival Medlife.
2. And launch of e-commerce giant Amazon's online drug delivery services. This has suddenly caused activity in a sector from which large investors have shied away due to lack of proper regulations.
3. **Is the activity in the online pharma space a result of Covid-19?**
 - a. While Covid-19 and the subsequent behavioral shift towards e-commerce may have catalyzed growth for online pharmacies, sector was already poised to grow seven-fold by 2023 to \$2.7 billion. This was mainly on account of challenges faced by physical pharmacies that gave their online counterparts a problem to solve.
 - b. Experts believe that e-pharmacies will be able to solve problems that traditional pharmacies couldn't.
 - c. But for this, they need to have a large-scale presence that calls for either huge investments or consolidation.
4. **How is the pharmacy market in India currently shaped?**
 - a. Unlike the US, where the top three pharmaceutical distributors have a 90 per cent share in the market, India's is a fragmented market with over 8 lakh pharmacies — this gives online pharmacies an opportunity to capture their space without opposing large traditional retailers.
 - b. Currently, companies in the Indian e-pharmacy space mainly operate three business models — marketplace, inventory-led hybrid (offline/online) and franchise-led hybrid (offline/online) — depending on the way the supply chain is structured. In addition to companies like Netmeds, Medlife and PharmEasy, other players in the segment include online healthcare startups such as 1mg, Practo, Myra as well as traditional chemists such as Apollo Pharmacy.
5. **What are the rules governing the pharmacy sector?**
 - a. The government had floated draft regulations for e-pharmacies but these guidelines never saw light of day. While the lack of proper rules governing the online pharmacy space has kept large investments at bay, it has allowed the existing players in the market to grow and overcome the challenges faced by traditional retailers, which account for almost 85% of the country's total pharmaceutical sales.
 - b. For pharmacies overall, India's drug regulations require retailers to get a licence to dispense medicines from the state in which they are being sold. This may have been a factor in Amazon currently restricting its pharmacy sales to Bengaluru for the time being.
6. **What do the draft e-pharmacy regulations propose?**
 - a. Considering that e-pharmacies currently are not regulated, their operations are constantly met with opposition from brick and mortar chemists. In the absence of clear regulations, online pharmacies currently operate as marketplaces and cater to patients as a platform for ordering medicines from sellers that adhere to the Drugs and Cosmetics Act and Rules of India. Other regulations, like the Information Technology Act and the Narcotic Drugs and Psychotropic Substances Act, also apply.
 - b. Work on regulations specifically for e-pharmacies have been in progress for several years now. Draft rules for e-pharmacies sought to define the online sale of medicines, what an e-prescription means and what type of licences online firms would need to get from regulators to operate. The draft had proposed to allow e-pharmacies to get a central licence to operate from the country's apex drug regulator, which could be used to allow it to operate across the country.
 - c. It also proposed to define e-pharmacies in a way that would allow them to distribute, sell and stock medicines. The proposed regulations prevent them from selling habit-forming drugs like cough syrups specified in Schedule X of the Indian drug regulations.
7. **What is the status of the regulation?**
 - a. Regulations for online pharmacy players have been in the works since 2016 but are yet to come out. The last attempt to clear these regulations saw the draft rules being pushed through two expert committees under the Central Drugs Standard Control Organisation—India's apex drug regulatory body—in June 2019. That iteration of the proposed regulations suggested the inclusion of provisions for uploading e-prescriptions.
 - b. However, a few months later, the regulations ended up with a high-level group of ministers said to include home minister Amit Shah, defence minister Rajnath Singh, health minister Dr Harsh Vardhan and chemicals and fertilisers minister DV Sadananda Gowda.

TOPIC 25. ZEBRA STRIPES

1. Why does a zebra have stripes? It is a question that has intrigued generations of scientists, including Charles Darwin, and they have proposed a number of possible answers over the years.
2. Research into the subject continues, with the latest study published on Wednesday in the journal 'Proceedings of the Royal Society B'. While this study looks extensively into one possible reason why a zebra has stripes — that these help confuse blood-sucking parasites — let us begin by looking at all the major ideas proposed over the years.
3. **So, what are these ideas?**
 - a. **CAMOUFLAGE:** One idea is that the stripes provide the zebra with camouflage from predators by creating a kind of optical illusion. The stripes on a zebra, the hypothesis goes, blends with the lines of the tall grass around it. This might not work for a human observer, for the black and white stripes would stand out against the coloured grass. But the zebra's main predator, the lion, is colour-blind: Proponents of the camouflage hypothesis note that a lion would not be able to differentiate between zebra stripes and lines of grass. And yet, this theory has also been contested. In 2016, researchers published a study that showed that in treeless habitats, lions could see the outline of striped zebras just as easily as they could see similar-sized prey with solid-coloured hides.
 - b. **TEMPERATURE REGULATION:** By this theory, the stripes help a zebra keep cool in the heat. Retired amateur naturalist Alison Cobb, who has studied zebra stripes for more than 40 years, has found that the temperature of the black stripes is considerably warmer than that of the white stripes. In a study published in 2019, she and her zoologist husband Stephen Cobb proposed that these temperature differences cause air flows between the black and white stripes, which could help cool the zebras by speeding up the evaporation of sweat.
 - c. **MUTUAL RECOGNITION:** This is a much simpler idea. It is known that every individual zebra has a unique pattern of stripes, just like every human has a unique set of fingerprints. This hypothesis goes that the unique stripes help individual zebras recognise one another.
 - d. **CONFUSING BLOODSUCKERS:** This is the subject of the latest study. According to this theory, the black and white stripes create an optical illusion for flies and other parasites that would have sucked on the zebra's blood. Essentially, because of the stripes, flies have been seen to miscalculate the moment when and speed at which they should land on the zebra.
4. **Does the new research validate this theory?**
 - a. These researchers did find evidence to back up this theory. But that was in a previous study, published in 2019. Then, they showed experimentally how flies got confused by zebra stripes. In the study published this week, they investigated the mechanism that makes this happen.
5. **So, what did the 2019 study find about confused flies?**
 - a. In the 2019 study, Dr Martin How of the University of Bristol and research colleagues investigated the behaviours of horse-flies around captive zebras and domestic horses, using video analysis techniques. From a distance, horse-flies circled both zebras and domestic horses at the same rate. However, when they approached a zebra, the horse-flies failed to slow down. Slowing down is essential for a successful landing. On horses, successful landings were found to be more frequent. But when approaching zebras, the horse-flies either flew over the stripes, or bumped into them. The takeaway: it is most likely the stripes that are confusing the horse-flies.
6. **And how do zebra stripes confuse the flies?**
 - a. This is what this week's study looked at. Specifically, the researchers looked at a trick of light called the aperture effect. For a human example, consider the "barber-pole illusion".
 - b. Such striped poles are hung outside barbershops in some countries. The cylindrical pole rotates horizontally, around its vertical axis. But because of the way the stripes are aligned, our brains process the movement in a way that it appears the stripes are continuously moving upward.
7. **Is the same kind of illusion at play when a fly approaches a zebra?**

- a. Apparently not. This is what experiments by Dr How and colleagues showed. “The idea is that the stripes induce an optical illusion that confuses the visual system of the fly, convincing them that the striped object is not an object at all, so the fly carries on past without landing,” Dr How told The Indian Express, by email.
- b. The reason the study ruled it out is that flies were confused not only by zebra stripes, but also by rugs in stripe and chequered patterns. “In our experiment, we showed that checked rug patterns were equally effective at repelling biting flies. Checked patterns do not induce the aperture effect, so this illusion cannot be responsible for the anti-biting fly effect of zebra stripes,” Dr How said.

8. Then, what could be the mechanism for zebra stripes confusing flies?

- a. “We still don’t know,” Dr How said. But he proposed two ideas.
- b. One idea is that a different optical illusion could be at play. This is known as temporal aliasing. “A human example of this is the wagon-wheel illusion from cowboy and western films. Spokes on the wheels of the wagon make it look like the wheel is spinning at different speeds due to a mismatch between the spokes over time. Perhaps zebra stripes (and checked patterns) induce this illusion in the eyes of flies,” Dr How said.
- c. “Another possibility is that the stripes and checks break up the object so that it no longer fits a search image that the fly needs to find a host,” he said. “We still don’t know.”

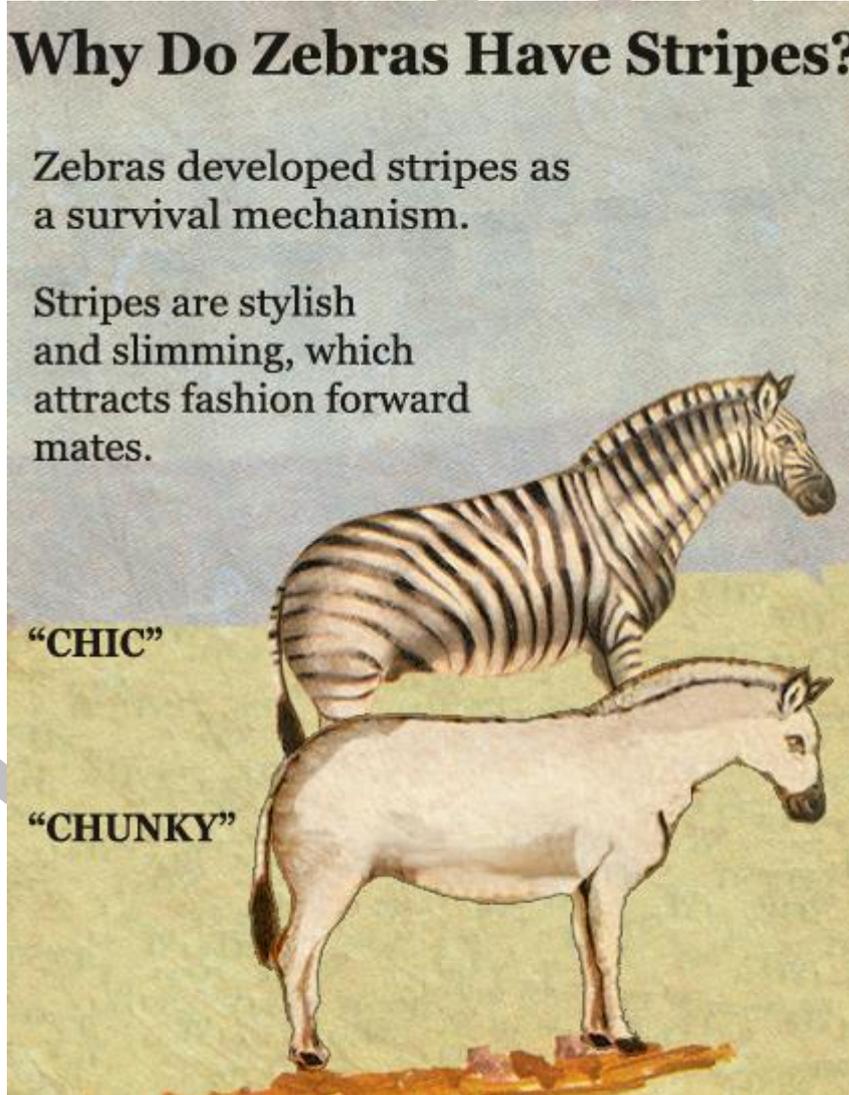
Why Do Zebras Have Stripes?

Zebras developed stripes as a survival mechanism.

Stripes are stylish and slimming, which attracts fashion forward mates.

“CHIC”

“CHUNKY”



TOPIC 26. GROWTH

THE ECONOMY AND THE VIRUS

Chart 1: India's economic collapse had begun well before the pandemic and will plummet further this year

Growth rate (in %)

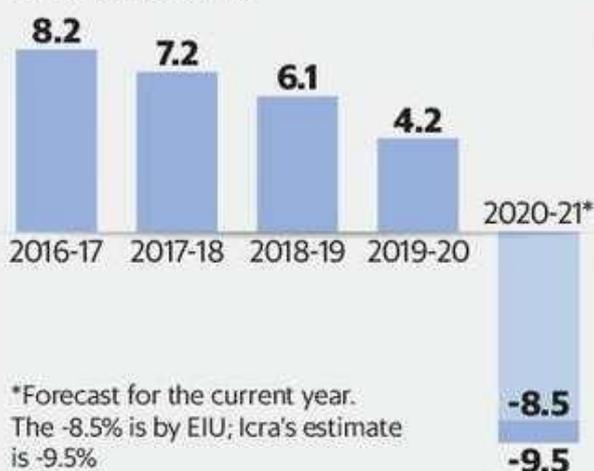


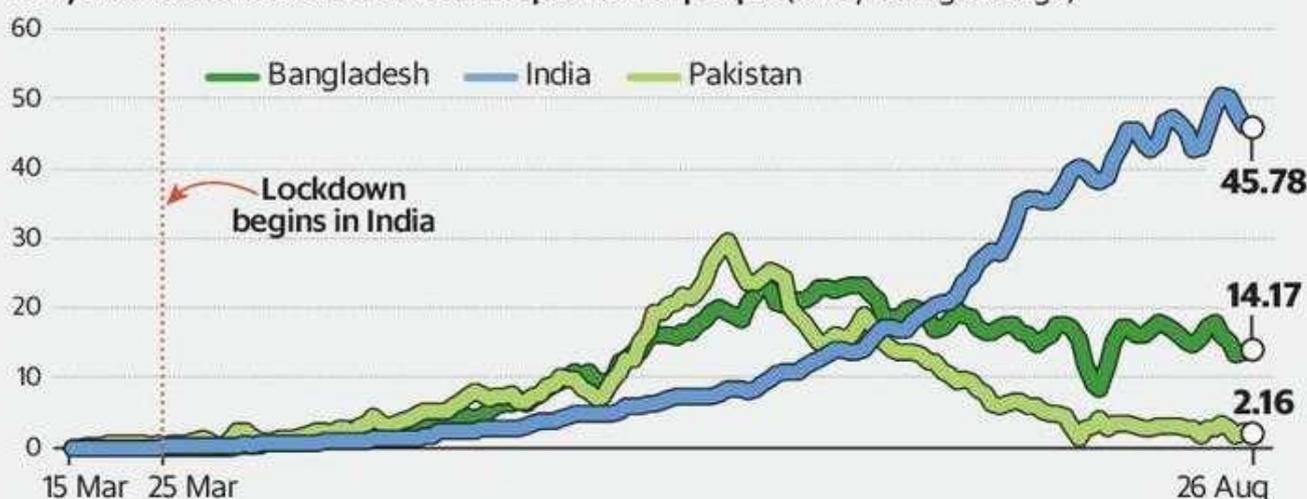
Chart 2: India's covid management must be measured against other Asian countries, where deaths have been far lower

Total deaths per million population#



Chart 3: The disease trajectory of immediate neighbours like Bangladesh and Pakistan shows India's lockdown has largely failed

Daily new confirmed cases of covid-19 per million people (3-day rolling average)



Source: Our World in Data; ICRA; EIU

1. India's economy is in a downward spiral. The *Economist Intelligence Unit* just lowered the forecast for India's growth in the coming year from -5.8% to -8.5%. This is not out of line with what other forecasters are predicting. India's own credit rating agency, *Icria*, predicts a growth of -9.5%. For the first quarter of 2020-21, the State Bank of India is predicting a growth of -16.5%.
2. The low growth in 2020-21 is not in itself surprising. Thanks to covid-19, the whole world is slowing down. But there are two reasons for concern.
3. First, India is not just slowing down, it is dropping rank in all global charts. Consider the 42 major economies in the world for which *The Economist* provides data every week. Till six or seven years ago India was, for several years, among the three or four fastest-growing economies. For 2020, it has dropped to 35th among the 42 nations.
4. Second, while the pandemic has made the situation much worse, the slowdown cannot be put down entirely to covid-19. It began well before that. In fact, from 2016, India's economy has moved as though it was walking

- down one of the many historic stepwells one sees all over India, with each year's growth rate lower than the previous year's (see Chart 1).
5. The number for 2020-21 is partly a forecast but there is now enough data and little doubt that India will break its own record of low growth since 1947, which happened in 1979-80, when India's economy grew -5.2%. So the growth we are expecting in 2020 has no parallels outside of our colonial times.
 6. That said, we need to ask why India has done relatively worse after the pandemic struck in March. After all, in terms of fundamental strengths, India's economy is well-positioned in all the three sectors that could be expected to be the leading drivers of global growth in the post-pandemic world: information technology and outsourcing, health and pharmaceuticals, and higher education and research.
 7. The world will come out of the pandemic much savvier in the use of digital technology. There are currently some anti-globalization sentiments, with some countries raising tariffs and closing boundaries for trade and talent, but this will not last. Nations that adopt closed economy strategies will either learn this does not work, or cease to be nations of significance. As soon as this happens, IT and outsourcing as a sector will grow in leaps and bounds.
 8. Thanks to the lessons of the pandemic and, also, given our growing awareness of climate change, the components of growth are likely to change. I do not think long-run growth will drop but the constituents of growth are likely to change. Instead of buying more luxury cars, yachts and homes, we will buy better health, education, the arts and music. This, in turn, will boost the higher education and research sector.
 9. India is extremely well poised in all these sectors and for that reason, I have been optimistic about India. One would have expected that, despite the country's poor performance since 2016, international investors, especially the ones dislodged from China, would see these long-run strengths and come to India. But over the last few months, these hopes have receded.

Lockdown woes

10. Much of the problem lies with India's disastrous management of the pandemic. When the lockdown was announced on 24 March, a lot of people got hope from this early action. Much has been written about this; one of the most noteworthy is the National Bureau of Economic Research paper by Debraj Ray and S. Subramanian. Within days, it became clear that no supporting policy action and relief measures that such a major, sudden lockdown needs had been readied.
11. While our cities, factories and transport, and therefore the economy, were totally locked down, it was evident that no plan had been made for the tens of millions of migrant workers who were suddenly left with the stark choice of remaining locked down and perishing or trudging hundreds of miles across the nation, just to go home.
12. Leaving aside the lack of empathy and compassion that this policy signalled, it achieved the very opposite of what a lockdown should do. Some 4 or 5% of India's population were literally sent off like sprinklers across the nation. No matter how one cuts and splices the covid-19 data, it is clear that India's 'lockdown-and-scatter' has caused the virus to spread and also hurt global confidence in India, which is fuelling the economic slowdown.
13. The fact that India has become the third-most infected nation in the world, and is expected to overtake Brazil and be second within a month, behind only the United States, is not the big worry. India is the world's second-most populous country and there is no surprise that it will tend to have more absolute numbers of people testing positive for covid-19 and also dying of the virus.
14. It is important to normalize using the population as a base. So, we should look at the data on cases of covid-19 per one million population and number of deaths caused by this virus per one million population. The latter is referred to as the Crude Mortality Rate (CMR) and I personally like to place greater weight on this. In all nations, more so in some, there is a tendency to undercount these numbers. But it is more likely that we will undercount infection (which is often not even reported) than deaths.
15. In analyzing the pandemic across nations, it is important to keep one geographic pattern in mind. Till now, the virus has turned out to be much less serious in Asia and Africa than other parts of the world (see Chart 2). This is a matter for epidemiologists to study. It can be partly due to the age structure—Asia and Africa are much younger, or immunity acquired due to other diseases such as tuberculosis or malaria has been of some help.
16. It is also possible to argue that this is just a temporal difference. Asia and Africa are in the foothills of the peaks that Europe and America have scaled, and Asia and Africa are yet to climb it.
17. Whatever the explanation maybe for these huge continental differences, to compare a nation in Asia or Africa with the United States or some nation in Europe and to take credit for good management of the pandemic and saving lives is disingenuous and misleading. We have to do the comparison within 'covid-homogeneous regions'.

18. Once we do this, it becomes clear that India's performance is very poor, even correcting for population. Over the last few weeks, India has overtaken first Pakistan and now Afghanistan to become the nation with the highest CMR in South Asia. For every million population, there have been 43 coronavirus deaths in India. The number for Afghanistan is 36, Pakistan is 28, Bangladesh 24, Nepal 6, Sri Lanka 0.6.
19. And if we take all the 106 countries in Asia and Africa for which *Worldometer* collates coronavirus data, in terms of CMR, India gets a rank of 85. In other words, only 21 nations are doing worse.
20. Why did this happen? This strain of the coronavirus is new and no one fully understands its character and propensities. But it is now increasingly clear that India's lockdown, which for a segment of the population was the exact opposite, has made the pandemic much worse than it need have been, causing more cases and more deaths.
21. Other numbers corroborate this. The total number of new cases every day has been rising in India since late March with no flattening of the curve. There are not too many countries in the world that have seen this kind of sustained increase for such a long time.
22. The contrast becomes clear just by looking at the graphs of daily new cases (3-day moving average) in three neighbouring countries: India, Bangladesh and Pakistan (*see Chart 3*). At the end of March, all three were roughly similar. After the severe and sudden lockdown in India, for some weeks, the three nations looked similar, with India looking slightly better than Bangladesh and Pakistan. But then, the flattening of the curve that was expected did not happen in the case of India.
23. The lockdown had clearly backfired.
24. Another data point that corroborates this hypothesis is one that shows how the virus has spread disproportionately in rural India after the lockdown. Of the total number of people who had coronavirus in April, 23% were in rural areas. This has now risen to 54%.

Economic virus

25. The lockdown froze a large part of the economy but our poor treatment of workers did exactly the opposite of what a lockdown does. What we are seeing now is the outcome of this lockdown-and-scatter approach. India is seeing one of the worst spreads of the virus. Economic growth has plummeted and unemployment has shot up. What the poor management of the virus, visible all over the world, has done is to shake up investor confidence and trust in our institutions.
26. This added speed to the growth slowdown which was already underway and has taken India further down the stepwell. One of the most important drivers of long-run growth is the investment rate—the share of the national income that is invested in machines, factories, infrastructure, human capital and research. India's investment, or gross capital formation, as a percentage of GDP reached 38.1% in 2008 and was at 39% in 2011. Then, it started falling, slowly initially, and rapidly thereafter, now standing at 30.2%.
27. Investment depends on economic variables, like interest rates and bank lending parameters, but it also depends on social and political factors—like investor confidence and trust in institutions. The rise in divisive politics, heightened religious bigotry and the attendant increase in insecurity has clearly contributed to the economic slowdown.
28. The strong fundamentals that India had—especially in IT, pharma and higher education potential, it still has. We need corrective policies before the opportunity is lost altogether.
29. The damage done by the poor management of the pandemic cannot be fully reversed. But we can bring in professional talent to manage the pandemic and the economy here on, so that investors can see these are in the hands of people with expertise. Beyond this, the main task is political—to heal the wounds of division; for people to feel included and secure, and willing to invest in the future.
30. Starting 73 years ago, India made great progress in building a society that strove to be secular, democratic and have freedom of speech, which is the key for science and ideas to flourish. There were no parallels among the many countries which broke from the colonial yoke and became independent around the middle of the 20th century. India stood out.
31. After making this political investment, India was on an upward stepwell in terms of economic growth, with the growth rate picking up in 1994, again in 2003, and spectacularly from 2005.
32. It will be unfortunate if we choose to retreat now.

TOPIC 27. BORDER AREAS

MINT GRAPHITI

Chart 1
In the last 2 years, India has registered big gains in new roads along the LAC

India-China border roads constructed (km)

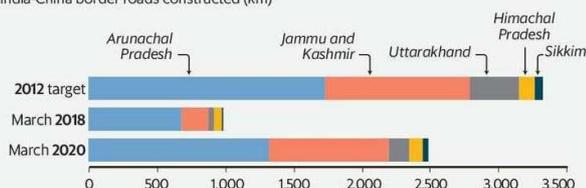


Chart 2
Funding to a central scheme targeting development works in border districts has been on the decline

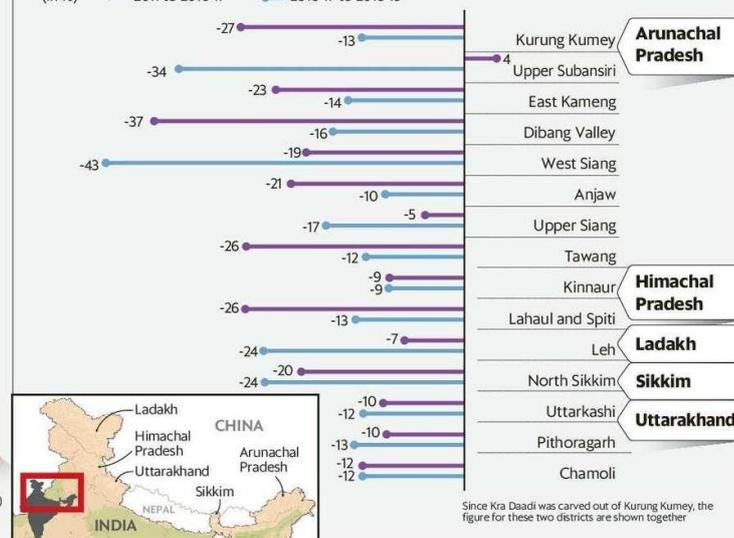
Funds released to Border Area Development Programme (₹ crore)



Source: Reports of Parliament's Standing Committee on Defence, Rajya Sabha answers, ministry of home affairs, Border Area Development Programme, Pradhan Mantri Gram Sadak Yojana dashboard, Census 2011, ministry of human resource development

Chart 3
In spite of the infrastructure works in border districts, the slide in students enrolled in the schools there continues

(in %) 2011 to 2016-17 2016-17 to 2018-19



- In 2006, the government of India asked the Border Roads Organisation (BRO) to lay down 61 roads, measuring 3,324km, along its border with China by 2012. That date came and went. By March 2015, only 625km was done. Work crawled and unfinished roads persisted.
- In March 2018, the figure crept up to 981km. However, the two years since 2018 have been dramatically different. By March 2020, the figure on finished roads had shot up to 2,486km, with major gains in Jammu and Kashmir and Arunachal Pradesh, shows data culled from reports presented in Parliament.
- In the past few years, both India and China have been building roads, bridges, tunnels, and posts along their border, termed the Line of Actual Control (LAC). The fatal clashes between the two militaries in Ladakh's Galwan Valley in June was preceded by bouts of building on both sides along the LAC.
- For India, the LAC runs along 16 districts across one Union territory (Ladakh) and four states (Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh). Data compiled from multiple sources shows India is adding various infrastructure and facilities in these 16 districts. The same data also suggests that while such asset creation might be adding to India's strategic capital, it is not furthering its human capital the same way.
- Given the mostly hilly terrain, roads are the starting point of much of this building activity, as they enable movement of people and equipment. The Indo-China Border Roads (ICBR) project mentioned above is one such venture. It is intended to "facilitate effective border management, security and development of infrastructure in inaccessible areas adjoining the China border". After stuttering in its initial years, the ICBR project is now three-fourths in length and is slated for completion in 2022 (see chart 1).
- Another central initiative with a border focus is the Border Area Development Programme (BADP), under the ministry of home affairs. Launched during the seventh five-year plan (1985-90), the BADP "aims to meet the special development needs of people living in remote and inaccessible areas situated near the international border" and provide "essential infrastructure through convergence of central/state/BADP/local schemes and participatory approach".
- At present, it covers 111 border districts in 16 states and two UTs. For eight north-eastern states, two Himalayan states and the UT of Jammu and Kashmir, the Centre provides 90% of funding, with the states and UTs providing the remaining 10%, according to BADP guidelines of 2020. For Ladakh, the

- Centre's share is 100%. For the remaining six states such as Punjab and Rajasthan, the Centre-state funding breakup is 60:40.
8. In the first few years of the Union government led by Prime Minister Narendra Modi, BADP allocations rose, but have declined since then. For 2020-21, Arunachal Pradesh and the erstwhile state of Jammu and Kashmir each received 12% of the total ₹705 crore. Overall, the 2020-21 figure is 36% below the high of 2017-18 (*see chart 2*).
 9. The per-district BADP allocation is modest. The BADP action plan for 2019-20 of Leh (Ladakh) shows it received ₹7.3 crore that year towards funding 130 ongoing projects worth ₹95 crore. Of this total project cost, 70% is for infrastructure projects, such as roads, vehicle bridges, and installation of hand pumps. Agriculture accounts for 15%, while social sector schemes including health and education account for about 10%.
 10. The big spends come not from BADP, but from universal schemes and projects. Take the rural roads programme, the Pradhan Mantri Gram Sadak Yojana (PMGSY). Between 2016 and 2020, the 16 LAC districts have seen a cumulative addition of 9,494km, an increase of 109%, more than thrice the all-India increase of 32% during the same period. Nine of the 16 districts bettered their state averages.
 11. Unlike rural roads, time series data is not available for other infrastructure sectors. However, some pieces of evidence suggest improved activity in recent years. Data from the department of economic affairs shows 57 hydel power units in public-private partnership mode in the works in the nine LAC districts in Arunachal Pradesh, three in Chamoli in Uttarakhand and two in North Sikkim.
 12. Despite such building activity, border districts don't appear to offer their residents much by way of opportunities. Between 2011 and 2016-17, 15 of these 16 districts registered a decline in total students in schools. That extended to all 16 districts between 2016-17 and 2018-19, shows data from the ministry of human resource development (*see chart 3*).
 13. For Leh, and districts in Himachal and Sikkim, this can be partly explained by a drop in population aged 5-17 years (school-going years) between 2001 and 2011, according to census data. However, for Arunachal, the decline in school-going numbers comes despite a 20% increase in the 5-17 year population. In Arunachal, in 2018-19, only 47% of the students transited from secondary school to senior secondary school, against the all-India figure of 68%. For other states in this analysis, this figure ranged from 74% to 83%.
 14. Similarly, data from the health ministry shows a decline in the number of government healthcare facilities in four LAC districts and a status quo in six LAC districts between 2016-17 and 2019-20.
 15. India might be securing its borders, but the nature of engagement it is crafting with the people there still leaves a lot to be desired.

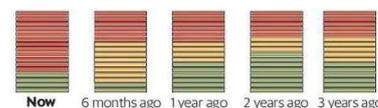
TOPIC 28. INDIAN ECONOMY

MINT MACRO TRACKER

- Parameter value
- ▲ Performance better than five-year average
- ▼ Performance worse than five-year average
- ◀▶ Performance in line with five-year average
- Average five-year value $\pm 10\%$

MACRO TRACKER SNAPSHOT

As of July, four of the 16 indicators in the tracker are above the five-year trend (highlighted in green) and 12 are below (red), while zero maintained the trend (amber). This is worse than the reading from six months ago.



The average band is constructed as $\pm 10\%$ interval around the five-year mean. The upper and lower bounds are wider for series with more volatility.

Source: Centre for Monitoring Indian Economy, Bloomberg, MOSPI, Mint calculations

1. The Indian economy appears to be in limbo, with no real improvement in high-frequency indicators for the second month in a row.
2. The economy took a big hit in April, when 14 of the 16 macro-economic indicators considered in *Mint's* macro tracker were in red (below their five-year growth trend). This was the worst reading since the tracker was launched in October 2018 to provide a monthly report card on the state of the economy.
3. In May, the reading improved as several indicators saw a rebound, and the number of indicators in the red fell to 12. Since then, progress has stalled. For three successive months, 12 indicators have been in the red, the tracker shows.
4. The tracker's reading mirrors the data on public movement, as captured by Google. After showing improvements in May and early June, public movement stagnated as virus cases surged and lockdowns were re-imposed across states in late June and July. There has been some uptick in movements in August but the mobility levels remain significantly below pre-pandemic levels.
5. All four indicators of production activity considered in *Mint's* macro tracker—the composite Purchasing Managers' Index (PMI), core infrastructure sector growth, bank non-food credit, and rail freight traffic—were in the red for the fourth straight month, July's numbers show. The composite PMI, which measures combined manufacturing and services, slipped to 37.2 in July, after rising from 14.8 in May to 37.8 in June. Rail freight traffic was 5% lower than the year-ago level in July. Core sector growth (published with a month's lag) continued to contract in June (-15%). The last time the core sector had expanded was in February. Bank (non-food) credit grew only 6.7% in June, the lowest rate of growth since March.
6. The consumption scorecard was only slightly better than the production scorecard, with three of the four consumption indicators in red. Passenger vehicle sales picked up in July to the highest levels since March but remained substantially below year-ago levels (-17%). The decline in domestic air passenger traffic (-82%) showed no material improvement. Broadband subscriber base continued to grow but at levels much below the five-year-average trend. Tractor sales showed another month of sharp improvement (39%) in July, the one bright spot in an otherwise tepid consumer economy (see chart).

7. To add to the demand weakness, inflation has risen to almost 7%, raising the spectre of stagflation: rising inflation amid slowing growth. Economists remain divided over how long the current inflationary trend will last. The consensus was veering towards the view that the surge in inflation will be over soon because of weaknesses in domestic demand. But the sombre warnings from the Reserve Bank of India's (RBI's) monetary policy committee members have raised fears that the inflationary bout may last longer than earlier thought.
8. Job outlook remains bleak, according to RBI's latest industrial outlook survey of 802 companies. About 29% net respondents said jobs declined in the June quarter. This is the bleakest hiring response recorded by the survey since 2005. Also, 8% net respondents said jobs would decline in the September quarter as well. All four indicators of the ease of living scorecard—CPI inflation (7%), core CPI inflation (6%), real rural wage growth (-2%) and job outlook (-29%)—remained in the red, as of July.
9. India's external sector remains a mixed bag. After reporting a trade surplus in June, the trade balance slipped back to deficit in July as gold imports shot up. While exports have seen a faster recovery compared to imports, they still remain below their year-ago levels. Exports in labour-intensive goods, in particular, remain depressed, adding to the stress in the job market.
10. Despite continuing weakness in the real economy, India's financial metrics have improved in recent months. The gush of foreign inflows helped the rupee appreciate against the dollar even as foreign exchange reserves improved further. The gains in import cover and currency along with an improvement in stock market capitalization lifted India's rank among key emerging economies in July. But the rush of liquidity has also raised concerns that the exuberance displayed by investors may be overblown. The stock markets appear disconnected from reality and could be headed for a correction, warned RBI governor Shaktikanta Das in a recent interview.
11. Clearly, the Indian economy is not out of the woods yet. And how long it takes to get out of the crisis depends a lot on what our policymakers do: on both the health and the economic fronts.

TOPIC 29. NUTRITION

1. Several months into the pandemic, the long-term effects of covid-19 are only just beginning to surface. In at least a small subset of patients, symptoms persist for months, resulting in fatigue and even permanent damage to the lungs, heart or the brain. The long shadow of the pandemic may thus stay with us for many years to come.
2. But it is in the realm of nutritional deficits—amplified substantially by the economic fallout—where this shadow may be the most pronounced and have the most far-reaching effects. Hunger and malnourishment is tragic in any case, but in the long run, they also strike at the root of the demographic dividend that India has been banking on.
3. Even if the eventual covid death toll is low, the disease could still play havoc with India's prospects if it triggers a rise in the share of the population that grows up without adequate nutrition, resulting in an inevitable spike in wasting and stunting. That eventuality would also damage the handsome gains that the country has made in the recent past fighting widespread malnutrition among children and women.
4. The roughly 12 million new entrants into the workforce every year and the 26 million new babies need quality education and, more importantly, adequate food and nutrition to be productive and independent. Neglecting these two requirements will turn the dividend into a disaster.
5. In the aftermath of the pandemic, Oxfam estimates that an additional 100 million Indians are vulnerable to food distress. Those particularly hard hit are women and women-headed households. Many of them will go hungry soon, if not already. The neo-poor, those who had earlier earned decent wages as taxi drivers and hotel workers, are now unable to buy wholesome food.
6. Surveys and estimates indicate that 30% of urban India has run out of all savings, which means that their food distress will only grow substantially in the months ahead. Rural India, covered by the PM-Kisan and MGNREGA, has fared relatively better. But with the relentless growth in infections, and the acceleration in the number of job losses, the food crisis striking the country is eerie and silent.
7. In the patriarchal family structure that India has, children (and the girl child in particular) and women will bear the brunt of this calamity. At least 21 million women underwent pregnancy under the shadow of covid. The ripple effects could emerge in various horrifying ways in the future and needs to be addressed right away. The country's stimulus package promised large amounts of money as loans that will take time to reach the poor, but hunger is an immediate problem as former Reserve Bank of India governor Raghuram Rajan also pointed out recently.

The current reality

8. Why did malnutrition and malnourishment go up even as the economy started growing at a steady pace after 1991 and at a fast clip after 2004? If per capita incomes were growing all around, and consumption levels were increasing dramatically, why would the average Indian not spend on food and nutrition? The paradox is even more baffling in urban areas. High malnutrition rates are common even in urban India, with nearly 25% stunted.
9. India's children consume large amounts of carbohydrates, very little protein and almost no fruits or vegetables. The uninformed nutrition debate remains a shouting match between animal versus plant-based food advocates, and what we end up with is a situation where less than 15% of children get eggs to eat and only the rich get to consume dairy products.
10. It is rare for parents to understand that a balanced diet for a child is at least as important as the quantity and quality of food consumed. The dietary quality of the India population is marked by a declining demand for fruits, vegetables and animal proteins, which are the main source of essential micronutrients in the diet. Disruptions in supply chains during covid also mean limited access to perishable foods particularly. This shortage in supply would automatically lead to households shifting to nutrient-poor diets.
11. Efforts made through public food distribution programs typically deliver non-perishable staples, oils, and pulses, which could only increase the inclination toward poor-quality diets. The International Food Policy Research Institute's studies show that nutrient-rich non-staple foods are up to ten times more expensive than staple foods in most poor countries. With reduced incomes, households very quickly move to buying the cheapest calories to eat—the aim being to maintain quantity and not quality. As a result, anaemia, stunting, wasting and other nutritional deficiencies are bound to increase.

12. And in a country like India, which is already home to the world's largest population of malnourished children, this effect is going to be even more pronounced. In the 2019 Global Hunger Index, India ranks 102 out of 117 qualifying countries. Even Bangladesh at 88 and Pakistan at 94 perform better than India.
13. How did India get left behind in this race? Why does India have the highest number of undernourished people in the world (almost 24% of the total)? A comparison among countries in the emerging world shows that China which was at the top at the turn of the century rapidly reduced the numbers of undernourished, while India's numbers have simply plateaued (see Chart 1). One of the most worrying fallouts of 2020 may be the reversal of even this modest progress in maternal and child health.
14. The disruption of the cooked meal programme, in particular, could worsen the already existing under-nutrition in children. With schools closing, access to the mid-day meal scheme—a free nutritious meal for approximately 100 million children between the ages of 6-14 years—was also halted.
15. The Centre had earlier advised states to distribute dry rations to the beneficiaries of the Integrated Child Development Services (ICDS), but national and local lockdowns have led to the closure of many manufacturing units which make the raw materials for the mid-day meal scheme.

Roots of a slide back

16. Ever since the nutrition crisis was highlighted by the HUNGaMA report and termed a national shame in 2012 by the then Prime Minister Manmohan Singh, India has seen significant improvements in the indicators. Over the last fifteen years, after the District Level Health Survey in 2004 showed that 53% of children in India's worst-affected 100 districts were underweight, there has been a steady decline in these numbers.
17. The mid-day meal scheme, the national health mission, MGNREGA, the rise of women's self-help groups and a decisive movement by the government toward setting up the POSHAN Abhiyan have all resulted in tangible improvements. Nutrition had finally gotten its due, with rigorous efforts from the government to reduce child mortality and improve nutritional interventions.
18. The wins have been fairly substantial. In the north-eastern states, where two-thirds of infant deaths occur, persistent communication and outreach have resulted in a significant increase in early initiation of breastfeeding. The percentage of stunted children under 5 came down from 48% in 2005-06 to 38.4% in 2015-16 (see Chart 2).
19. However, at the same time, there has been a rise in the national share of children who display symptoms of wasting—from 19.8% to 21%. A high increase in the incidence of wasting was noted in Punjab, Goa, Maharashtra, Karnataka, and Sikkim. Wasting refers to a process by which a debilitating disease causes muscle and fat tissue to “waste” away. Apart from India, only three countries in the world have wasting above 20%—Djibouti, Sri Lanka, and South Sudan.

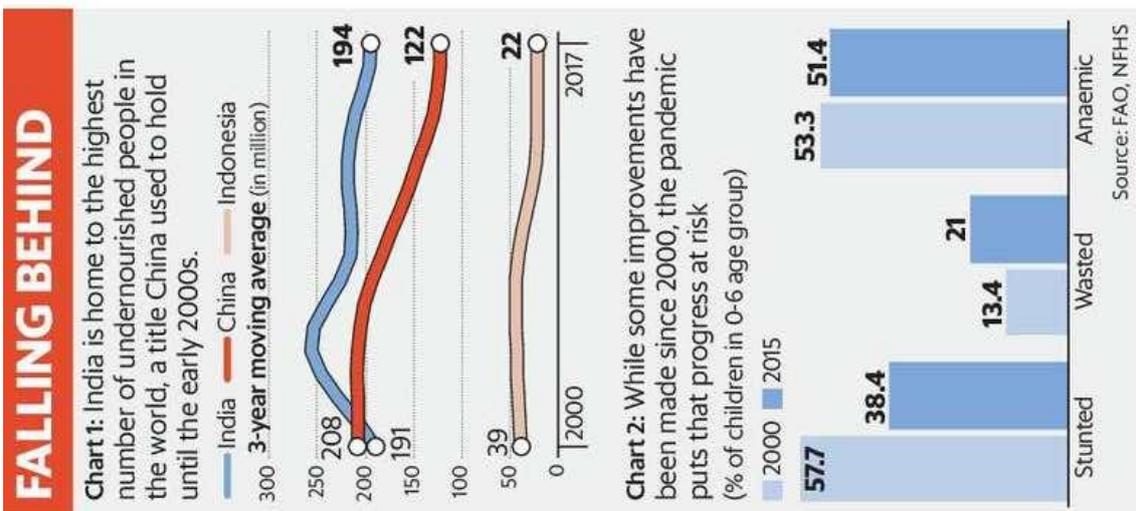
Ways forward

20. Give this mixed progress report and the threat of a pandemic-induced slide back, there are at least some steps that India can take to protect and preserve its demographic dividend.
21. Firstly, we need to monitor food insecurity closely in the months ahead. Large datasets generated by the national sample survey (NSS) should include detailed questions on people's food and nutritional distress. We should also carefully record antenatal visits, anganwadi worker outreach and the impact on women's health. In a situation where we cannot supply mid-day meals, the anganwadi centers should ramp up the provision of dry food ration, and maybe even double or triple the quantity. Cash transfers have been known to have a positive impact on nutritional outcomes and that is what India has not used effectively until now in its pandemic support policy for the poor.
22. Secondly, the Integrated Disease Surveillance Program (IDSP) is our central disease monitoring network. Curiously, the IDSP's weekly updates have disappeared after the twelfth week of 2020. The IDSP must continue to publish weekly updates to help keep a check on future disease outbreaks.
23. Thirdly, on the agriculture front, our godowns are stocked and overflowing with 77 million tonnes of food grains. If not now, when are we going to use this reserve?
24. Fourthly, immunisation, public health screening, family planning and other such programmes should be resumed fully with physical distancing and other safety protocols in place. The prevention of wasting in children can also be easily integrated into the mandate of the existing health infrastructure, especially in cities.
25. Finally, given the importance being given to the new National Education Policy (NEP), it is important to underline the fact that it fails to acknowledge the importance of school education in the healthy development

of a child. We have 159 million children below 6 years of age and they are so much more vulnerable today that they were last year, with the prospect of high nutritional and learning deficits. We often ignore the strong correlation between educational outcomes and the level of nourishment.

26. Undernourished children have learning difficulties, are inattentive in class and, in today's context, have lower immunity levels making them vulnerable to infections. The ICDS should have been underlined in the NEP and financed sufficiently to provide balanced diets, supplements and physical exercise for India's children.

27. The economics behind the impact of undernutrition and malnutrition on the demographic dividend needs to be reiterated. Substantial economic returns from investing in interventions to improve the nutritional status are proof that poor nutrition is bound to cause economic losses, especially in India which is a young country. Under-nourished children score poorly on tests of attention, fluency and memory, which is important to consider given the strong linkages between cognitive skills and earnings and income in adulthood. A malnourished workforce, which is unable to work with full efficiency, will keep India's productivity low and will severely hurt our long-term economic competitiveness.



HEALTHY EATING PLATE

HEALTHY OILS
Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.

VEGETABLES
The more veggies—and the greater the variety—the better. Potatoes and french fries don't count.

FRUITS
Eat plenty of fruits of all colors.

WHOLE GRAINS
Eat whole grains (like brown rice, whole-wheat bread, and whole-grain pasta). Limit refined grains (like white rice and white bread).

HEALTHY PROTEIN
Choose fish, poultry, beans, and nuts; limit red meat; avoid bacon, cold cuts, and other processed meats.

WATER
Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.

STAY ACTIVE!
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The Nutrition Source
www.hsph.harvard.edu/nutritionsource

Harvard Medical School
Harvard Health Publications
www.health.harvard.edu

TOPIC 30. EXPORTS - IMPORTS

MINT GRAPHITI

Chart 1
India's exports have done better than imports in bouncing back to 2019 levels

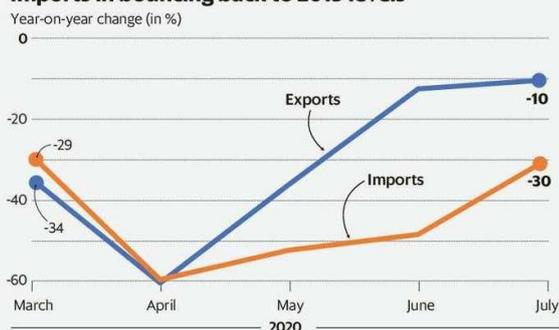


Chart 2
The recovery in exports is also more broad-based than in imports

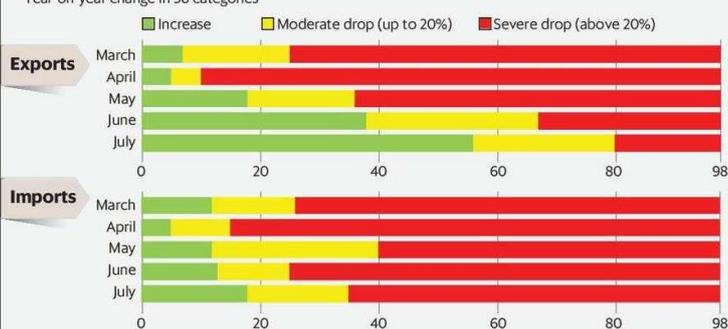
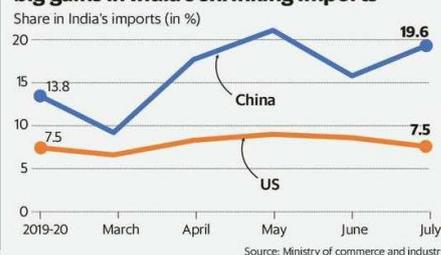


Chart 3
At the very top, exports are showing more signs of life than imports

Year-on-year change (in %)	March	April	May	June	July
Top 10 export items					
Mineral fuels and oils	-32	-62	-65	-30	-51
Gems and jewellery	-41	-99	-69	-51	-50
Nuclear reactors, boilers	-32	-79	-38	-15	3
Organic chemicals	-36	-34	-1	28	1
Vehicles other than railways	-33	-92	-69	-33	-27
Pharmaceutical products	-18	4	23	9	21
Electrical machinery, parts	-21	-74	-46	-20	-10
Ships, boats, floating structures	-87	-18	-5	-55	196
Unknitted apparel, clothing accessories	-34	-91	-67	-34	-25
Iron and steel	-31	-35	70	102	73
Top 10 import items					
Mineral fuels and oils	-16	-58	-68	-56	-37
Electrical machinery, parts	-29	-68	-48	-37	-19
Gems and jewellery	-56	-98	-88	-74	-28
Nuclear reactors, boilers	-38	-50	-33	-30	-25
Organic chemicals	-32	-31	-28	-31	-5
Plastics	-29	-41	-31	-50	-35
Iron and steel	-46	-50	-16	-59	-58
Aircraft, spacecraft, parts	-55	-99	-98	-97	-98
Animal/vegetable fats, oils	-29	-12	-30	7	28
Optical, medical instruments	-32	-46	-14	-26	-9

Note: The graphic shows how India's top 10 export/import items (as per 2-digit HS Code) for March to July 2019 fared between March and July 2020. The July 2020 value range here for exports is \$95 million to \$3.7 billion, and for imports is \$19 million to \$7.5 billion.

Chart 4
During the pandemic months, China made big gains in India's shrinking imports



- On 15 August, standing on the Red Fort ramparts, Prime Minister Narendra Modi reiterated his government's economic vision of self-sufficiency, adding that India would aim to become the supplier to the world. A day earlier, India had reported its latest trade numbers, and for the second successive month, its goods exports were within touching distance of their pre-covid levels. In June 2020, India's exports trailed their June 2019 numbers by 12%. In July 2020, the gap to July 2019 was 10%.
- On the face of it, these are not bad numbers for a segment that tumbled 60% in April and is trying to claw back lost ground. But two caveats are called for. One, India's exports have had a difficult time in recent years. In 2019-20, the year against which current performance is being benchmarked, India's exports fell 5%, shows data from India's central bank.
- Two, India has swung to extremes during the pandemic. Data from the Organisation for Economic Co-operation and Development (OECD) on 25 countries for which recent monthly export numbers are available shows India suffered the second-largest monthly drop in April. Subsequently, it was ranked third in monthly increase in May and seventh in June.
- In other words, India's exports are recovering, but they are doing so on a low base, and fundamental issues on how to become more competitive globally remain.
- Becoming more competitive is a long-term task. In the near term, the objective would be to at least revert to the old normal, and the recent trade data suggests reasons for hope. After the sharp plunge in April, recovery in exports has been stronger than in imports (see chart 1).
- More encouragingly, the exports recovery in May, June and July appears to be broad-based. The ministry of commerce breaks up trade data across 98 product categories. We have segregated this into three buckets based on year-on-year changes: positive growth, moderate drop (up to 20%) and severe drop (higher than 20%).
- The number of categories in the first two buckets has increased consistently: 10 in April, 36 in May, 67 in June and 80 in July. In 14 of these categories, exports have increased for three successive months. Prominent among them were pharma (\$1.6 billion in July), iron and steel (\$1.3 billion), cereals (\$813 million) and aluminium (\$445 million).
- In comparison, the rebound in imports is not only relatively muted, but also less broad-based. Against 81 of 98 categories for exports (75% of total in value terms), only 35 categories in imports (40% of total in value terms) were present in the top two buckets in June (see chart 2).

9. This variance in recovery between exports and imports can also be seen at the very top. Of the top 10 export categories by value in March-June 2019, five categories grew on a year-on-year basis in July 2020. For imports, that ratio was 1 in 10 categories (*see chart 3*).
10. A deceleration in goods imports at a time exports are rising faster suggests that domestic demand in India is recovering much more slowly compared to other countries. In July, there was positive growth in exports to North-East Asia (including China and South Korea) and Asean countries (including Malaysia, Singapore and Vietnam). By comparison, exports to North America, European Union and West Asia have shrunk.
11. Even though India has been aiming to reduce its import dependence on China, the dependence on our northern neighbour has only grown since the pandemic began.
12. China accounted for 13.8% of India's imports in 2019-20. It was followed by the US, with a 7.5% share. During the pandemic, as India's imports shrunk, China's monthly share has ranged between 16% to 21% (*see chart 4*).
13. These are unusual months, and the months ahead will show where these numbers stabilize. Longer term, the government has been vocal on viewing foreign trade strategically. It wants India to be stronger in exports and reduce its dependence on imports. In recent weeks, there has been executive action to discourage specific items of defence machinery from all countries and certain products sourced majorly from China.
14. It is prudent to exercise caution in such import bans. Weak imports in some categories can also impact exports, as some imports serve as intermediates for exports. A case in point is gems and jewellery, a leading foreign trade item for India and a big source of employment in the country. Indian companies import uncut gems and process it into jewellery for export. At present, both imports and exports here are severely curtailed.
15. Success on the trade front is ultimately a function of competitiveness, and India has much work to do on that front.

TOPIC 31. INTERNET



1. On 10 August, when the Prime Minister inaugurated India's first 5G-ready undersea optical fibre cable network between the Andamans and Chennai, life came full circle for Sunil Gupta. Around a year ago, he had made the difficult decision to wind up his startup in Bengaluru, a B2B tech platform for the tourism industry, and return to his hometown Port Blair in order to spend more time with his ageing parents.
2. "I had to close the company because the internet was dismally slow in Port Blair which makes remote working impossible," said Gupta, who has since his return has opened a tourist hostel for budget travellers in Wandoor beach about 25km from Port Blair. But with data speeds set to improve dramatically once the undersea cable becomes fully operational, Gupta said that those plans have suddenly changed.
3. "Once connectivity improves, then it doesn't really matter whether one is in Port Blair or in Bengaluru, rather the cost of operations will be less in Port Blair," he said.
4. The 2,300km submarine optical fibre cable link, a long-standing demand among the local population, will deliver a bandwidth of 2x200 gigabits per second (Gbps) between Chennai and Port Blair, and 2x100 Gbps between capital Port Blair and the other islands. Though the internet arrived in the Andaman and Nicobar Islands via satellite connectivity in the early 2000s, data transfer speeds during all these years have been rudimentary.
5. While users in the Indian mainland upgraded to superfast digital ecosystems, the islands have remained in the 2G era (Lakshadweep will also get an undersea cable soon). Though technically speaking 4G service is available on the islands, it seldom worked. In the absence of proper connectivity, internet bandwidth, a precious commodity in the islands, was kept largely for the exclusive use of the local government machinery, leaving a large portion of the local population without any form of digital connectivity.
6. Now, the arrival of the undersea cable is expected to usher in an IT and ITes revolution on the islands. The islands have a high literacy rate of 86.6% and a ready workforce made up of a large English-speaking young population. While the internet in itself will not solve persistent developmental challenges—ranging from geographic remoteness to a heavy reliance on the government for the supply of goods and services—it does offer a pathway to amplify economic transformations which are already underway. The internet may finally offer the islanders a reasonable shot at diversifying beyond tourism.

A decade long wait

7. Located around 1,200km from the Indian mainland in the Bay of Bengal, the Andaman and Nicobar Islands, a former prison colony, carefully chosen for its sheer inaccessibility and remoteness, served as a natural prison for more than a century. The nearest continental landmass from the Andamans is the coast of Myanmar, which is about a day's journey by sea from the capital Port Blair.

8. The island group is India's largest union territory and is centrally administered by the union government through a lieutenant governor, the highest-ranking official of the local administration. The islands are scattered across an 800km zone from north to south. The main island clusters of Andaman and Nicobar are separated by high seas and lie to the north of the Malacca Strait, a busy sea route through which one-third of the world's sea trade passes. Over the years, the islands have emerged as a sought-after tourist destination as well as a strategic point in the Bay of Bengal for the defence forces and currently serves as the headquarters of India's first tri-services command, which is headed by all the three services on a rotation basis. While the National Optical Fibre Network (NOFN) initiative began in 2011 to provide broadband connectivity to over 200,000 gram panchayats across all 26 states and union territories, it did not include the Andaman and Nicobar Islands due to technical challenges. Telecom providers in the islands, therefore, were left to rely on expensive satellite connectivity to provide 2Mbps speeds. The high cost meant digital connectivity remained out of reach for a large section of the population.
9. 3G services provided by the state-run BSNL and by private operators worked only intermittently. Uploading a single file could take hours. "For years, it was simply impossible for local businesses in the islands to stay competitive due to the lack of proper connectivity," said M. Vinod, president of the Andaman and Association of Tour Operators. "Right from managing flight and hotel bookings online to accepting payments digitally, everything was a big challenge," he said, adding: "But we expect things to be markedly better in the coming months."
10. Lt General A.K. Singh, former lieutenant governor of the islands who played a key role in getting the project sanctioned, agrees. "It is a defining moment, a game-changer in multiple fields—education, health, governance, e-initiatives. The feeling of isolation which prevailed among the people will reduce; business opportunities will enhance. The islands are well placed for establishing call centres & BPO industry. The people are multilingual and there are no labour issues. In anticipation of the undersea cable, we had started foreign language classes to prepare our people. The possibilities are immense," he told *Mint*.
11. The idea of optic fibre connectivity to the islands was first introduced by the erstwhile Planning Commission in 2010, following which it constituted a technical committee for studying the existing available bandwidth, future requirement and the strategy to be adopted for providing adequate bandwidth through reliable connectivity to the islands.
12. The technical committee after conducting several rounds of discussion with stakeholders such as the Indian Space Research Organisation (Isro), the ministry of defence and the local administration submitted its report to the Commission in January 2011. In its report, it proposed provisioning submarine optical fibre connectivity to six major islands which include Port Blair, Havelock, Little Andaman, Car Nicobar, Kamorta and Campbell Bay and satellite connectivity for other islands.
13. As per the proposal, the six islands were to be connected through one of the existing consortium cables passing through the region to the Indian mainland. Based on the report of the technical committee, the Planning Commission, in April 2011, conveyed its in-principle approval for laying the undersea optical fibre cable to connect the six major islands. Soon after, the Andaman and Nicobar administration prepared a proposal and invited bids for implementation of the project including its operation and maintenance for 15 years on a turnkey basis. The financial bids of the project were first opened in March 2013, with an initial estimated project cost of ₹413.55 crore. However, the project went into cold storage soon after and was revived only in 2016 under the Modi government.

A strategic asset

14. In addition to improving digital connectivity to the islands, the project is expected to provide heft to India's strategic ambitions in the Indian Ocean region, where China's dominance has been on a steady rise.
15. Over the years, the Chinese have steadily increased their presence in neighbouring Myanmar. In 1992, China is believed to have established a SIGINT (signals intelligence) gathering station on Great Coco Island to monitor Indian naval activity and missile launches in the Bay of Bengal. In addition to that, the Chinese are believed to have constructed an airstrip in the islands for surveillance-related purposes.
16. "The Andaman Nicobar Islands are like an unsinkable aircraft carrier of India in a very strategic location in the Bay of Bengal, overlooking the sea lines of communication (SLOCS) and the Malacca Straits," said Lt. General Singh. "Communication was a huge challenge even for our defence forces. The three-tier security around the islands will be greatly facilitated. The west coast of the islands, which is very sparsely inhabited, can now be continuously monitored using technology," he added.

17. When conceived, it was also suggested that the undersea cable connectivity be extended from Kolkata to the Andamans, in addition to Chennai. The resulting ring-like structure will reduce downtime of the optic fibre cable significantly, which takes a relatively long time to repair and restore given the complexities involved. Additionally, Trai had also suggested that the connectivity from Kolkata may be used to route traffic from the entire North-Eastern region of the country directly to Chennai, bypassing the large fault-prone terrestrial part of the international connectivity from Kolkata to Chennai. Trai had further argued that the optimum fibre network may also be used to provide connectivity to the South Asian Association for Regional Cooperation (Saarc) nations such as Nepal, Bhutan and Bangladesh. Further, connectivity could be extended beyond Chennai to Sri Lanka and the Maldives via submarine cable. Experts say that the project, if extended by another 1000km eastward, will open up a host of opportunities for India in the Asean region and help counterbalance China. With this, experts feel that countries such as Myanmar, Laos, Cambodia, Vietnam too will eventually connect their respective digital highways with the project.

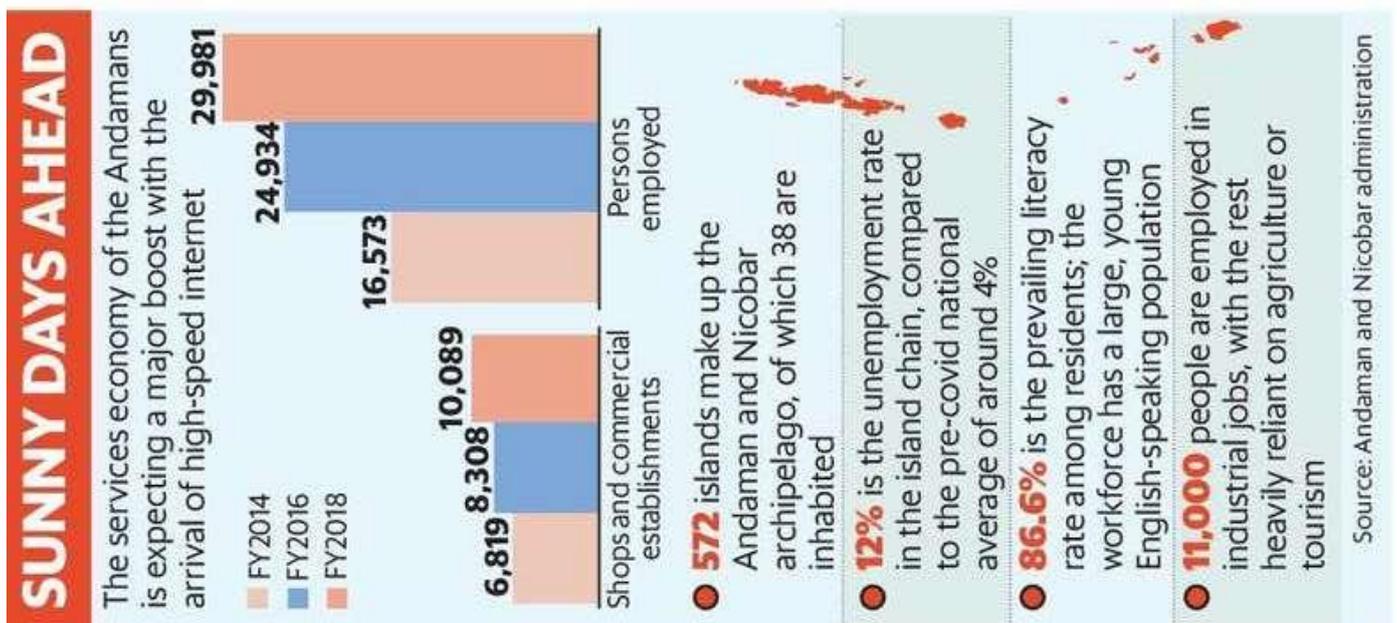
In conclusion

18. With digital connectivity already up significantly in several pockets in the Andaman and Nicobar Islands due to the cable, the transformative impact of the project has begun showing results.

19. The islanders say that dealing with rising covid-19 cases, which poses an extinction threat to the indigenous tribes of the island, will be relatively easier now. In the absence of proper connectivity, locals claim that the infections have been on a steady rise as people are forced to venture out for daily chores risking themselves and others. Alongside, students who have returned to their homes from the mainland continue to sit out of online classes in the absence of internet connectivity. But that may not be for long. With digital connectivity set to improve, it is the service sector which harbours the highest level of anticipation and hopes regarding newer job opportunities and new possibilities.

20. "When I arrived (in the islands) in July 2013, I witnessed first-hand the great challenges faced by the people there. Communication was one of them," said Lt General Singh. "To see the project get complete is very satisfying," he added. In the long-run, it may also turn out to be an important milestone in India's long-standing Look East policy, an effort to cultivate extensive economic and strategic relations with the nations of Southeast Asia in order to bolster its standing as a regional power.

21. Above all, the long-awaited project will create a sense of integration and confidence among the islanders, who are living in one of India's remotest corners and who have until now been disadvantaged and deprived of their 'right to internet access'—a fundamental right no less.



TOPIC 32. GOI AND RBI



1. Two recent books, one by former Reserve Bank of India (RBI) governor Urjit Patel, and the other by former RBI deputy governor Viral Acharya, have reignited the debate on the central bank's autonomy in India. Patel and Acharya resigned from their respective posts before their terms ended. Acharya has claimed that both paid the price for resisting undue interference from the Union finance ministry.
2. The tussle between India's treasury and its central bank is as old as the central bank itself. The concept of an independent central bank for India "on a level of authority with the treasury" was first spelled out by one of the greatest economists of the world, John Maynard Keynes, during the British Raj. Keynes' proposal was shot down by the then Bank of England chief Montagu Norman, who proclaimed "a Hindoo marriage" between the Bank of England (the dominant spouse) and RBI (the subservient wife).
3. "Norman's graphic simile is... expressive of the RBI's real status after its creation," wrote the former RBI economist Anand Chandavarkar in a 2005 *Economic And Political Weekly* article. Among the pioneering economists who built RBI's research prowess in the post-independence era, Chandavarkar considered RBI to have been more independent during the British Raj than in independent India. As RBI assumed quasi-fiscal mandates to fulfil plan targets set by the powerful Planning Commission, it became an "emasculated fiscal agency", in his words.
4. Throughout history, the Union government has deployed three levers to control RBI. The first is the colonial-era RBI Act, which provides sweeping powers to the government of India (GOI). Section 30 of the RBI Act, for instance, allows the government to "supersede" the RBI central board. Section 58 circumscribes the powers of the central board to make regulations only with the "previous sanction" of the central government. Section 7 (1) says the Union government can "from time to time give such directions to the (central) bank as it may, after consultation with the governor of the bank, considered necessary in the public interest".
5. These provisions aren't invoked as a matter of routine, but can be used when needed. Towards the end of Patel's tenure in 2018, Section 7 was invoked to make RBI toe the finance ministry's line on a range of contentious issues.
6. The second lever of control lies in the choice of governors and deputy governors to run RBI. Since independence, seven out of 10 RBI governors have been former finance ministry officials, an analysis of RBI's annual reports shows. Some, such as Y.V. Reddy, joined as deputy governors before becoming governor. Others, such as D. Subbarao and Raghuram Rajan, were directly appointed as governors after their stints in the finance ministry.
7. Over the past three decades, 62% of RBI's top management—governors and deputy governors—have been outsiders (see chart 1). All were men. Three women who made it as deputy governors during this period—K.J. Udeshi, Usha Thorat and Shyamala Gopinath—were all insiders. The last and only time an insider took up the top post was when M. Narasimham, a contemporary of Chandavarkar, became the governor in 1977.
8. The share of RBI governors from North Block has been higher in the post-liberalization era. Patel was one of the rare exceptions, who except for a brief stint as a consultant, did not spend much time in North Block before becoming RBI governor. The lack of any finance ministry veteran in RBI's top rungs during Patel's

- tenure could have accentuated the ministry-RBI tussle. Unsurprisingly, the government turned to Shaktikanta Das, a finance ministry veteran, to take charge of RBI after Patel's resignation.
9. The third lever of government control lies in the composition and staffing of RBI's central board, the highest decision-making body. Under the RBI Act, the central board is designed to consist of 21 members: the governor and four deputy governors (under Sec 8(1)a), four directors from the four regional boards of the RBI (under Sec 8(1)b) who are elected by their respective local board members, 10 directors nominated by the Union government, who are usually experts in their respective fields (under Sec 8(1)c), and two government-appointed officials, usually from the finance ministry (under Sec 8(1)d).
 10. By not filling up board positions, the government can ensure the ex-officio members hold sway over the board, as was the case during demonetization, when RBI's central board was at its weakest level in history (*see chart 2*).
 11. The minutes of that fateful board meeting held on 8 November 2016 suggest that the board members were not convinced about the government's economic logic behind the decision to demonetize high-value notes. But government officials seemed to have persuaded others to approve the plan, despite their reservations. It is tempting to ask whether the outcome would have been different if the board was staffed with more independent members.
 12. Some of the board vacancies were subsequently filled up, but the appointments attracted controversy because of the political background of the appointees: S. Gurumurthy and Satish Marathe were associated with affiliates of the ruling Bharatiya Janata Party (BJP) for long years. Political appointments have been common in RBI's regional boards, but less so in the central board. The previous political appointees were Rajeev Gowda of the Congress in 2012, Gopala Ramanujam, the co-founder of the Indian National Trade Union Congress (INTUC) in 1994, and Erasu Ayyapu Reddy of the Telugu Desam Party in 1993.
 13. Typically, Union government appointees to the board tend to be academics, bureaucrats (or former bureaucrats), industrialists, and finance professionals. The share of bureaucrats has gone up in the past couple of years even as the share of academics has stagnated (*see chart 3*).
 14. In the 1990s, RBI's central board was relatively balanced in terms of the professional expertise of the board members. Between 2000 and 2010, industrialists and corporate professionals dominated the board. Their share declined in the 2010-2015 period as the strength of the board fell, and it came to be dominated largely by ex-officio members. The share of women on the board has also steadily declined over the past two decades.
 15. While central board staffing has begun receiving some attention of late, the high number of vacancies in the local or regional boards seems to have eluded attention. Over the past five years, the northern board has been vacant for three years, while others have had a maximum of two members (*see chart 4*).
 16. For some regions, there have been no representatives on the central board, and this means board decisions may not have fully factored in their regional implications. As Chandavarkar argued, the impact of monetary policy and regulations can be vastly different in different regions, which are at different stages of development.
 17. Chandavarkar had advocated a high-powered commission to help legislate a "constitutionally independent federal" RBI. The last time the role and functioning of RBI was examined threadbare was in 1931, when the Indian Central Banking Inquiry Committee was set up to help establish a central bank. The committee's report and the RBI Act of 1934 continue to influence how RBI functions in the 21st century.
 18. As we near the centenary of that inquiry committee report, it is perhaps time to re-examine the functioning and autonomy of RBI once again.

In the past 30 years, all RBI governors and most deputy governors have been 'outsiders'

Governors and deputy governors of RBI since 1990

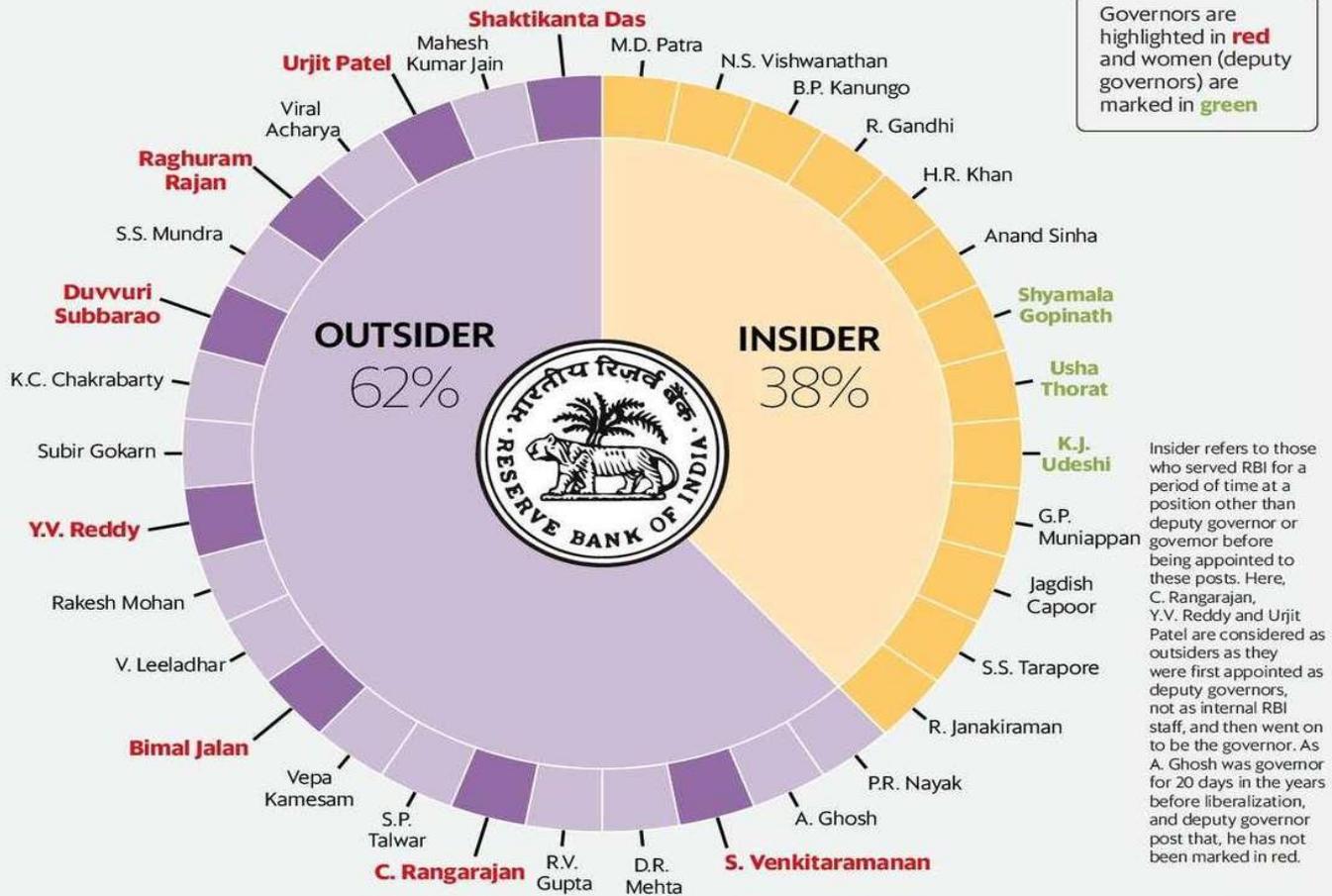


Chart 2

In 2016, the central board of RBI had the highest vacancies since independence

Strength of the RBI central board

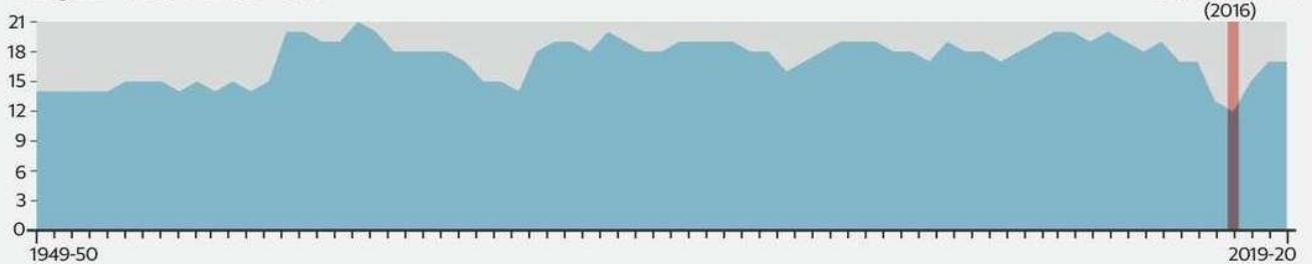
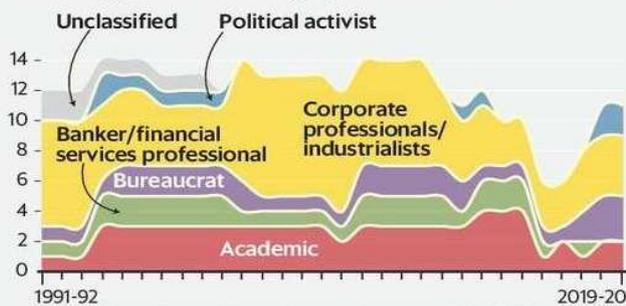


Chart 3

The share of industrialists on RBI's central board has declined

This chart only includes people appointed by the Union government on the central board under Section 8(1) (b) and Section 8(1) (c) of the RBI Act 1934.

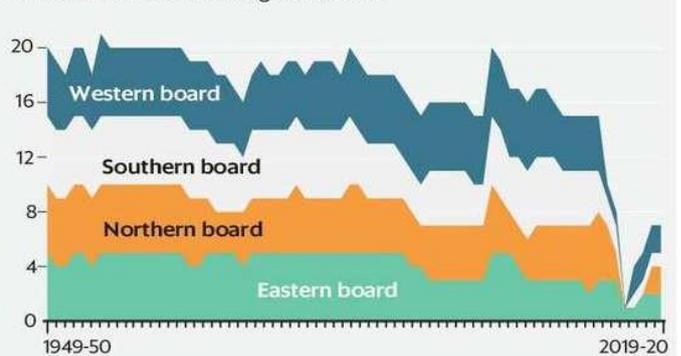


Bureaucrat category includes former and current bureaucrats. Industrialists are people who own companies. Banker/financial services professionals include CAs as well. Corporate professionals include non-promoter chairmen of companies and lawyers.

Chart 4

In the last few years, local boards have largely been vacant

Number of members in regional boards



Source: RBI Annual Reports Archive, Mint research

TOPIC 33. EXPORT PREPAREDNESS INDEX 2020

1. Gujarat tops the Export Preparedness Index 2020 to evaluate States' potential and capacities, followed by Maharashtra and Tamil Nadu.
2. The index was released by government think-tank NITI Aayog on Wednesday.
3. The other States that have made it to the top 10 include Rajasthan, Odisha, Telangana, Haryana, Chhattisgarh, Karnataka and Kerala.
4. The index ranks States on policy, business ecosystem, export ecosystem and export performance. Overall, coastal States emerged as the best performers, with six out of eight coastal States featuring in the top 10 rankings.
5. In the landlocked States, Rajasthan performed the best, followed by Telangana and Haryana.

Coastal states lead, others too make headway

Six coastal states figured among the top 10 in Niti Aayog's first export preparedness index (EPI) unveiled on Wednesday. Among landlocked states, Rajasthan performed the best at the 4th overall slot, followed by Telangana and Haryana.

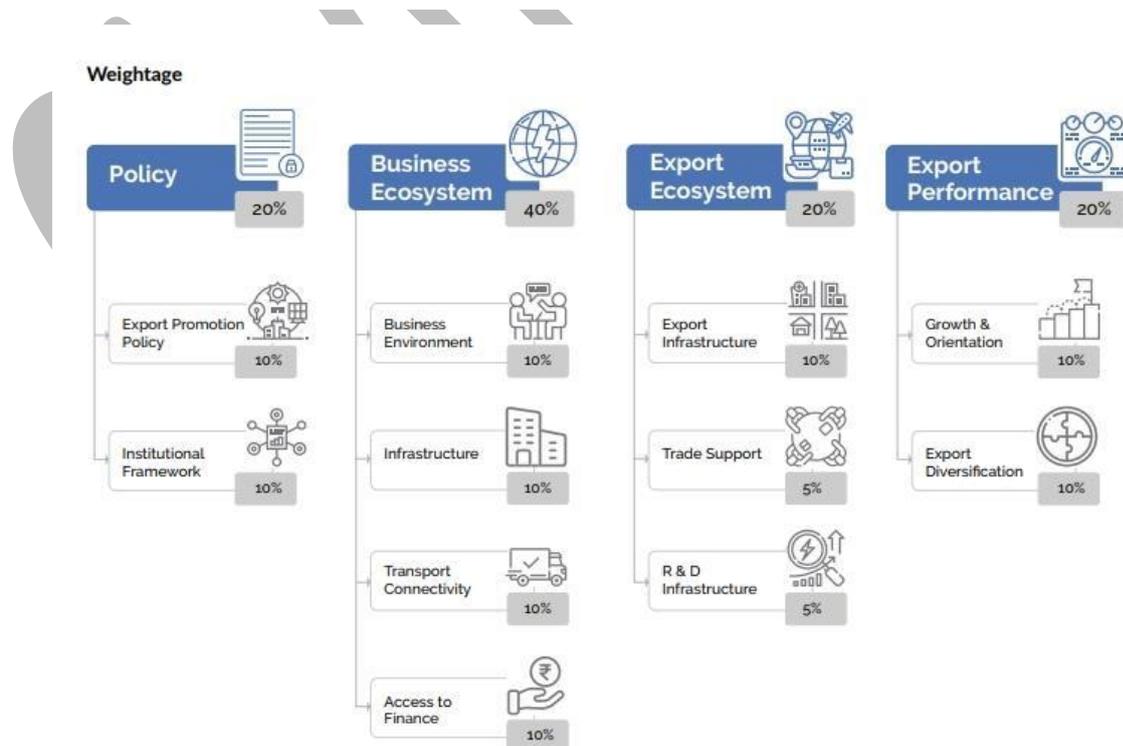
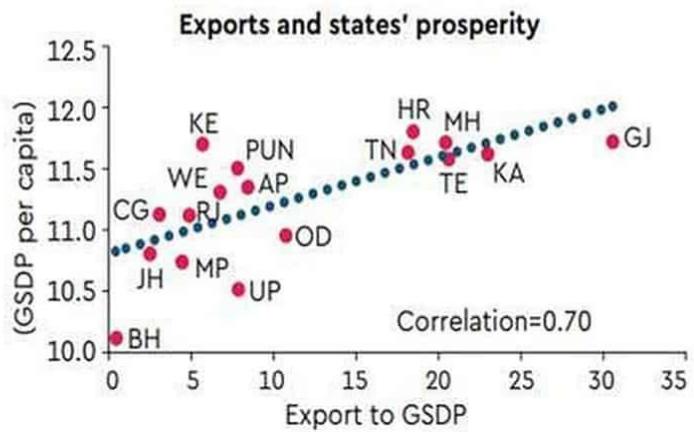
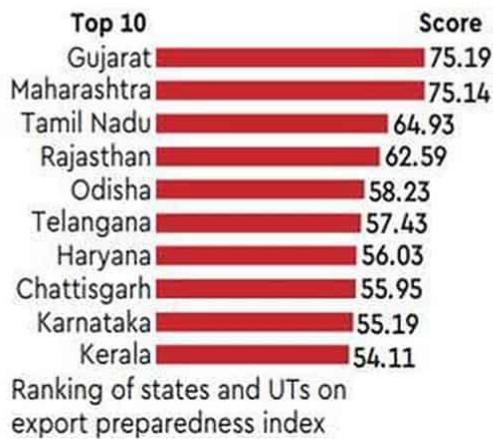
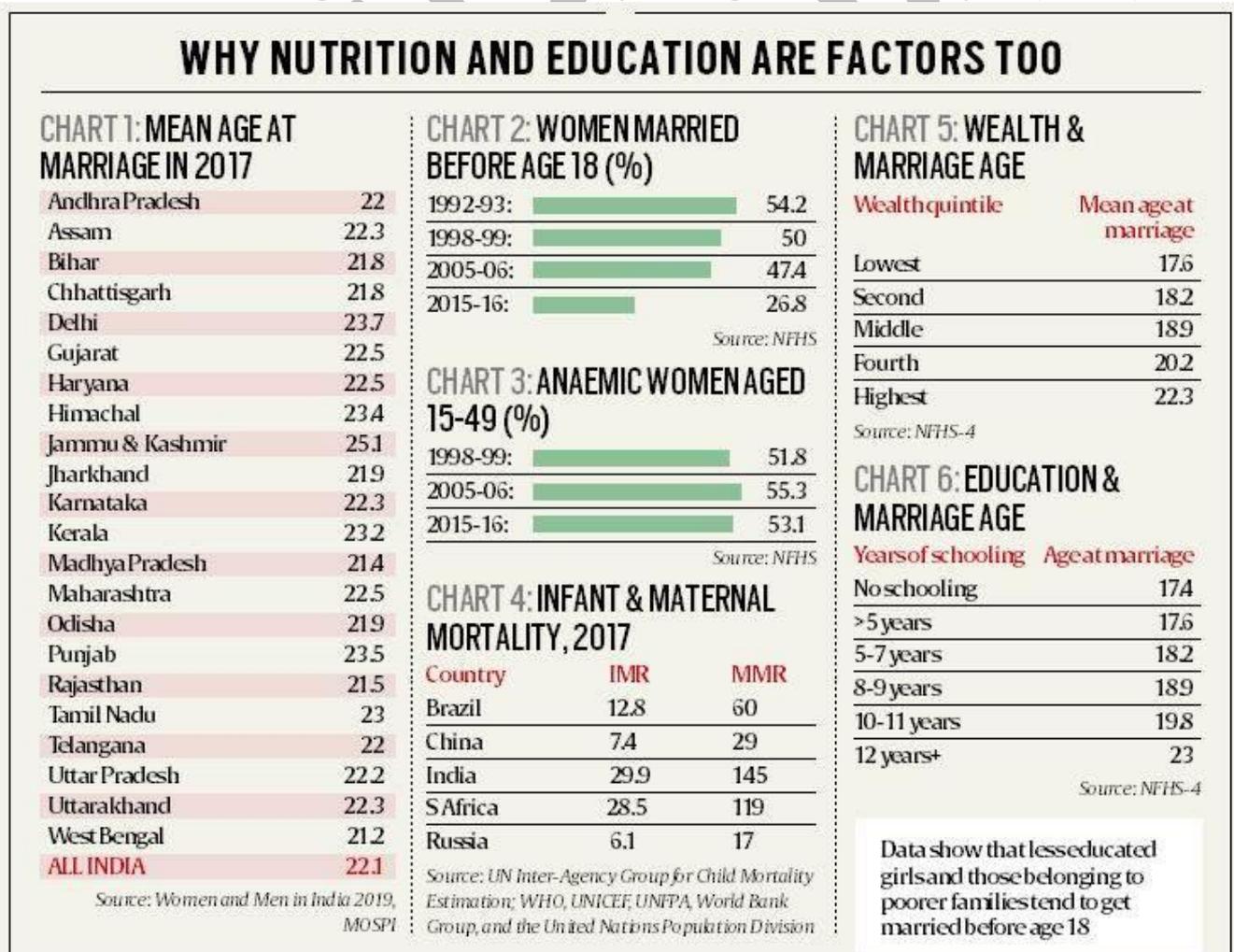


Figure H: Weightage structures of the pillars and sub-pillars

TOPIC 34. MARRIAGE AGE AND WOMEN'S HEALTH

1. During his Independence Day speech, Prime Minister Narendra Modi said: "We have formed a committee to ensure that the daughters are no longer suffering from malnutrition and they are married off at the right age. As soon as the report is submitted, appropriate decisions will be taken about the age of marriage of daughters."
2. Reports suggest the minimum age of marriage for girls may be raised from 18 at present to 21.
3. **How prevalent is underage marriage?**
 - a. Data show that the majority of women in India marry after the age of 21. **Chart 1** shows the mean age of women at marriage is 22.1 years, and more than 21 in all states.
 - b. This does not mean that child marriages have disappeared. The latest National Family Health Survey (NFHS-4) found that about 26.8% of women aged 20-24 (**Chart 2**) were married before adulthood (age 18).
4. **How does the age of marriage correlate with health?**
 - a. Preventing early marriage can reduce the maternal mortality ratio and infant mortality ratio, according to Dipa Sinha, professor of economics at Ambedkar University. At present, the maternal mortality ratio — the number of maternal deaths for every 100,000 children born — is 145. India's infant mortality ratio shows that 30 of every 1,000 children born in a year die before the age of one. Both these indicators in India are the highest among the BRICS economies (**Chart 4**).
 - b. Young mothers are more susceptible to anaemia, said Shweta Khandelwal, Head of Nutrition Research and Additional Professor at the Public Health Foundation of India.
 - c. More than half women of reproductive age (15-49 years) in India are anaemic. The prevalence of anaemia among women has consistently been high over the last 20 years (**Chart 3**).



5. Can a mandated age of marriage bring about a change at population level?

- a. Purnima Menon, senior research fellow at the International Food Policy Research Institute in New Delhi, said poverty, limited access to education and economic prospects, and security concerns are the known reasons for early marriage. “If the main causes of early marriage are not addressed, a law will not be enough to delay marriage among girls,” Menon cautioned.

6. What do the data on these shows?

- a. Women in the poorest 20% of the population married much younger than their peers from the wealthiest 20% (Chart 5).
- b. The average age at marriage of women with no schooling was 17.6, considerably lower than that for women educated beyond class 12 (Chart 6). Almost 40% of girls aged 15-18 do not attend school, as per a report of the National Commission for Protection of Child Rights. Nearly 65% of these girls are engaged in non-remunerative work.
- c. That is why many believe that merely tweaking the official age of marriage may discriminate against the poorer, less-educated and marginalized women.

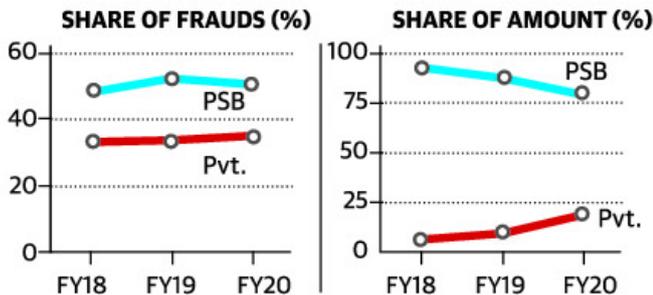
FACT 1. BANK FRAUDS

Frauds on the rise

Bank frauds[^] in India increased by 28% in total numbers and 159% in value in FY20 compared to the previous year. However, some of the massive frauds detected in FY20 occurred five years ago. Public Sector Banks (PSBs) were impacted the most. The frauds in FY20 were largely related to loans disbursed by PSBs.
By **Vignesh Radhakrishnan, Naresh Singaravelu and Sumant Sen**

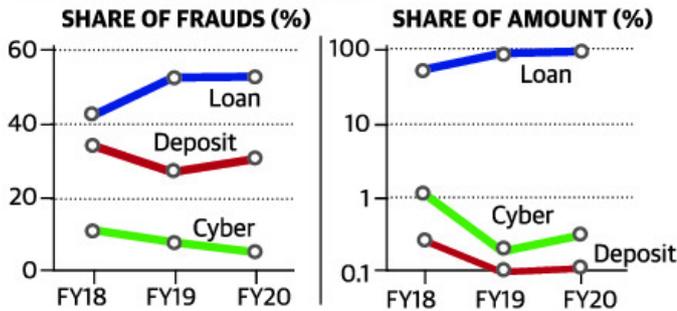
1. SHARE OF BANK FRAUDS

In the last three years, PSBs accounted for 50% of the total number of frauds but more than 80% of the total amount defrauded. On the other hand, private banks accounted for about 35% of the total number of frauds and less than 20% of the total amount defrauded



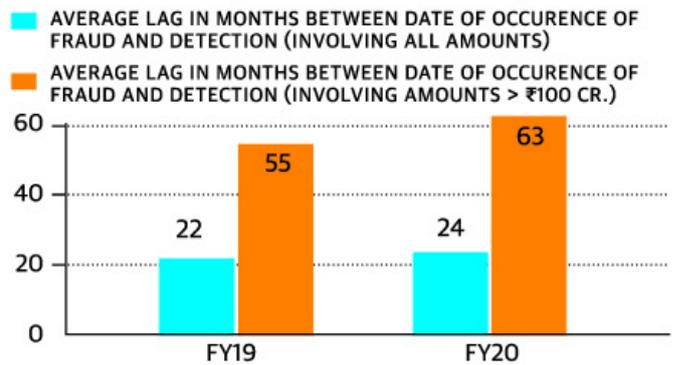
2. TYPE OF FRAUDS

Loan frauds* accounted for >98% of the total amount defrauded in FY20. But they accounted for only 53% of the total number of frauds. Other types such as card-/Internet-related (cyber) frauds and deposit-related frauds constituted the rest but the amount involved in them was <1% of the total defrauded amount



3. POOR RESPONSE TIME

Banks take years to report frauds due to poor implementation of early warning systems, the RBI said. On an average, it took 24 months for a fraud to be detected from its date of occurrence, in FY20, two months more than it did in FY19. More importantly, bigger frauds involving >₹100 crore took 63 months on an average to get detected in FY20, eight months more than they did in FY19



The RBI noted that there "was a concentration of large value frauds" in FY20 as the top 50 loan-related frauds constituted 76% of the total defrauded amount. The surge in loan-related frauds has come at a time when the RBI is predicting a two-decade-high NPA ratio by next March

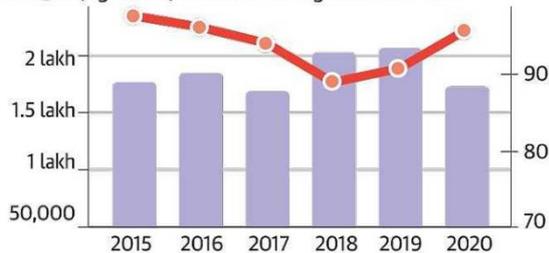
*Loan frauds include mortgaged assets being compromised or divested off, forged documents, availed funds diverted or siphoned off, or letter of credits/guarantees misused.
^Includes frauds >=Rs 1 lakh
Source: RBI Annual Report 2019-20, Speech by R.Gandhi (former Deputy Governor, RBI)

FACT 2. H1-B

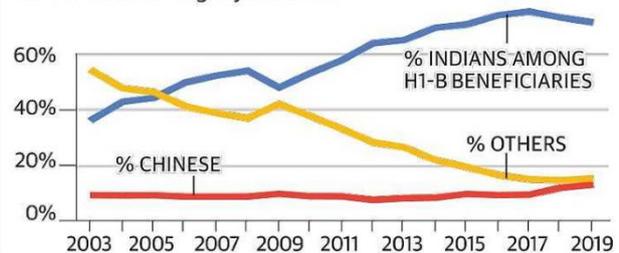
A change in H1-b tide?

In 2020, compared to Indian firms, American firms continued to recruit a higher share of H1-B workers. This has been the case since 2016 following the election of Donald Trump. Though the bulk of H1-B beneficiaries continues to be from India, in the last two years there has been a marginal drop in their share with firms preferring Chinese workers a little more. **By The Hindu Data Team**

1. Petitions down | Nearly 32,000 fewer H1-B petitions (left axis) were filed between April and June 2020 compared to the same period in 2018 and 2019. However, the approval % (right axis) reached the highest since 2017



3. Share drops | Indians continue to be the largest contingent among H1-B beneficiaries, but their share has started to drop after peaking in 2017 while the share of Chinese and other beneficiaries has slightly increased



2. Edged out | The list of the top 10 firms which received the most work certifications for H1-B visas in 2020 include four new entrants: three from the U.S. (Oracle, Google and NVIDIA) and just one from India (Zensar). Other U.S. firms such as Amazon, Qualcomm, CTS and Deloitte continued to corner a significant share of work certifications. Indian firms continued to recruit H1-B workers, but the numbers pale in comparison to their hirings before 2016. Table lists the no. of certifications issued

Firm	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
E&Y*	X^	X	X	X	X	X	X	1,51,164	X	X
Deloitte	X	X	19,115	45,722	1,18,406	1,63,625	93,838	69,869	84,649	16,567
CTS	52,558	40,188	40,416	54,692	82,662	97,472	55,350	47,732	28,229	20,192
HCL	9,022	X	X	X	X	X	39,808	42,820	X	X
KForce	X	X	X	X	X	X	X	32,996	15,225	X
Apple	X	X	X	X	X	23,037	27,274	26,833	26,236	X
Qualcomm	X	X	X	X	X	X	X	20,723	21,238	38,533
Capgemini	X	X	X	X	X	47,224	16,872	13,517	X	X
Amazon	X	X	X	X	X	X	X	X	12,695	12,560
Oracle	X	X	X	X	X	X	X	X	X	12,269
Google	X	X	X	X	X	X	X	X	X	8,669
NVIDIA	X	X	X	X	X	X	X	X	X	8,977
TCS	X	X	21,228	32,880	43,247	17,116	X	20,755	15,794	9,388
Mphasis	12,382	18,747	X	20,002	19,658	16,245	21,963	16,671	X	X
Infosys	59,320	52,153	39,992	23,751	33,213	25,462	20,578	X	21,434	21,627
Wipro	98,843	76,929	1,04,493	44,369	36,151	32,243	13,640	X	12,687	X
Zensar	X	X	X	X	X	X	X	X	X	9,207

*ERNST & YOUNG | ^X = NOT IN THE TOP 10 THAT YEAR | SOURCE: USCIS, DOL.GOV

FACT 3. INFRASTRUCTURE

412 infra projects show cost overruns of ₹4.11 lakh crore

As many as 412 infrastructure projects have been hit by cost overruns of over ₹4.11 lakh crore owing to delays and other reasons, the latest MoSPI report for June 2020 said

1,683 Total projects worth ₹150 crore and above monitored by the Ministry of Statistics and Programme Implementation (MoSPI)

979 Projects whose neither year of commissioning nor tentative gestation period has been reported

₹20,65,336.20 crore: Total original cost of implementation of the 1,683 projects

₹24,77,167.67 crore: Anticipated cost of implementation of all projects

₹4,11,831.47 crore: Overall cost overruns, i.e. 19.94 per cent of original cost

₹11,21,435.29 crore: Expenditure incurred on all projects till June 2020, 45.27 per cent of anticipated cost

Source: MoSPI/PTI



471: Number of projects that reported time escalation, of which:

127: delayed by one to 12 months

112: delayed by 13 to 24 months

127: delayed by 25 to 60 months

105: delayed by 61 months and above

43.34 months: Average time overrun of all projects