



Civil's IAS
Empowering Nation

Weekly Current Affairs Compilations

A holistic magazine for UPSC Prelims, Mains and Interview Preparation

Volume 42

25th – 31st Jul 2020

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- c. Anthropology
- d. Political Science and International Relations
- e. Sociology
- f. Philosophy
- g. History
- h. Commerce and Accountancy

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TOPIC 1. BEIDOU

1. China has recently completed its **BeiDou Navigation Satellite System constellation**, coming up with a product that can potentially rival US Global Positioning System (GPS) and will provide **positioning services to transportation, emergency medical rescue and city planning and management areas**.
2. **What is the BeiDou navigation system?**
 - a. China's navigation system uses a network of satellites and can provide positional accuracies of under **10 metres** (GPS provides positioning accuracies of under 2.2 metres).
 - b. China initiated BeiDou in 1994 with aims to integrate its application in different sectors, including fishery, agriculture, special care, mass-market applications, forestry and public security.
 - c. BeiDou offers services including **accurate positioning, navigation and timing as well as short message communication**.
 - d. 55th and final geostationary satellite in constellation, which was launched on June 23, was operating successfully. This satellite is a part of 3rd iteration of BeiDou system called BDS-3 and began providing navigation services in 2018 to countries taking part in "Belt and Road" Initiative.
3. **Which other countries are working on building their navigation systems?**
 - a. **GPS** is owned by US government and operated by US Air Force.
 - b. Apart from this, Russia has its navigation system called **GLONASS**.
 - c. European Union (EU) has **Galileo**,
 - d. While India's is called **Navigation with Indian Constellation (NavIC)**.
 - e. It was reported last year that Bengaluru-based Indian Space Research Organisation (ISRO) was in talks with processing chip manufacturers such as **Qualcomm** to substitute existing GPS with Indian version of satellite navigation.
4. **What does this mean for China?**
 - a. By completing BeiDou, China now has its own navigation system, which will compete with systems developed by other countries. Out of these navigation systems, GPS is the most widely used for both personal navigation and for more sensitive military purposes. Significantly, as ties between US and China deteriorate, it becomes more important for China to have its own navigation system that US does not have control over.
 - b. A 2017 report by US Economy and Security Review Commission notes that China's development and promotion of BeiDou "presents implications for United States in security, economic, and diplomatic areas. It is of foremost importance in allowing China's military to employ Beidou-guided conventional strike weapons - buildup of which has been a central feature of Beijing's efforts to counter a US intervention in a potential contingency—if access to GPS is denied."

TOPIC 2. SEA LEVEL RISE

1. In a study published in journal Scientific Reports, researchers predict that by 2100, global population potentially exposed to episodic coastal flooding will increase from **128-171 million to 176-287 million**.
2. The value of global assets exposed to these episodes is projected to be between \$6,000-\$9,000 billion, or **12-20 % of global GDP**.
3. **What are the findings of the study?**
 - a. Researchers note that sea-level rise (SLR) is a “well accepted” consequence of climate change.
 - b. **68 % area that is prone to coastal flooding**, over 32 % can be attributed to regional SLR. This, they say, will significantly increase coastal flooding by 2100.
4. **What is Regional SLR?**
 - a. Because sea level rise is not uniform across world, there is a need to differentiate regional SLR from global rates. For instance, gravitational pull of polar ice sheets has different effects on sea levels in different parts of world, which means regional SLR can be higher or lower than global SLR. Relatively too, regional SLR can be higher or lower. For instance, SLR in places such as Scotland, Iceland and Alaska could be significantly less than the regional SLR for eastern US.
 - b. Their results indicate by the year 2100, for most of the world, flooding incidents that are typically associated with a 1 in a 100-year event could occur as frequently as **1 in 10 years**, “primarily as a result of sea level rise.”
 - c. As per this assessment, 0.5-0.7 % of world’s land area is at a risk of episodic coastal flooding by 2100, impacting 2.5-4.1 % of population, assuming there are no coastal defenses or adaptation measures in place.
5. **How much of a threat is sea level rise?**
 - a. Last year in September, Indonesia’s President Joko Widodo announced that the country’s capital would be relocated from **Jakarta** to the province of East Kalimantan on the lesser populated island of Borneo. The relocation was meant to reduce the burden on Jakarta, which has been facing problems such as poor quality air and traffic gridlocks, and is particularly prone to flooding. It is also the largest Indonesian city with a population of 1 crore. It is located on the North West coast of the most populous island in the world, Java. The combination of climate change and heavy congestion continues to bury Jakarta, “world’s fastest-sinking city”, by about 25 cm into the ground every year.
 - b. The situation looks grim for India’s financial capital **Mumbai** as well. As per some projections, climate change is expected to inundate significant sections of Mumbai by 2050, impacting millions of people.
 - c. Other cities that regularly feature in the lists endangered by climate change include **Guangzhou, Jakarta, Miami, and Manila**.
 - d. IPCC projections too maintain that SLR is going to accelerate further and faster in the coming years. Some of the expected impacts of SLR over the course of the century include **habitat contraction, loss of functionality and biodiversity and lateral and inland migration**.
6. **What are some ways of protecting against sea level rise?**
 - a. Indonesia’s government launched a coastal development project called a Giant Sea Wall or “**Giant Garuda**” (Garuda is the name of a bird from Hindu mythology and is Indonesia’s national symbol) in 2014 meant to protect the city from floods.
 - b. In a paper that was accepted for publication earlier this year in Bulletin of American Meteorological Society, researchers proposed an extraordinary measure to protect 25 million people, and important economic regions of 15 Northern European countries from rising seas as a result of climate change. They suggested a mammoth **Northern European Enclosure Dam (NEED)**, enclosing all of the North Sea.
 - c. The idea involved construction of two dams of a combined length of 637 km to protect Northern Europe against “unstoppable” SLR. They also identified other regions such as Persian

Gulf, Mediterranean Sea, Baltic Sea, Irish Sea, and Red Sea that could benefit from similar mega enclosures.

- d. A Special Report on Ocean and Cryosphere in a Changing Climate, published last year by IPCC, noted that “well-designed coastal protection” could both “reduce expected damages” and “be cost efficient for urban and densely populated... areas”.

CIVILSIAS

TOPIC 3. SMOG TOWERS

1. Last November, a Supreme Court Bench of Justices Arun Mishra and Deepak Gupta had sharp words for authorities in Haryana, Punjab and Uttar Pradesh for failing to control the **practice of stubble-burning on farms**, which contributes to air pollution in Delhi at the beginning of every winter.
2. “This has been going on since long. Is this not worse than internal war? Why are people in this gas chamber? It’s better to finish them with explosives in one go instead of suffering for long...,” Justice Mishra had remarked as the Bench directed authorities to take measures, including asking Delhi government and Central Pollution Control Board (CPCB) to submit a comprehensive plan on setting up “smog towers” in capital.
3. A proposal on the towers was then submitted by Indian Institute of Technology, Bombay (IIT-B) to Central Pollution Control Board (CPCB). In January, Supreme Court directed that two towers should be installed in the capital by April on a pilot project basis — one at East Delhi’s Anand Vihar, and another at Central Delhi’s Connaught Place.
4. This timeline was never met, however. This infuriated the apex court, and on July 29, The Indian Express reported that IIT Bombay has backed out from the project. Later that day, Solicitor General Tushar Mehta told the Supreme Court that IIT Bombay had indeed withdrawn from the project.
5. This upset the Bench greatly. “How can they back out from a government project? We will draw contempt against them. What is this nonsense?” the Bench of Justices Mishra, Vineet Saran, and M R Shah said. The next day, the Central government informed the court that IIT-B was back on board, and would be signing a Memorandum of Understanding for the project worth over Rs 36 crore.
6. **What is a ‘smog tower’?**
 - a. A smog tower is a structure designed to work as a large-scale air purifier, fitted with multiple layers of filters which trap fine dust particles suspended in the air as it passes through them.
 - b. Air is drawn through fans installed at the top of the tower, passed through filters, and then released near the ground.
 - c. The large-scale filters expected to be installed in the towers in Delhi would use carbon nanofibres as a major component, and would be fitted along the peripheries of the towers, project experts had said, adding that the height of the towers would be 20 metres.
7. **Has anyone else experimented with a smog tower?**
 - a. Yes, smog towers have been experimented with in recent years in cities in Netherlands, China, South Korea and Poland. The first such tower was erected in 2015, in Rotterdam, Netherlands.
 - b. This 7 metre-high ‘smog free tower’ can filter 30,000 cubic metres of air per hour around it.
 - c. More such towers were unveiled in subsequent tours of Poland, South Korea and China.
 - d. The towers to be installed in Delhi were to be result of a collaboration between IITs at Mumbai and Delhi and University of Minnesota. The university has helped design a 100-metre high permanent smog tower in Chinese city of Xian. This tower was completed in 2017 and is supposed to be world’s biggest air purifier.
8. **How bad is air pollution in Delhi?**
 - a. Air pollution in national capital has been an issue of concern for quite some time as Delhi and its suburbs have ranked among most polluted cities in world frequently since 2014, when World Health Organisation (WHO) declared **Delhi most polluted city in world**.
 - b. Pollution levels in Delhi increase dramatically during winter - on some days to nearly 10 times above limits prescribed by WHO, posing a serious risk to vulnerable and healthy populations.
 - c. This is largely because sources of emissions - **construction work, industrial and vehicular pollution** - in and around city remain more or less consistent, but situation is aggravated at start of winter by **smoke from stubble-burning** in northwestern states, coupled with **unfavorable meteorological conditions**, such as calm winds, low temperatures, and fewer sunny days.
 - d. A number of measures have been taken over years to control pollution levels. This includes persuading farmers in Punjab and Haryana to **use mechanical alternatives to stubble-burning**,

closure of thermal power stations in Delhi, making industries use piped natural gas, in addition to control measures taken under Graded Response Action Plan (GRAP) when pollution levels spike.

- e. An assessment by CPCB shows that Delhi's air quality has been improving every year since 2016, even as it remains above acceptable limits, because of pollution control measures being taken.

9. And how effective are smog towers?

- a. Experts involved in setting up smog towers in Delhi have said that towers would create "**clean air zones**" in city. An estimate made of their impact on air quality shows a tower would reduce 50% of particulate matter load - fine dust particles suspended in air - in an area of 1 kilometre in direction of wind, as well as 200 metres each along sides of tower and against direction of wind.
- b. An affidavit submitted by Delhi environment department to Supreme Court in December had stated, "The (Delhi government) committee is of view these smog towers may not be useful for whole city, but they can be useful in creating 'clean air area' zones in different parts of the city."
- c. Another expert panel set up by Centre's Department of Science and Technology had estimated in December that 213 smog towers may be required across Delhi — which it said was premature at this stage, and had recommended a pilot project first.
- d. An assessment of Roosegaarde's smog tower in Beijing by Eindhoven University of Technology found that in an open field in calm weather, it can reduce particulate matter of 10 micrometres (PM10) up to 45%, and PM2.5 levels up to 25% in an area of 20 metres around tower, as per details on ENS Clean Air website, a Dutch business that collaborated with Roosegaarde for project.
- e. As for tower in Xian, researchers told 'South China Morning Post' in 2018 that on severely polluted days, the tower was able to reduce smog close to moderate levels and improvements in air quality had been observed over an area of 10 sq km in city. Delhi government officials had, however, said that since full data were not available, the technology of Chinese tower should be considered unproven still.

TOPIC 4. NATIONAL EDUCATION POLICY 2020

1. On Wednesday, Union Cabinet cleared a new National Education Policy (NEP) proposing sweeping changes in school and higher education. A look at takeaways, and their implications for students and institutions of learning:
2. **What purpose does NEP serve?**
 - a. An NEP is a comprehensive framework to guide the development of education in the country.
 - b. The need for a policy was first felt in 1964 when Congress MP Siddheshwar Prasad criticised the then government for lacking a vision and philosophy for education. The same year, a 17-member Education Commission, headed by then UGC Chairperson D S Kothari, was constituted to draft a national and coordinated policy on education. Based on the suggestions of this Commission, Parliament passed the first education policy in 1968.
 - c. A new NEP usually comes along every few decades. India has had three to date. The first came in 1968 and second in 1986, under Indira Gandhi and Rajiv Gandhi respectively; NEP of 1986 was revised in 1992 when P V Narasimha Rao was Prime Minister. The third is NEP released Wednesday under Prime Ministership of Narendra Modi.
3. **What are the key takeaways?**
 - a. **Higher Education**
 - i. Opening of Indian Higher Education to Foreign Universities.
 - ii. Dismantling of UGC and All India Council for Technical Education (AICTE).
 - iii. Introduction of a 4-year multidisciplinary undergraduate programme with multiple exit options
 - iv. Discontinuation of M Phil programme.
 - b. **School Education**
 - i. Overhauling Curriculum
 - ii. "Easier" Board exams
 - iii. Reduction in syllabus to retain "core essentials"
 - iv. Thrust on "experiential learning and critical thinking".
 - c. In a significant shift from 1986 policy, which pushed for a 10+2 structure of school education, new NEP pitches for a "5+3+3+4" design corresponding to age groups 3-8 years (foundational stage), 8-11 (preparatory), 11-14 (middle), and 14-18 (secondary).
 - i. This brings early childhood education (also known as pre-school education for children of ages 3 to 5) under the ambit of formal schooling.
 - ii. The mid-day meal programme will be extended to pre-school children.
 - iii. Students until Class 5 should be taught in their mother tongue or regional language.
 - d. The policy also proposes phasing out of all institutions offering single streams and that all universities and colleges must aim to become multidisciplinary by 2040.
4. **How will these reforms be implemented?**
 - a. NEP only provides a broad direction and is not mandatory to follow.
 - b. Since education is a **concurrent subject** (both Centre and State governments can make laws on it), reforms proposed can only be implemented collaboratively by Centre and States. This will not happen immediately. The incumbent government has set a target of **2040 to implement entire policy**. Sufficient funding is also crucial; 1968 NEP was hamstrung by a shortage of funds.
 - c. The government plans to set up **subject-wise committees** with members from relevant ministries at both central and state levels to develop implementation plans for each aspect of NEP. The plans will list out actions to be taken by multiple bodies, including the HRD Ministry, state Education Departments, school Boards, NCERT, Central Advisory Board of Education and National Testing Agency, among others. Planning will be followed by a yearly joint review of progress against targets set.
5. **What does the emphasis on mother tongue/regional language mean for English-medium schools?**

- a. Such emphasis is not new: Most government schools in the country are doing this already. As for private schools, it's unlikely that they will be asked to change their medium of instruction.
- b. The provision on mother tongue as medium of instruction was not compulsory for states. "Education is a concurrent subject. Which is why the policy clearly states that kids will be taught in their mother tongue or regional language 'wherever possible'."

6. What about people in transferable jobs, or children of multilingual parents?

- a. NEP doesn't say anything specifically on children of parents with transferable jobs, but acknowledges children living in multilingual families: "Teachers will be encouraged to use a bilingual approach, including bilingual teaching-learning materials, with those students whose home language may be different from the medium of instruction."

7. How does the government plan to open up higher education to foreign players?

- a. Universities from among top 100 in world will be able to set up campuses in India. While it doesn't elaborate parameters to define top 100, incumbent government may use 'QS World University Rankings' as it has relied on these in past while selecting universities for 'Institute of Eminence' status. However, none of this can start unless HRD Ministry brings in a new law that includes details of how foreign universities will operate in India.
- b. It is not clear if a new law would enthrone best universities abroad to set up campuses in India. In 2013, at time UPA-II was trying to push a similar Bill, Top 20 global universities, including Yale, Cambridge, MIT and Stanford, University of Edinburgh and Bristol, had shown no interest in entering Indian market.
- c. Participation of foreign universities in India is currently limited to them entering into collaborative twinning programmes, sharing faculty with partnering institutions and offering distance education. Over 650 foreign education providers have such arrangements in India.

8. How will four-year multidisciplinary bachelor's programme work?

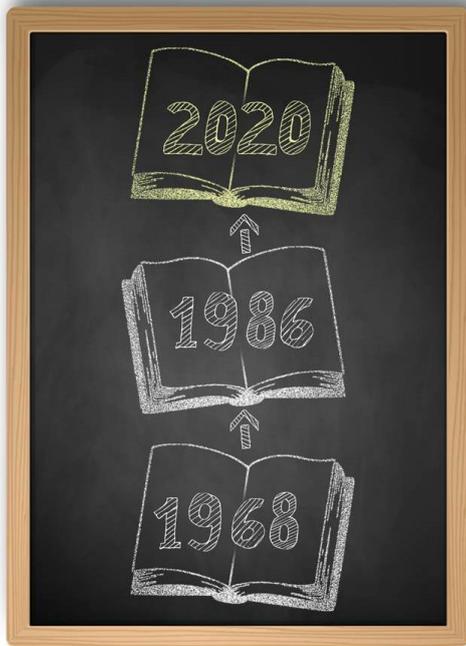
- a. This pitch, interestingly, comes six years after Delhi University was forced to scrap such a four-year undergraduate programme at incumbent government's behest. Under four-year programme proposed in new NEP, students can exit after one year with a certificate, after two years with a diploma, and after three years with a bachelor's degree.
- b. "Four-year bachelor's programmes generally include a certain amount of research work and student will get deeper knowledge in subject he or she decides to major in. After four years, a BA student should be able to enter a research degree programme directly depending on how well he or she has performed...However, master's degree programmes will continue to function as they do, following which student may choose to carry on for a PhD programme," said scientist and former UGC chairman V S Chauhan.

9. What impact will doing away with the M Phil programme have?

- a. Chauhan said this should not affect the higher education trajectory at all. "In normal course, after a master's degree a student can register for a PhD programme. This is the current practice almost all over the world. In most universities, including those in the UK (Oxford, Cambridge and others), M Phil was a middle research degree between a master's and a PhD. Those who have entered MPhil, more often than not ended their studies with a PhD degree. MPhil degrees have slowly been phased out in favour of a direct PhD programme."

10. Will focus on multiple disciplines not dilute character of single-stream institutions, such as IITs?

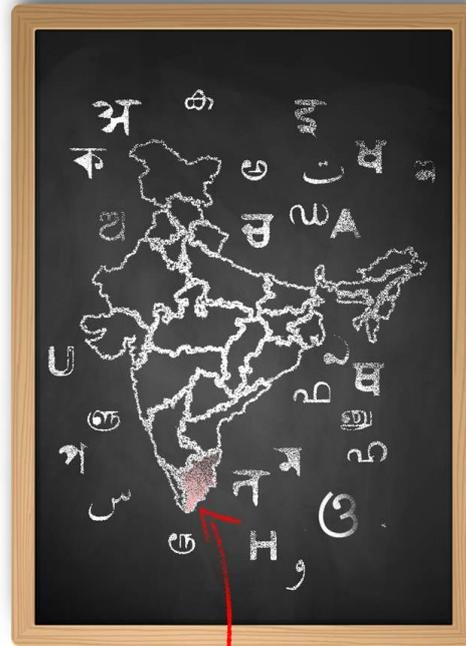
- a. The IITs are already moving in that direction. IIT-Delhi has a humanities department and set up a public policy department recently. IIT-Kharagpur has a School of Medical Science and Technology. Asked about multiple disciplines, IIT-Delhi director V Ramgopal Rao said, "Some of the best universities in the US such as MIT have very strong humanities departments. Take the case of a civil engineer. Knowing how to build a dam is not going to solve a problem. He needs to know the environmental and social impact of building the dam. Many engineers are also becoming entrepreneurs. Should they not know something about economics? A lot more factors go into anything related to engineering today."



What purpose does a National Education Policy serve?
 A National Education Policy or NEP is a comprehensive framework to guide the development of education in the country. A new policy usually comes along every few decades. The latest policy is India's third. It replaces the 1986 NEP, which was in place for 34 years.

#QUIXPLAINED

1



Is it binding on all the states?
 The policy provides a broad direction and state governments are expected to follow it. But it's not mandatory. Tamil Nadu, for instance, does not follow the three-language formula that was prescribed by the first education policy in 1968.

#QUIXPLAINED

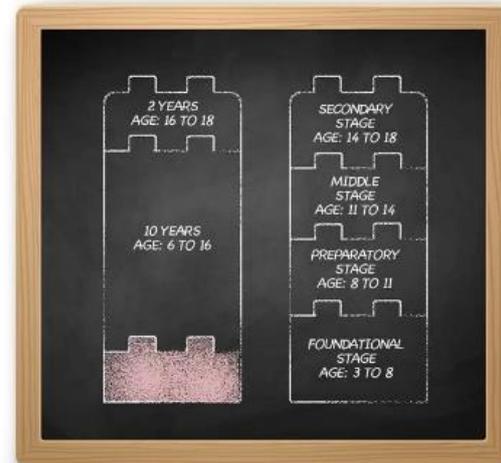
2

What are the major recommendations of the NEP in higher education?

- * Replacing the UGC and the AICTE with the Higher Education Commission of India.
- * Opening up Indian higher education to foreign players.
- * Reintroduction of the four-year multi-disciplinary Bachelor's programme, with exit options.
- * Flexibility to institutions to offer different designs for Master's programmes.
- * Discontinuation of the M.Phil programme.
- * Setting up of a National Research Foundation.

#QUIXPLAINED

3



What about school education?
 * Focus on overhauling curriculum, "reformed" Board exams, reduction in the syllabus and a thrust on "experiential learning and critical thinking".
 * Unlike the present uniform 10+2 structure of school education, pitch to reconfigure pedagogy in a "5+3+3+4" design.
 * Emphasis on teaching students up to Class V in their mother tongue.

Text: Ritika Chopra; Illustration: Mithun Chakraborty

#QUIXPLAINED

4

Learning plan

A look at the key features of the new education policy:

■ R.V.S. PRASAD



- Public spending on education by States, Centre to be raised to 6% of GDP
- Ministry of Human Resource Development to be renamed Ministry of Education
- Separate technology unit to develop digital education resources



SCHOOL EDUCATION

- Universalisation from age 3 to Class 10 by 2030
- Mission to ensure literacy and numeracy skills by 2025
- Mother tongue as medium of instruction till Class 5 wherever possible
- New curriculum to include 21st century skills like coding and vocational integration from Class 6
- Board exams to be easier, redesigned



HIGHER EDUCATION

- New umbrella regulator for all higher education except medical, legal courses
- Flexible, holistic, multi-disciplinary UG degrees of 3-4 years' duration
- 1 to 2 year PG programmes, no M.Phil
- College affiliation system to be phased out in 15 years

Digital drive

The new education policy has emphasised the integration of technology in all levels of learning. Some features of the policy:

Technology in education

- An autonomous body, the National Educational Technology Forum, will be created for the exchange of ideas on use of technology to enhance learning, assessment, planning and administration
- A dedicated unit for the purpose of creating digital infrastructure, digital content and capacity building will be set up in the ministry
- Integration of technology will be done to improve classroom processes

Teacher education

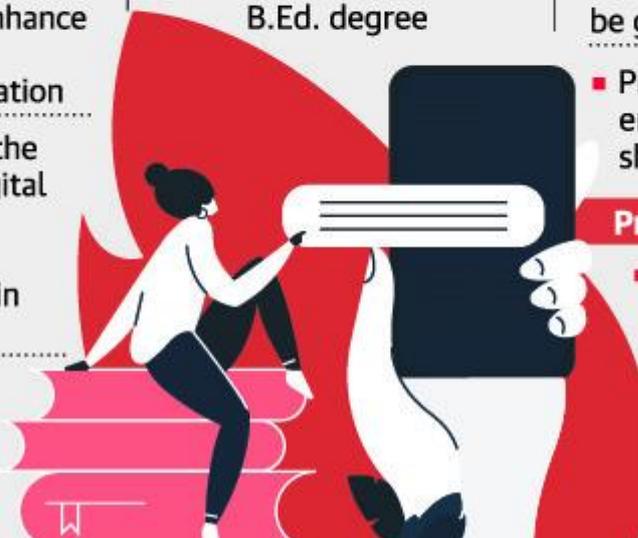
- By 2030, the minimum degree qualification for teaching will be a four-year integrated B.Ed. degree

Financial support

- Meritorious students belonging to SC, ST, OBC and other socially and economically disadvantaged groups will be given incentives
- Private institutions will be encouraged to offer scholarships to their students

Professional education

- Standalone technical universities, health science universities, legal and agricultural universities will aim at becoming multi-disciplinary institutions



MINT GRAPHITI
A CLASS ACT

The new education policy aims to benefit students as well as the larger labour market. A look at key provisions of the policy:

BREAKING THE WALL BETWEEN ARTS AND SCIENCE

THE new education policy seeks to remove the distinction between science and arts streams, allowing students more flexibility in choosing subjects that they are interested in, and gives equal weightage to curricular and extracurricular activities.



10+2 MODEL MAKES WAY FOR 5+3+3+4 FORMULA
CHILDREN aged 3-8 will be in the foundation stage (5 years); those 8-11 will be part of the preparatory school (3 years); 11-14 in middle school (3 years); and 14-18 in secondary education (4 years)

FILLING THE BLANKS IN HIGHER EDUCATION

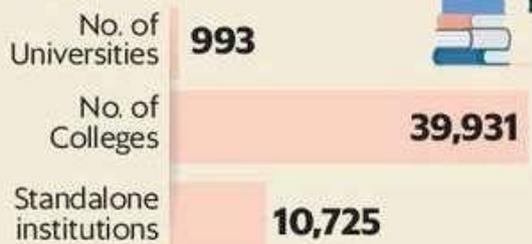
THE multiple entry and exit option under the new education policy introduces an academic credit bank that allows students who dropped out to pursue their studies from where they left off.



Current education ecosystem

A major difference from the current system would be that students will take exams in grades 3, 5, and 8, which will test achievement of basic learning outcomes. Their progress cards will include self-assessment, besides peer and teacher reviews.

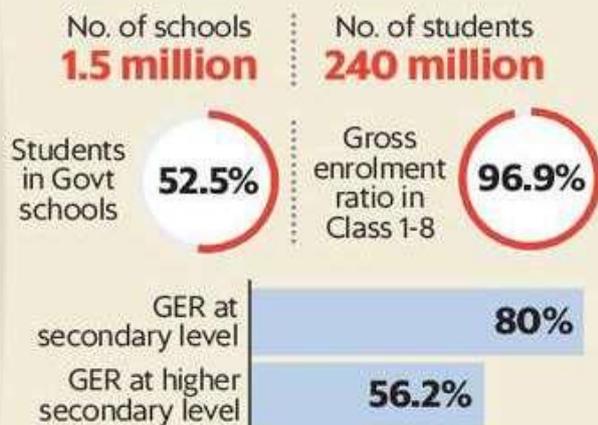
Higher Education



No. of Students
37 million

Gross Enrolment Ratio (GER)
26.30%

School Education



Source: HRD ministry

TOPIC 5. AERIAL SEEDING

1. Haryana Forest Department has started aerial seeding across state on a pilot basis, with drive touching Aravalli region of Faridabad district.
2. Officials say this technique will allow plantation in sections of Aravallis that are either difficult to access or inaccessible altogether, and pilot project will help determine effectiveness of technology and dispersal mechanism.
3. Before Faridabad, this method has been use in Yamunanagar and Mahendragarh earlier this month. Plantation on 100 acres will be undertaken using this method during the pilot project.
4. **What is aerial seeding?**
 - a. Aerial seeding is a technique of plantation wherein seed balls – seeds covered with a mixture of clay, compost, char and other components – are sprayed on the ground using aerial devices, including planes, helicopters or drones.
5. **How does this technique work?**
 - a. Seeds balls or seed pellets are dispersed in a targeted area by low-flying drones, falling to ground with help of coating of clay, compost, char and other material, that provides required weight for seeds to drop on a predetermined location rather than disperse in wind. These pellets will then sprout when there is enough rain, with nutrients present within them helping in initial growth.
6. **What are the advantages of this technique?**
 - a. Areas that are inaccessible, have steep slopes, are fragmented or disconnected with no forest routes, making conventional plantation difficult, can be targeted with aerial seeding.
 - b. Furthermore, process of seed's germination and growth is such that it requires no attention after it is dispersed – reason why seed pellets are known as “fire and forget” way of plantation.
 - c. They eliminate need for ploughing and digging holes in soil and seeds do not need to be planted, since they are already surrounded by soil, nutrients, and microorganisms. Clay shell of these pellets along with other items in mixture also protects them from birds, ants and rats.
7. **What kind of species can be dispersed using aerial seeding?**
 - a. The species selected must be native to area and hardy, with seeds that are of an appropriate size for preparing speedballs and have to have a higher survival percentage. Officials also say that it is critical that timing of seeding be correct for plantation to be successful.
8. **Can this replace conventional plantation methods in the state?**
 - a. According to Additional Principal Chief Conservator of Forests, aerial seeding in Haryana is as of now being done only on a pilot basis, “to evaluate effectiveness of technology and dispersal mechanism”.
 - b. He said idea of forest department is not to replace conventional methods but to supplement them, adding that that stage can only come “when there is improvement in technology, when you have drones that are particularly developed for seeding”.

TOPIC 6. YAMUNA WATER

1. For second time in a week, Delhi Jal Board (DJB) had to reduce water production capacity by 25 % after high levels of ammonia were detected in Yamuna river.
2. The concentration of pollutant was high in raw water released from Haryana, due to which supply was affected in parts of city. The situation was brought under control later in the day.
3. The level of ammonia in raw water on 27th July morning was 1.8 parts per million (ppm). This was significantly less than 3 ppm recorded on 31st July.
4. The acceptable maximum limit of ammonia in drinking water, as per Bureau of Indian Standards, is 0.5 ppm. The DJB presently has capacity to treat approximately 0.9 ppm.
5. **What is ammonia and what are its effects?**
 - a. Ammonia is a colorless gas and is used as an industrial chemical in production of fertilizers, plastics, synthetic fibers, dyes and other products.
 - b. Ammonia occurs naturally in environment from breakdown of organic waste matter and may also find its way to ground and surface water sources through industrial effluents or through contamination by sewage.
 - c. If concentration of ammonia in water is above 1 ppm it is toxic to fishes.
 - d. In humans, long term ingestion of water having ammonia levels of 1 ppm or above may cause damage to internal organs.
6. **How does it enter the Yamuna?**
 - a. The most likely source is believed to be effluents from dye units, distilleries and other factories in Panipat and Sonapat districts in Haryana and also sewage from some unsewered colonies in this stretch of river.
 - b. Water used from Yamuna for supply to city is taken before Wazirabad barrage. Officials of Delhi Pollution Control Committee (DPCC) claim discharge from industries in Delhi begins after this point.
 - c. On Monday, a DJB official pointed to high concentration of pollutants being carried by Drains 8 and 4, which bring potable raw Yamuna water to Delhi from Haryana. Drain 8 is also infamous for running alongside another drain carrying industrial waste and sewage in certain stretches of Sonapat district. In some areas here, sandbags are used to prevent two drains from mixing.
 - d. However, on days of heavy rain, both drains overflow, according to residents in area and experts from South Asia Network on Dams, Rivers and People (SANDRP).
7. **How is it treated?**
 - a. The DJB at present does not have any specific technology to treat ammonia. The only solution it adapts is to reduce production at three water treatment plants — Wazirabad, Chandrawal and Okhla — which are largely affected by the pollutant.
 - b. In addition to this, board mixes raw water that carries high concentration of ammonia with fresh supply from Munak canal, which brings Yamuna water from Munak area in Haryana to Delhi. The amount of chlorine added to disinfect raw water is also increased when high levels of ammonia are detected.
 - c. With completion of a new unit of Chandrawal water treatment plant by 2022, fitted with advanced technologies and filters, the DJB expects it can treat ammonia levels up to 4 ppm.
8. **What is the long-term solution to the problem?**
 - a. Stringent implementation of guidelines against dumping harmful waste into the river, and making sure untreated sewage does not enter the water are two things pollution control bodies are expected to do. However, neither Haryana nor Delhi have been able to ensure the same.
 - b. But, a more organic method agreed upon by environmentalists and experts is to maintain a sustainable minimum flow, called the ecological flow. This is the minimum amount of water that should flow throughout the river at all times to sustain underwater and estuarine ecosystems and human livelihoods, and for self regulation. It is, however, a sore point between the two state governments. With Delhi dependent on Haryana for up to 70 % of its water

needs, it has approached the courts several times over the past decade to get what it calls an equitable share of water. Haryana, with a large number of people involved in agriculture, has water paucity issues of its own. Both states have argued over maintaining 10 cumecs (cubic meter per second) flow in the Yamuna at all times.

- c. The lack of a minimum ecological flow also means accumulation of other pollutants. After water is extracted from river for treatment in North East Delhi, what flows is mostly untreated sewage and refuse from homes, run off from storm water drains and effluents from unregulated industry.

CIVILSIAS

TOPIC 7. GOVERNOR'S ROLE

1. Both Congress and BJP, when in power at Centre, have been accused of misusing office of Governor for political purposes. And when in Opposition, both have alleged murder of democracy and Constitution.
2. The role of Governors in imposing President's Rule in states dates as far back as 1959, when E M S Namboodiripad government in Kerala was dismissed.
3. The role of Governors in toppling one government and installing another is not new either: in 1967, West Bengal Governor Dharma Vira dismissed Ajoy Mukherjee government and installed a Congress-supported government with P C Ghosh as Chief Minister.
4. Governors have also courted controversy by not inviting the single largest party to form government.
5. **1980s-90s: Congress years**
 - a. In August-September 1984, Governor Ram Lal installed minister Nadendla Bhaskara Rao as Chief Minister of Andhra Pradesh when Chief Minister N T Rama Rao was abroad for a heart surgery. The same year, Sikkim Governor Homi Taleyarkhan dismissed Nar Bahadur Bhandari ministry.
 - b. Both instances were during the Indira Gandhi regime at the Centre.
 - c. In 1989, P Venkatasubbaiah's action to dismiss the S R Bommai government triggered a legal battle, which ended up in the landmark Bommai judgement of the Supreme Court of 1994.
 - d. Bommai faced a rebellion when an MLA K R Molakery defected and claimed support of 18 MLAs. The Chief Minister told Governor that his government enjoyed majority but Bommai was not given the opportunity to prove it in the Assembly. Instead, Venkatasubbaiah recommended imposition of President's Rule, which was accepted by the Rajiv Gandhi government.
 - e. Bommai was in the Janata Party. In 1988 his party had merged with the Lok Dal, forming the Janata Dal, and new members were inducted into Bommai's Ministry.
6. **1990s: United Front**
 - a. In 1996, Gujarat Governor K P Singh recommended President's rule in the BJP-ruled state. At the Centre was the United Front government headed by H D Deve Gowda.
 - b. The crisis for the Suresh Mehta government began after Shankarsinh Vaghela and 40-odd MLAs rebelled. Mehta proved his majority but the session witnessed a bloody clash between MLAs. Citing breakdown of the constitutional machinery, the Governor recommended Central rule which was accepted.
 - c. Then came the Romesh Bhandari episode in Uttar Pradesh. In the middle of the 1998 Lok Sabha polls, the Kalyan Singh government wobbled after the 22-member Loktantrik Congress headed by Jagadambika Pal withdrew support. Governor Bhandari dismissed the government a little after 8 pm, invited Pal to form the government and swore him in as Chief Minister at around 10 pm along with 17 ministers. Kalyan Singh approached the court, which reinstated him and ordered a floor test which he won. Pal became known as the one-day Chief Minister.
7. **2003-13: UPA rule**
 - a. The Bihar Assembly elections in February 2005 threw up a fractured mandate. With no party in a position to form the government, President's rule was imposed in the first week of March.
 - b. Two months later, the NDA claimed it had the support of 115 MLAs. The JD(U) and the BJP had managed the support of some LJP leaders and independents. Governor Buta Singh alerted the President that this could lead to horse-trading and recommended dissolution of the Assembly on May 21. The Union Cabinet of the UPA met at midnight and faxed the Governor's report to President Abdul Kalam who was in Moscow. Kalam approved the recommendation in two hours and the Assembly was dissolved.
 - c. The Supreme Court later came down heavily on Buta Singh. In its interim order, it held the dissolution unconstitutional. In its final judgement, it held that the Governor had misled the Centre and pointed out that the Union Council of Ministers should have cross-checked before accepting his recommendation. Singh resigned.

- d. The same year saw Jharkhand Governor Syed Sibtey Razi installing JMM's Shibu Soren as Chief Minister overruling the NDA's claims that it had the support of 41 MLAs in the 81-member House after the elections threw a hung Assembly. The BJP was willing to parade the MLAs. Soren resigned without facing a trust vote after nine days in office and BJP's Arjun Munda was sworn in as the next Chief Minister.

8. Since 2014: NDA

- a. On March 18, 2016, Congress's Harish Rawat government in Uttarakhand plunged into crisis after nine MLAs joined hands with the BJP, which staked claim to form the government. The next day, met Governor K K Paul asked the Chief Minister to prove his majority by March 28.
 - b. A day before the trust vote, the Speaker disqualified the nine rebels. The NDA government at the Centre, on the recommendation of the Governor, imposed President's rule the same day without giving Rawat an opportunity to prove his majority. The matter went to court and in April the Uttarakhand High Court quashed imposition of President's Rule and asked Rawat to prove his majority, which he did.
 - c. In 2017, after Assembly elections in Goa, the Congress emerged the single largest party with 17 seats (out of 40) while the BJP had 13. But Governor Mridula Sinha invited the BJP which had cobbled up a post-poll alliance with some regional parties and independents and formed the Government.
 - d. In Manipur too, the Congress emerged the single largest party with 28 seats in the 60-member House, but Governor Najma Heptullah invited the BJP first after it submitted a list of legislators supporting it.
 - e. In the 2018 elections in Karnataka, the BJP emerged the single largest party but fell eight seats short of the halfway mark out of 224. The Congress dramatically announced a post-poll alliance with JD(S) to keep the BJP out. Governor Vajubhai Vala invited BJP's B S Yeddyurappa and gave him 15 days to prove the majority.
 - f. Yeddyurappa was sworn in on March 17. The Congress rushed to the Supreme Court which curtailed the time given and asked Yeddyurappa to prove his majority on May 19. Unable to get the numbers, he resigned without taking the floor test.
 - g. In Maharashtra, the Assembly elections in October last year threw up a hung verdict. With possibilities of formation of a stable government not emerging even 15 days after the results, Governor Bhagat Singh Koshiyari recommended President's rule which was imposed.
 - h. The Congress, Shiv Sena and the NCP began discussions and came to an understanding on November 22 to stake claim for formation of a government with Shiv Sena chief Uddhav Thackeray as Chief Minister. But it was BJP leader Devendra Fadnavis who Koshiyari swore in as Chief Minister on November 23 at 8 am, with NCP leader Ajit Pawar as his deputy. This came after the President's rule was revoked at 5.47 am that day. The Governor had submitted a report recommending revocation at 12.30 am.
9. Rajasthan Governor Kalraj Mishra returning the fresh proposal by state Cabinet – seeking to convene a session of the Assembly on 31 July – has raised fresh legal questions on the powers of Governor. This is the second time that Governor has put off the request, which would allow Congress Chief Minister Ashok Gehlot to prove his strength on floor of the House. In 2016, in a different case, the Supreme Court dealt with the issue of powers of the Governor to summon, dissolve the House.

10. Who has the powers to summon the House?

- a. It is the Governor acting on the aid and advice of the cabinet.
- b. Article 174 of Constitution gives the Governor power to summon from time to time "the House or each House of the Legislature of the State to meet at such time and place as he thinks fit..."
- c. However, the phrase "as he thinks fit" is read as per Article 163 of the Constitution which says that the Governor acts on the aid and advice of the cabinet. Article 163(1) essentially limits any discretionary power of the Governor only to cases where the Constitution expressly specifies that the Governor must act on his own and apply an independent mind.

11. What has Supreme Court said in the past about the Governor's power to summon the House?

- a. It is settled law that the Governor cannot refuse the request of the Cabinet to call for a sitting of the House for legislative purposes or for the chief minister to prove his majority. In fact, on numerous occasions, including in the 2016 Uttarakhand case, the court has clarified that when the majority of the ruling party is in question, a floor test must be conducted at the earliest available opportunity.
- b. In 2016, a Constitution Bench of the Supreme Court in Nabam Rebia and Bamang Felix vs Deputy Speaker, the Arunachal Pradesh Assembly case, expressly said that the power to summon the House is not solely vested in the Governor.

12. What did the SC say in the Arunachal case?

- a. Referring to discussions in the Constituent Assembly, the court noted that the framers of the Constitution expressly and consciously left out vesting powers to summon or dissolve the House solely with the Governor.
- b. In paragraph 162 of the judgment, the court discussed that draft Article 153 (which later became Article 174), that dealt with the powers of the Governor, was substantially altered to indicate that the framers did not want to give Governors the discretion.
- c. "The most significant feature of draft Article 153 was expressed in sub-article (3) thereof, wherein it was provided, that the functions of the Governor with reference to sub-clauses (a) and (c), namely, the power to summon and dissolve the House or Houses of the State Legislature "... shall be exercised by him in his discretion," the court noted.
- d. "The manner in which draft Article 153(3) was originally drawn, would have left no room for any doubt, that the Governor would definitely have had the discretion to summon or dissolve the House or Houses of the State Legislature, without any aid or advice. After the debate, draft Article 153 came to be renumbered as Article 174. Article 174 reveals, that sub-article (3) contained in draft Article 153 was omitted. The omission of sub-article (3) of draft Article 153, is a matter of extreme significance, for a purposeful confirmation of the correct intent underlying the drafting of Article 174," it added.
- e. After debating the intention of the framers, the court concluded that "the only legitimate and rightful inference, that can be drawn in the final analysis is, that the framers of the Constitution altered their original contemplation, and consciously decided not to vest discretion with the Governor, in the matter of summoning and dissolving the House, or Houses of the State Legislature, by omitting sub-article (3), which authorized the Governor to summon or dissolve, the House or Houses of Legislature at his own, by engaging the words "... shall be exercised by him in his discretion...". In such view of the matter, we are satisfied in concluding, that the Governor can summon, prorogue and dissolve the House, only on the aid and advice of the Council of Ministers with the Chief Minister as the head. And not at his own."

13. When can a Governor use his discretion?

- a. Article 163(1) of Constitution says that "there shall be a council of Ministers with Chief Minister at head to aid and advise the Governor in the exercise of his functions, except in so far as he is by or under this constitution required to exercise his functions or any of them in his discretion."
- b. When the chief minister has lost the support of the House and his strength is debatable, then the Governor need not wait for the advice of the council of ministers to hold a floor test. Generally, when doubts are cast on the chief minister that he has lost the majority, the opposition and the Governor would rally for a floor test and the ruling party would attempt to stall the process to buy time and keep its flock together. In a puzzling situation, in Rajasthan's case, despite requests from chief minister Gehlot, the Governor has returned requests to call for a session.
- c. However, in the current case, the 19 rebel MLAs have not defected from the Congress Party and have repeatedly stated before the Rajasthan HC that they are merely expressing their dissent within the party and have not shifted to the BJP.

- d. The court in Paragraph 153 the 2016 Arunachal Pradesh ruling, clarifies this question as well. “In ordinary circumstances during the period when the CM and his council of ministers enjoy the confidence of the majority of the House, the power vested with the Governor under Article 174 to summon, prorogue and dissolve the house(s) must be exercised in consonance with the aid and advice of the chief minister and his council of ministers. In the above situation, he is precluded [from taking] an individual call on the issue at his own will, or in his own discretion. Only in a situation where the government in power – on holding of such floor test – is seen to have lost the confidence of the majority, would it be open to the Governor to exercise the powers vested with him under Article 174 at his own, and without any aid and advice,” the court said.

CIVILSIAS

TOPIC 8. MARATHA QUOTA

1. With 12 % quota in education and 13 % in government jobs for Marathas, total reservation in Maharashtra in two sectors is 64 and 65 % respectively.
2. From July 27, Supreme Court will commence daily final hearing on a batch of petitions challenging reservation granted to Maratha community in education and jobs in Maharashtra. A bench of Justices L Nageswara Rao, Hemant Gupta and S Ravindra Bhat is hearing Special Leave Petitions (SLPs) daily through video conferencing.
3. The petitions challenge June 2019 Bombay High Court decision, which upheld the constitutional validity of the Maratha quota under the Socially and Educationally Backward Classes (SEBC) Act, 2018.
4. The top court will also hear a petition challenging admission to postgraduate medical and dental courses under the quota in the state.

5. Who are the Marathas?

- a. The Marathas are a group of castes comprising peasants, landowners among others. While most Marathas are Marathi-speaking, not all Marathi-speaking persons belong to Maratha community. A politically dominant community in Maharashtra, it comprises nearly one-third of the population of the state.
- b. Historically, Marathas have been identified as a 'warrior' caste with large land-holdings. Since the formation of the Maharashtra state in 1960, of its 19 chief ministers, 11 have been from the Maratha community.
- c. While division of land and agrarian problems over the years have led to a decline of prosperity among middle class and lower middle-class Marathas, the community still plays an important role in the rural economy.

6. What did the Bombay High Court rule?

- a. On February 6 last year, a division bench of Justices Ranjit More and Bharati Dangre commenced hearing in petitions filed by advocate Jishri Laxmanrao Patil and others. In April last year, the court closed the petitions for the verdict.
- b. While ruling that the 16 per cent quota granted by the state was not 'justifiable,' the Bombay High Court on July 27 last year reduced it to 12 per cent in education and 13 per cent in government jobs, as recommended by the Maharashtra State Backward Class Commission.
- c. The bench of Justice Ranjit More and Justice Bharati H Dangre said: "We hold and declare that the limit of reservation should not exceed 50%. However, in exceptional circumstances and extraordinary situations, this limit can be crossed subject to availability of quantifiable and contemporaneous data reflecting backwardness, inadequacy of representation and without affecting the efficiency in administration."
- d. The Court had said that while the backwardness of the community was not comparable with SCs and STs, it was comparable with several other backward classes, which find place in the list of Other Backward Classes pursuant to the Mandal Commission.

7. What did the HC rely on?

- a. The court relied heavily on findings of the 11-member Maharashtra State Backward Class Commission (MSBCC) headed by retired Justice G M Gaikwad. The Committee surveyed about 45, 000 families from two villages from each of 355 talukas with more than 50 per cent Maratha population. The report submitted on November 15, 2018, said that the Maratha community is socially, economically and educationally backward.
- b. In social backwardness, the Commission found that around 76.86 % of Maratha families are engaged in agriculture and agricultural labour for their livelihood and nearly 70% reside in Kachha dwellings, and only 35- 39 % have personal tap water connections. Moreover, the report said that in 2013-2018, a total of 2,152 (23.56%) Maratha farmers died by suicide, against total 13, 368 farmer suicides.
- c. The Commission also found that 88.81 % Maratha women are involved in physical labour for earning livelihood, besides physical domestic work they perform for the family.

- d. In educational backwardness, it found that 13.42 % of Marathas are illiterate, 35.31 % primary educated, 43.79 % HSC and SSC, 6.71 % undergraduates and postgraduates and 0.77 % technically and professionally qualified.
- e. In economic backwardness, the Commission found that 93 % Maratha families have an annual income of Rs 1 lakh, which was below average income of middle-class families. Moreover, it found that 37.38% families were Below Poverty line against the state average of 24% and 71% own less than 2.5 acres land, whereas only 2.7% big farmers own 10 acres of land.
- f. The HC expressed satisfaction over the data and observed that the Commission had conclusively established the social, economic and educational backwardness of the Maratha community. It had also established inadequacy of representation of the Maratha community in public employment in the state.

8. What is the existing total reservation in Maharashtra post HC verdict?

- a. A nine-judge bench of the Supreme Court, in the 1993 Indra Sawhney case, which is known as Mandal Commission case, had ruled that total reservation for backward classes cannot go beyond the 50%-mark. Maharashtra is one of the few states that are an exception to this.
- b. In the state, following the 2001 State Reservation Act, the total reservation was 52 per cent. This included quotas for Scheduled Caster (13%), Scheduled Tribes (7%), Other Backward Classes (19%), Special Backward Class (2%), Vimukti Jati (3%), Nomadic Tribe B (2.5%), Nomadic Tribe C-Dhangar (3.5%) and Nomadic Tribe D-Vanjari (2%). The quotas for Nomadic Tribes and Special Backward Classes have been carved out of the total OBC quota.
- c. With the addition of 12-13 % Maratha quota, the total reservation in the state is 64-65 %.
- d. The 10 % Economically Weaker Sections (EWS) quota announced by the Centre last year is also effective in the state.

9. How challenges to Maratha quota have been dealt by the HC and the SC so far

- a. The Bombay High Court on July 11 last year dismissed a petition filed by a group of aspiring medical students challenging the constitutional validity of a June amendment to the Socially and Educationally Backward Classes (SEBC) Act, allowing Maratha reservation for 2019-2020 admissions to MBBS courses.
- b. The Supreme Court on July 12, 2019 refused to stay the June 27 Bombay High Court judgement, which had upheld the validity of the reservation. The SC had clarified that the reservation will not have retrospective effect. Thereafter, time and again, the Apex Court has refused to put an interim stay on the quota.
- c. Recently, the top court refused to grant interim stay on a plea by medical students, seeking a direction that the 12 % quota not be made applicable for admissions in post graduate medical and dental courses for academic year 2020-21.

TOPIC 9. HURRICANE HANNA

1. Texas, which is one of largest hotspots for Covid-19 in US, is now facing another threat, as Hurricane Hanna made landfall here on Saturday (July 25). Officials have warned about a life-threatening storm surge and strong winds, at a time when Texas has more than 380,000 Covid-19 cases and has recorded over 5,000 deaths.
2. **How intense is Hurricane Hanna?**
 - a. Hanna reached wind speeds of up to 90 mph. The hurricane is expected to produce heavy rains across portions of southern Texas and northeastern Mexico, which will result in “life-threatening” flash flooding and isolated minor to moderate river flooding.
 - b. As per latest update issued by National Hurricane Centre (NHC), centre of Hanna has moved into northeastern Mexico and the storm surge warning for Texas has been discontinued.
 - c. There are five categories of tropical cyclones, depending on the wind speeds. Hanna is category one. When winds in rotating systems reach 39 mph, storm is called a tropical storm and when they reach 74 mph, tropical storm can be classified as a tropical cyclone or a hurricane and is also given a name.
 - d. Once tropical cyclones make landfall, they become weaker since they are no longer fed by heat of ocean, but before dying out completely, they move far inland dumping inches of rainwater and causing wind damage.
 - e. In May, National Oceanic and Atmospheric Administration (NOAA) announced that this year, an “above-normal” hurricane season is expected in US. One reason for this is warmer-than-average sea surface temperatures in tropical Atlantic Ocean and Caribbean Sea, along with weaker tropical Atlantic trade winds and an enhanced west African monsoon.
3. **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 equator. As NASA describes it, when warm, moist air rises upward from surface of ocean, it creates an area of low air pressure below. When this happens, air from surrounding areas, which has higher pressure, enters this space, eventually rising when it becomes warm and moist too.
 - b. As warm and moist air continues to rise, surrounding air will keep entering area of low air pressure. When warm air rises and cools off, water in the air forms clouds and this system of clouds and winds continues to grow and spin, fueled by ocean’s heat and water that evaporates from its surface.
 - c. As such storm systems rotate faster and faster, an eye form in centre. Storms that form towards north of equator rotate counterclockwise and those that form south of equator spin clockwise because of rotation of Earth on its axis.
4. **How are tropical cyclones named?**
 - a. Since 1953, Atlantic tropical storms have been named according to lists by National Hurricane Center (NHC). In 1978, it was decided that NHC will use alternating men and women’s names, on lines of practice adopted by Australia’s bureau of meteorology three years earlier in 1975.
 - b. These names are maintained and updated by an international committee of the World Meteorological Organisation (WMO). The WMO represents over 120 countries and uses pre-determined lists of names for each ocean basin of the world. Typically, the names should be short and should be readily understood when broadcast.
 - c. There are six such lists of names with 21 names each (each starting with one alphabet except Q, U, X, Y and Z because names beginning with these letters are in short supply) that are used in rotation, which is to say that the list of names attributed to Atlantic tropical storms in 2019 will also be used in 2025.
 - d. However, names of storms that caused particular damage and deaths are retired and in case there are more storms than names in the list, NHC names them using the Greek alphabet.

Some of the retired names include Erika (2015), Irma (2017) and Florence (2018) among several others.

- e. Further, the only time that a storm may be renamed is when it dissipates to a tropical disturbance and reforms.

5. Why is it important to name tropical cyclones?

- a. Adopting names for tropical storms makes it easier for people to remember, as opposed to numbers and technical terms. Apart from the general public, it also helps the scientific community, the media, disaster managers etc.
- b. With a name, it is easy to identify individual cyclones, create awareness of its development, rapidly disseminate warnings to increased community preparedness and remove confusion where there are multiple cyclonic systems over a region.
- c. "Experience shows that the use of short, distinctive names in written as well as spoken communications is quicker and less subject to error than the older, more cumbersome latitude-longitude identification methods. These advantages are especially important in exchanging detailed storm information between hundreds of widely scattered stations, coastal bases, and ships at sea," the NOAA website says.

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

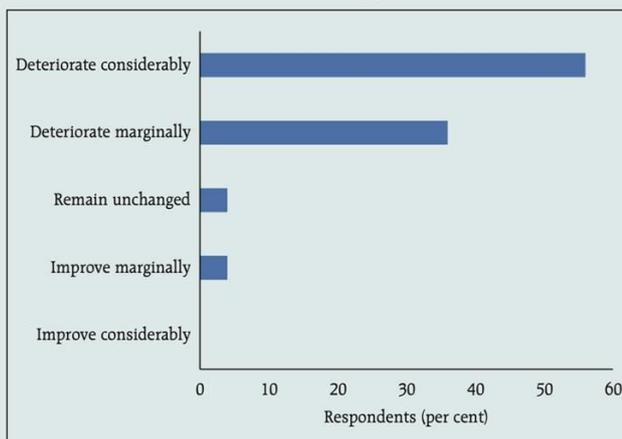
- a. There is no difference. Depending on where they occur, hurricanes may be called typhoons or cyclones. As per NASA, the scientific name for all these kinds of storms is tropical cyclones. The tropical cyclones that form over the Atlantic Ocean or the eastern Pacific Ocean are called hurricanes and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



TOPIC 10. NON PERFORMING ASSET

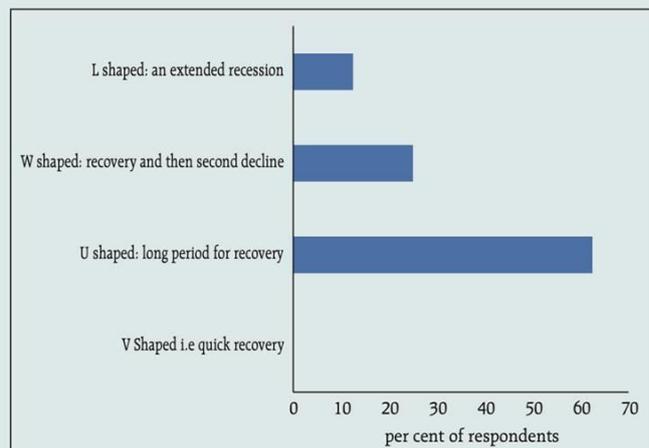
1. We heard a lot about growing threat of Non-Performing Assets (NPAs) in Indian economy this week.
2. Raghuram Rajan “limits of RBI monetizing government debt.”
 - a. RBI cannot be expected to fund government borrowings directly or indirectly without risking a sharp spike in inflation.
 - b. Once economies like India open fully, a lot of damage wrecked on corporate sector by lockdowns will be uncovered. [many firms may default on paying back their loans.]
3. Urjit Patel.
 - a. Insolvency and Bankruptcy Code (IBC), which was supposed to speed up and simplify resolution of defaulting firms, created a rift between RBI and central government, as latter sought to dilute IBC.
 - b. Resolution of firms failing to pay back their dues will be adversely affected. “Since time-bound threat of insolvency application is not credible anymore, it is unclear what threat points will compel resolution in 180 days (or, for that matter, even 365 days)”.
4. Viral Acharya
 - a. “Attempts to alter governance structure of RBI to institutionalize such outcomes in future would have meant crossing Rubicon and had to be foiled. As a result, RBI lost its governor (Patel) on altar of financial stability”.
5. Then came release of **Financial Stability Report** by RBI.
 - a. RBI comes out with FSR twice each year - once in **June or July** and next time in December.
 - b. FSR provides one of most authoritative accounts of state of India’s financial stability.
 - c. In latest FSR, stated that Gross NPAs could rise from 8.5% (of gross loans and advances) at end of March 2020 to as much 14.7% by March 2021 - a two-decade high.
 - d. FSR is a veritable goldmine of information across various sectors. Each FSR also carries with it results of a **Systemic Risk Survey (SRS)**. This SRS - this one is 18th in series - was conducted during April-May 2020 to capture perceptions of experts, including market participants, on major risks faced by financial system.

Chart 1: Prospects of Indian banking sector in the next one year



Source: RBI systemic risk survey (April 2020).

Chart 4: Possible shape of economic recovery (April 2020)



Source: RBI systemic risk survey (April 2020)

6. According to survey results, all major risk groups viz., global risks, risk perception on macroeconomic conditions, financial market risks and institutional positions were perceived as ‘high’ risks affecting the financial system.
7. A detailed rendering of SRS explains why all RBI Governors - past and present - have cautioned about a rise in NPAs in economy.
8. For instance, as **Chart 1** shows, 56% of respondents opined that prospects of Indian banking sector are going to deteriorate considerably in next one year.

9. A central reason for this is that absolutely no one expects a “V-shaped” economic recovery
10. Lastly, Table 1 alongside points to those sectors of economy that are likely to be worst affected by this downturn.
- 11. Where does all this leave the RBI?**
- a. India’s central bank has much on its plate. Many have argued that RBI’s autonomy and independence have been undermined in past few years. Others question wisdom in RBI solely targeting retail inflation level. Shouldn’t RBI be targeting growth or unemployment levels instead, they ask. Then, of course, there is challenge of NPAs that simply refuses to go.
12. Between August 2 to 4, RBI’s Monetary Policy Committee will come together to answer some of these questions, albeit in their own way.

Table 1: Sectors adversely affected by COVID-19 and their future prospects

(per cent of respondents)

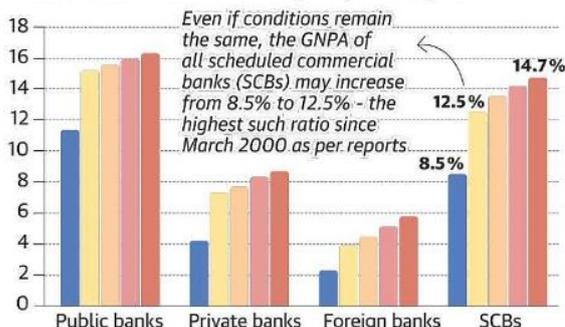
Sector	Prospects of recovery in the next 6 months			
	Good	Moderate	No change	Bleak
Tourism and Hospitality		5	5	90
Construction and Real Estate		37.5	12.5	50
Aviation		7.7	7.7	84.6
Automobiles		50		50
Micro Small & Medium Enterprises		40		60

Source: RBI systemic risk survey (April 2020).

Bad loan problem

The COVID-19 lockdown, which has greatly impacted industries, will have a bearing on banks which have made loans to them. The RBI’s latest financial stability report predicts a two-decade-high Gross Non-Performing Assets (GNPA) ratio in banks by next March as industries which never defaulted were also impacted. The situation is expected to worsen once the loan moratorium is lifted. Notably, smaller borrowers are a higher share of defaulters than before. By **The Hindu Data Team**

1. Stress test | The graph depicts the actual % of GNPA in the total loans in March 2020 and the projected share in March 2021 if macroeconomic conditions remain the same, if they go through medium stress, severe stress, and very severe stress. Conditions include GVA, GDP, inflation, etc.



3. Moratorium matters | As a relaxation to borrowers, the RBI extended the moratorium on term loans till August 31. About 67.9% of all outstanding loans by public banks (PSBs) were under moratorium as of April 30. This means the extent of bad loans in the system is still not known. Once the moratorium lifts, the defaults may go up even further

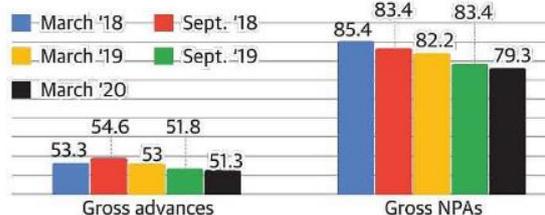
	% of outstanding loans under moratorium (April 30)			
	CORPORATES	MSMES	INDIVIDUALS	ALL
PSBs	58	81.5	80	67.9
PVBs	19.6	42.5	33.6	31.1
NBFCs	56.2	61.1	45.9	49
SCBs	39.1	65.3	56.2	50

Last word | Once the moratorium lifts, and if the borrowers who had opted for it start to default on their loans, a spike could be observed in the Special Mention Accounts (accounts which have high potential to turn into NPAs later) in the September report

2. Performers suffer | Industries which held a high share of loans which have not yet defaulted once (“good quality loans”) are “severely affected by the COVID-19 crisis,” the RBI said. These industries and their % share of total good quality loans in PSBs as on March 2020 are tabulated. Data show that even those which usually repay on time may default

Industries severely affected	% of good loans
NBFCs: general purpose loans	10.4
Generation of electricity	9.8
NBFCs: in the housing sector	7.7
Manufacturing of petroleum products	4.6
Manufacturing of basic iron and steel	4.4
Construction/maintenance of roads	3.9
Public utility services	3.3
Collection and distribution of electricity	2.5
Real estate activities	2.3

4. Small trouble | The graph shows the % of large borrowers (>₹5 cr.) in SCB’s gross loans and GNPAs. Both figures have come down since March 2018. This suggests that the smaller borrowers are now responsible for a higher share of bad loans than before



TOPIC 11. GHAZIPUR LANDFILL'S

1. The Ghazipur site rises by nearly 10 metres a year and was expected to surpass height of Qutub Minar and other vertical structures in country.
2. Two people were killed and four vehicles fell into a drain after a part of a landfill site collapsed in Delhi's Ghazipur area in 2017.
3. The landfill site, commissioned in 1984 and overflowing since 2002, exceeded its capacity at least a decade ago but garbage continued to be dumped here in absence of any alternate option.
4. At last count in 2019, landfill had crossed 65 metres (213 feet), just eight metres short of iconic Qutub Minar, which is 73 metres high. The Ghazipur landfill site rises by nearly 10 metres a year and was expected to surpass height of Qutub Minar and other vertical structures in country.
5. On the contrary, landfill site has reduced in height in past several months.
6. **How has height of landfill reduced?**
 - a. Over 140 lakh tonnes of waste collected since 1984 lie in Ghazipur landfill leading to hazardous living conditions with toxic air, contaminated water for people living in nearby areas like Kaushambi, Khoda, Gharoli, Kalyanpuri, Ghazipur and Kondli.
 - b. In October 2019, EDMC began using trommel machine-cum-ballistic separators, which are mechanical screening machines used to separate solid-waste and inert materials. Currently, eight such machines with a combined capacity of 1,200 tonne per day are segregating and lifting waste from site. These trommels have processed 13,0000 MT of wastes till date.
7. **What happens to waste after segregation by these machines?**
 - a. The trommel machine divides waste into 3 parts: construction and demolition wastes; plastic and combustible wastes for use as fuel, and enriched soil and inert, which is around 50 %.
 - b. Around 15 % of waste is used as Refuse Derived Fuel (RDF) and sent to energy plants in Ghazipur for producing electricity. Nearly 20 % waste is sent to construction and demolition waste plants of EDMC for making bricks, tiles and sand.
 - c. While soil-like material, which comprises over half of waste derived, is sent to NTPC's eco-park where so far 8,000 tonnes of waste has been sent. Remaining waste was sent to parks of EDMC.
8. **How has height reduced when 2500 MT of waste is dumped every day and only 8,000 MT is processed per day?**
 - a. The answer lies in geography and not mathematics. The corporation dumped waste in adjoining areas of 70 acre landfill site as operation to lessen height of landfill continued.
 - b. The first stage of clearing landfill sites involves that height has to be reduced because that is dangerous and can lead to cave-in or collapse of a portion that has caused accidents in past.
 - c. The nearby part of site where a lot of garbage lie dumped has also reached 25 feet. The target is to reach 2,400 MT capacity per with six more machines. But same method will not be replicated in second stage because then size will keep increasing, though at a slower rate.
9. **Can the landfill be permanently removed?**
 - a. Theoretically yes, but practically challenging given that 2500 mt tonnes waste is dumped at landfill site every day.
 - b. The answer lies in segregation of waste and use of technology to set up plants for further segregation and transportation.
 - c. Currently, there is hardly any colony where segregation happens, which makes producing electricity and making compost and gas more challenging from waste.
 - d. For instance, only biodegradable elements are needed for making gas and only non-bio degradable things for making electricity.
 - e. Today what looks easy is also because a lot of waste is very legacy waste which is very old so a lot of moisture has gone and become soil with passage of time, but same cannot be done with fresh waste.
 - f. These wastes if recycled at home can easily be sent to different facilities for composting, power production and other uses. And if rotten or mixed with metal or other dirt becomes useless.

10. What are other challenges before EDMC?

- a. The perception that the recycled materials are of inferior quality has led to several recycled items such as sand, stones, bricks and tiles lying unused at its plant causing losses.
- b. Even some government agencies have backed out from purchasing recycled materials for road construction.
- c. We have disposed of soils at NTPC plant, but in future we need to see who takes so much waste.
- d. In 2nd stage, EDMC plans to increase number of trommel machines and set up an integrated waste processing plant with a capacity of 2000 metric tonnes of separation per day. But there is also opposition from locals and activists against proposed facility that must come up at Ghonda Gujran in north-east Delhi. The argument is that it could destroy aquifers present in river's flood plains



TOPIC 12. TIANWEN-1

1. On Thursday, China launched a rover to Mars, signaling a space race with US - NASA is set to launch its own rover on July 30. It also marks a busy week for Mars missions, with UAE having **launched one on Monday** - one that does not involve a landing, but an orbital mission that will study Martian atmosphere.
2. This is a period that offers a window for such launches, with alignment of Earth and Mars allowing a short journey.
3. **The China mission**
 - a. China's 1st Mars probe is called Tianwen-1 (formerly Huoxing 1), which means "Questions to Heaven". The spacecraft consists of an orbiter, a lander and a rover, and mission aims to study thickness and sub-layer distribution of Martian soil.
 - b. The spacecraft, weighing 5 tonnes, launched on a Long March 5 rocket from Xichang, China.
 - c. The scientific goals of mission include studying Martian topography and geology and determining composition of surface material, climate and environment.
 - d. Tianwen-1 will reach Red Planet's orbit in February 2021. The rover will land on Mars in May.
 - e. The orbiter will use high-resolution cameras to search for a suitable landing site somewhere in Utopia Planitia region. It weighs around 240 kg and will carry cameras, a subsurface radar, a spectrometer, a magnetometer and atmospheric sensors.
4. **The US mission**
 - a. NASA's newest rover Perseverance - other rovers have landed on Mars earlier - will look for signs of habitable conditions on Mars and microbial life in its ancient past. Over its mission duration of one Martian year (687 Earth days), it will collect Martian rock and sediment samples for analysis on Earth.
 - b. The rover is equipped with specialized equipment to collect data, analyze weather conditions that can help plan for future human missions and produce oxygen from carbon-dioxide-rich atmosphere.
 - c. Perseverance is expected to touch down on Mars on February 18, 2021. NASA's Curiosity rover has been exploring Mars since 2012. It remains active although its targeted mission life is over.
5. **The space race**
 - a. Space exploration has been dominated by US and Russia for more than 50 years. "China joining (Mars race) will change situation dominated by US for half a century,".
 - b. China sent a human into space in 2003. It has also started plans to set up a space station by 2022. China has also sent two rovers to the Moon, with second landing on far side.
 - c. Mars is a bigger challenge, however. The much greater distance means "a bigger light travel time, so you have to do things more slowly as radio signal round trip time is large". It also means "you need a more sensitive ground station on Earth because signals will be much fainter".
 - d. China, in partnership with Russia, had attempted a mission to Mars in 2011 too, but launch failed.
 - e. "We carry out this first Mars exploration mission to peacefully use the universe and to explore its mysteries. It's for this purpose. It's not to launch a competition with any other country."

TOPIC 13. QUAD

1. The Quad was originally born out of the crisis that followed the Tsunami in December 2004
2. India's rescue mission in the Indian Ocean was coordinated with the three other naval powers engaged in similar efforts — U.S., Australia and Japan
3. The Quad effort was later handed over to the UN, but the idea of the Indo-Pacific as a larger maritime strategic community had been planted in the minds of all four
4. Parallel exercises in the Indo-Pacific this week, including a trilateral exercise between the U.S., Australia and Japan in the Philippines Sea, and an Indo-U.S. naval exercise in the Indian Ocean have fueled speculation that **Quadrilateral (Quad)** exercises will be launched soon between all four navies.
5. All eyes are on a decision by New Delhi, to accept Australia's request that has been pending for four years now, to join annual Malabar exercises with India, U.S. and Japan. The decision has not been an easy one, given China's fierce opposition to militarization of a coalition seen as a counter to its claims in Pacific and inroads in Indian Ocean. India has also been wary of joining any exercise that could be construed as an alliance, something External Affairs Minister said India will "never be" a part of.
6. In 2018, at Shangri-La Dialogue, Prime Minister Modi had said that India sees Indo-Pacific as a "geographical concept", not a "strategy or a club of limited members". Also, India is only country in Quad that shares a land boundary with China, and militarization of Quad will not help India deal with that threat. Fourthly, unlike U.S., Japan and Australia, which are tied by military alliances, India is a member of other strategic forums, such as Shanghai Cooperation Organization with China, Russia and Central Asia, BRICS and RIC, which appear to be at cross purposes with a Quad alliance.

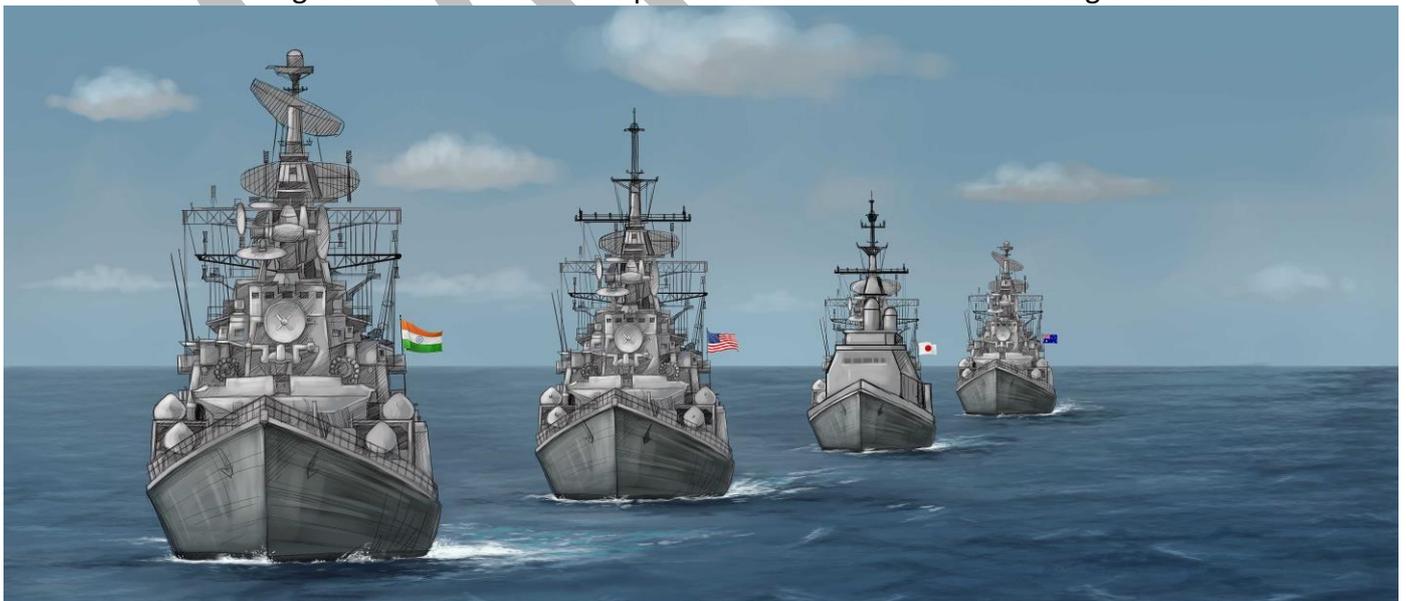
The China factor

7. Even so, many contend that China's recent moves, including its aggression in South China Sea and transgressions and deadly clashes across Line of Actual Control (LAC), may in fact prove to be tipping point that makes India take plunge, pushing countries of Quadrilateral Security Group, called Quad for short, into a military embrace that will have far-reaching implications for regional and global security.
8. Ironically, Quad, which today involves such laboured and slow-paced discussions, was originally born in an instant: from crisis that followed tsunami in December 2004. Within days of disaster, India had mobilised an impressive fleet, and demonstrated to world that it would not just manage its own rescue effort in Tamil Nadu and Andaman and Nicobar islands but could also provide assistance to its maritime neighbours: Sri Lanka, Maldives and Indonesia.
9. In all, about 32 Indian ships and 5,500 troops were pressed into India's international efforts. The humanitarian and disaster relief effort was coordinated in next few weeks with three other naval powers engaged in rescue effort: U.S., Australia and Japan. The then Foreign Secretary, Shyam Saran, spoke every day to his counterparts about what was needed next. Eventually, the "Quad" effort was handed over to the UN, but the idea of the Indo-Pacific as a larger maritime strategic community, and the Quad as an effective instrument in it, had been planted in the minds of all four members.
10. Japanese Prime Minister Shinzo Abe, who had been promoting the idea of an "arc of prosperity and freedom" that brought Quad countries closer together, was happy to develop concept and Prime Minister Manmohan Singh discussed it with him during a summit in December 2006. In 2007, when annual India-U.S. 'Malabar' exercises were held in Indian and Pacific oceans, first off Okinawa and a few months later, off Visakhapatnam, they included Japan, Australia and Singapore. The exercises and strategic coordination in what Mr. Abe had called "confluence of two seas" rattled Beijing and Moscow, who termed it an attempt to build "an Asian NATO".
11. China's Navy had not at the time undergone its massive modernisation drive towards a blue water navy (it only commissioned its first aircraft carrier, Liaoning, in 2012), and the effort by the Quad countries was clearly an impetus to hasten the process. But at the time, China's demarches to the Quad countries paid off. Contrary to the currently popular lore, it was not India that cancelled the "Quad" exercises in 2008: the U.S., which was trying to gain China's support in the six-party talks on North Korea, dampened enthusiasm for a Quad Foreign Ministers' meeting, and the Kevin Rudd government in Australia then pulled out of the exercises. The Quad was shelved for the next decade.

12. In 2017, Quad returned, now named Quad 2.0, coinciding with revision in Washington's assessment of challenge from China, and similar reassessments in New Delhi, Tokyo and Canberra. In November 2017, just months after Doklam stand-off between Indian Army and PLA, officials from all four countries met in Manila for 'India-Australia-Japan-U.S.' dialogue. The name of new Quad was innocuous, to dispel notion this was a "gang-up", and they did not even issue a common joint statement. In fact, differences within group went deeper, and while India defined "Indo-Pacific" region from Africa and U.S. west coast, U.S. limited it to Indian coast (in 2020, the U.S. aligned its definition with India's).

Alternatives to BRI

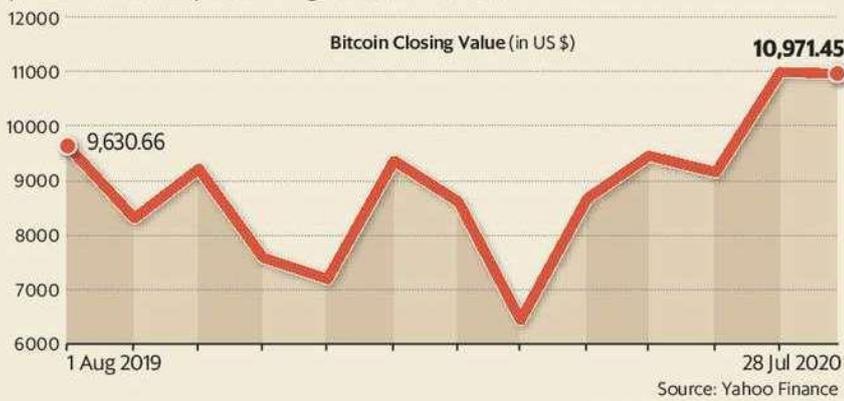
13. Subsequent meetings have closed many of the gaps they have, and the Quad grouping has met biannually since then, discussing "connectivity, sustainable development, counter-terrorism, non-proliferation and maritime and cyber security, with a view to promoting peace, stability and prosperity in an increasingly inter-connected Indo-Pacific region". The emphasis on connectivity has seen the Quad challenge China in another sphere: a coordinated effort to provide financing and sustainable alternatives to China's Belt and Road Initiative (BRI), which has led many nations to take loans and accept infrastructure bids from Beijing.
14. The counter has not yet made much headway, but each of the Quad countries is coordinating their responses on infrastructure projects in their spheres of influence, including India and Australian efforts in the Pacific islands, India-U.S. coordination in South Asia and the Indian Ocean region, and India-Japan joint efforts to develop projects in Sri Lanka, Bangladesh and Myanmar. The military aspect of the Quad has also grown: India has strengthened its naval ties with each of the other Quad countries, and there have been more interactions, formal and informal at the official, political and military levels.
15. Eventually, the question over the next step in the Quad — whether India invites Australia to the next Malabar exercises or not — will be secondary to how India develops its own strategic vision, especially given the stand-off with China. Will India revert to traditional positions of non-alignment, enlisting China's ally Russia in its attempt to manage the threat from Beijing? Or will India pursue "multi-alignment", inviting middle powers such as the EU, the U.K., France, Russia, and partners such as Brazil, the UAE and South Africa into its Indo-Pacific strategy? Or does India's course lie in a closer coalition with China's adversaries, and being drawn into choosing its corner in the new Cold War that is developing between the U.S. and China? India's moves with the Quad will be closely watched, as they bear more meaning than ever before on the path it will take to realise its strategic future.



TOPIC 14. CRYPTOCURRENCY

Crypto craze

Investors' interest in cryptocurrencies sparked the rapid increase in Bitcoin's value and stability in the last couple of years. The data shows stable growth in Bitcoin's price over the last year, making it a reliable store of value.



1. There has been growing interest in cryptocurrencies since Bitcoin captured imagination of people. With Facebook creating its own cryptocurrency, governments are watching this development as it threatens their monopoly over issuing money.
2. **How do you define cryptocurrencies?**
 - a. Cryptocurrencies are e-currencies that are based on decentralized technology and operate on a distributed public ledger called **blockchain**.
 - b. Blockchain records all transactions updated and held by currency holders.
 - c. The technology allows people to make payments and store money digitally without having to use their names or a financial intermediary such as banks.
 - d. Cryptocurrency units such as Bitcoin are created through a 'mining' process which involves using a computer to solve numerical problems that generate coins.
 - e. Bitcoin was one of first cryptocurrencies to be launched and was created in 2009.
3. **How are they different from actual currency?**
 - a. Unlike cryptocurrencies, an actual currency is issued by government.
 - b. That is, money is created or printed by government which has a monopoly in terms of issuing currency. Central banks across world issue paper notes and therefore create money and assign paper notes their value.
 - c. Money created through this process derives its value via government fiat, which is why paper currency is also called **fiat currency**.
 - d. In case of cryptocurrencies, process of creating currency is not monopolized as anyone can create it through mining process.
4. **How do cryptocurrencies derive their value?**
 - a. Any currency has its value if it can be exchanged for goods or services and if it is a store of value (it can maintain purchasing power over time).
 - b. Cryptocurrencies, in contrast to fiat currencies, derive their value from exchanges.
 - c. The extent of involvement of community in terms of demand and supply of cryptocurrencies helps determine their value.
5. **What is behind the cryptocurrency ban?**
 - a. While some governments have recognized potential of technology underlying cryptocurrencies, most remain sceptical and several have banned them.
 - b. Regulators fear that Bitcoin and others could be used to circumvent capital controls or launder money.

- c. Moreover, they can be used for illegal purchases or for other criminal activity. Several regulators have discussed their systemic concerns - they could destabilize or undermine control of central banks on their respective economies.

6. **Will the govt control of money end as a result?**

- a. Present structure of global financial system puts central banks at its center, making them an integral part of economies. This happens through sovereign's monopoly on issuing fiat currency.
- b. With Facebook announcing project **Libra**, discussions are on to find potential ways to regulate its adoption. Governments, central banks are unlikely to let go of state's monopoly to issue currency while they use regulation to ban or discourage cryptocurrency use.

CIVILSIAS

TOPIC 15. GDP

1. Many indicators suggest that Indian economy slowed down in wake of global financial crisis, but GDP data paints a different picture
2. After being conferred first P.C. Mahalanobis Award in Official Statistics for lifetime achievements by India's statistics ministry a few weeks ago, former Reserve Bank of India governor C. Rangarajan had one big message for his hosts: end controversy around calculating gross domestic product (GDP).
3. When it was first released in 2015, several economists and government officials had expressed bewilderment at dissonance between new GDP numbers and other macro-economic indicators. Since then, dissonance has only grown.

The great Indian GDP paradox

4. GDP series suggests that India's economic boom in 2005-11 period continued at a nearly identical pace in 2012-18 period at just above 7%. Almost all other indicators of economic activity suggested otherwise. Bank credit, for instance, grew at a real (inflation-adjusted) rate of 15% per annum in pre-2011 period. The pace slowed dramatically to 4% per annum in post-2011 period. The fall in credit growth mirrors slowdown in investment projects under implementation, as recorded by Centre for Monitoring Indian Economy (CMIE).
5. Factory output, as recorded by Annual Survey of Industries (ASI), saw a deceleration from 9% growth per annum in pre-2011 period to 2% in post-2011 period. The latest National Sample Survey (NSS) consumption report shows that rural consumption actually declined at an annual pace of 1.5% in post-2011 period after growing at 3% in pre-2011 phase. The ministry buried consumption report, citing divergence with GDP growth figures. But as accompanying charts show, GDP growth numbers are the real outliers (**See charts 1a and 1b**).
6. Even wage indicators have seen sharp deceleration in recent years. An analysis of Periodic Labour Force Survey (PLFS) data for 2017-18 by economists Ravi Srivastava and Balakrushna Padhi shows that wage growth for informal workers (casual labourers) decelerated from 8% in pre-2011 era to 2% in post-2011 period. Salaried and urban workers were hit hardest in post-2011 period, they wrote in an Institute of Human Development (IHD) working paper published earlier this year.
7. The wage bill of factories declined sharply in the post-2011 period, and so did wage bill of non-financial services firms for which CMIE compiles data. Other indicators of economic activity have also shown a marked deceleration in post-2011 period, as shown by India's former chief economic adviser Arvind Subramanian in a July 2019 Harvard University working paper.
8. To be sure, data presented here should not be taken as evidence that everything went downhill since 2011. Factory jobs and wages, for instance, decelerated in 2011-13 years before showing a modest recovery in 2014-18 period. Yet, the pace of recovery has been very slow, which means that 2012-18 period has seen a much more modest pace of growth as compared to 2005-11 period. This was true of several other corporate indicators as well.
9. So, what explains the dissonance between these indicators and the controversy-ridden GDP series? Several researchers have made valiant attempts to study this question over the past five years based on the limited public disclosures on the GDP calculations, and come up with some plausible answers.

A shiny new database goes wrong

10. The roots of GDP measurement controversy lie in use of a relatively new corporate database, MCA-21, in national accounts, according to several economists. Even in 2015, manner in which MCA-21 data was plugged into national accounts had raised questions. A 2018 National Statistical Commission (NSC) report found 'serious inconsistencies' in database.
11. The controversy blew up last year, after an NSS report showed that many firms listed in database either could not be traced during field visits, or were misclassified (See chart 2). The revelations kicked up a data storm last May and led to 'clarifications' from finance and statistics ministries. These clarifications suggested that infirmities in database may have led to errors in estimating share of different sectors in overall GDP pie because of misclassification problem (classifying manufacturing

firms as services, for instance) but impact on aggregate GDP numbers was minor. But clarifications failed to satisfy independent researchers, and left several questions on use of database unanswered.

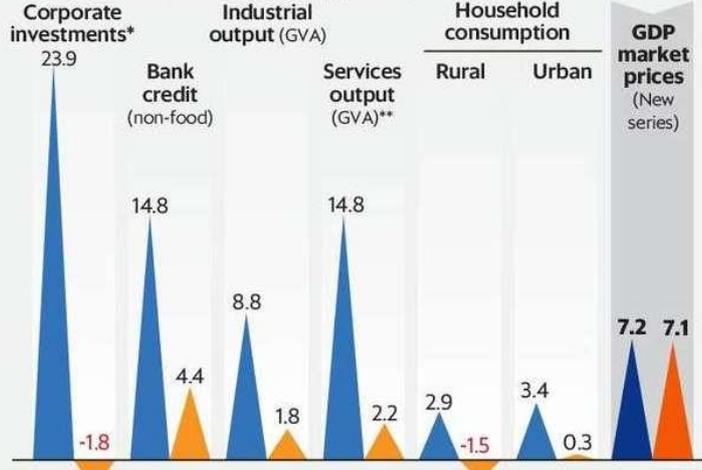
12. The clarifications have only raised 'further doubts' on the sample of companies being used for GDP estimation, wrote economists R. Nagaraj, Amey Sapre and Rajeswari Sengupta in a July 2019 research paper. The methodology used by the statistics ministry to account for missing data on firms may be over-estimating growth, they argued. "It is now beyond doubt that there is a serious flaw in the way the MCA-21 data was used for estimation of various aggregates," wrote former NSC chief R.B. Barman in an Economic and Political Weekly article published earlier this year.

Heroic assumptions, imprecise methods

13. National account experts have also raised questions on several new innovations in the new GDP series, such as the use of data from ASI's quasi-corporate firms, to estimate informal sector growth, which could be bumping up growth estimates (**See chart 3**).
14. The earlier GDP series also relied more on volume indices to capture growth. This made the task of estimating real (inflation-adjusted) growth easier. The shift from a volume-based to a value-based approach in the new series necessitated the use of deflators for each sub-sector to separate the rise in output (real value-added) from the rise in prices of each product category. In the absence of a producer price index, the ministry has relied largely on the sub-components of the wholesale price index (WPI) to deflate the value added by each sub-sector of the economy. The use of the WPI has inflated real growth rates in many sectors at a time when commodity prices were falling, Sengupta has argued in her writings. If CPI-based deflators, which are more appropriate for GDP computations are used instead, it could bring down growth rates by a couple of percentage points, she wrote.
15. The misclassification issue only adds to the deflator tangle. Since firms listed as manufacturing firms in the MCA-21 database may, in reality, be services firms and vice-versa, the output of these firms may be getting deflated using manufacturing-sector deflators.
16. The accurate estimation of GDP is important for all stake-holders—consumers, investors and policymakers. To agree on the right remedies for India's economic weaknesses and to take the right decisions, we must first all agree on the extent and nature of the issue.
17. The statistics ministry would do well to heed Rangarajan's words and settle the GDP debate once and for all. The most effective step in this process would be to release a detailed hand-book on sources and methods for the GDP computation methodology (as was done for the 2004-05 series), along with the unit-level data of the MCA-21 database, so that it may be vetted by independent researchers. Only then would the controversy end.

Most macro indicators show a sharp slowdown post 2011, but not GDP

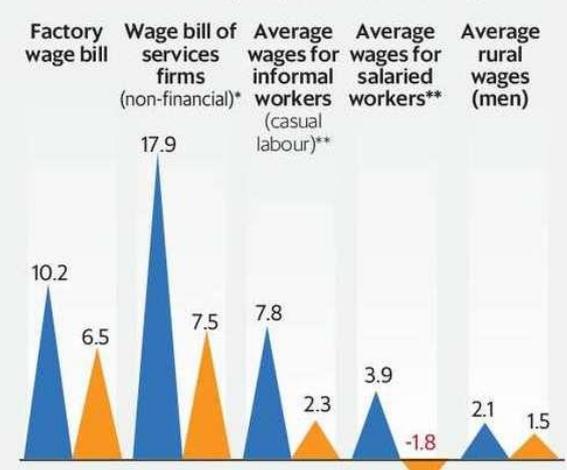
Annual real (inflation-adjusted) growth (CAGR, in %)



*Corporate investments refer to the growth in total projects under implementation in the last quarter of the fiscal, as reported by CMIE. **Gross value added (GVA) in services is as reported by CMIE based on filings from more than a thousand non-financial services firms. Industrial output (GVA) growth is based on data reported by the Annual Survey of Industries (ASI), which covers more than 200,000 factories. Real growth for all indicators other than consumption have been calculated using CPI-IW as a deflator, since that is available for the entire period under consideration. Real household consumption data (rural and urban) are as reported by NSS reports based on their surveys in the 2004-05, 2011-12, and 2017-18 periods. The consumption growth between 2011-12 and 2017-18 is based on MMRP reference period. For the previous period, the closest benchmark, MRP reference period is used.

All wage indicators suggest a sharp slowdown in the post-2011 period

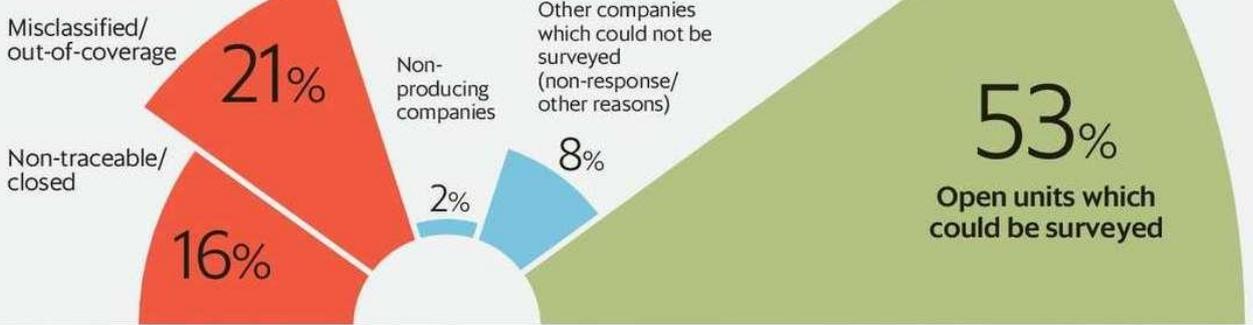
Annual real (inflation-adjusted) growth (CAGR, in %)



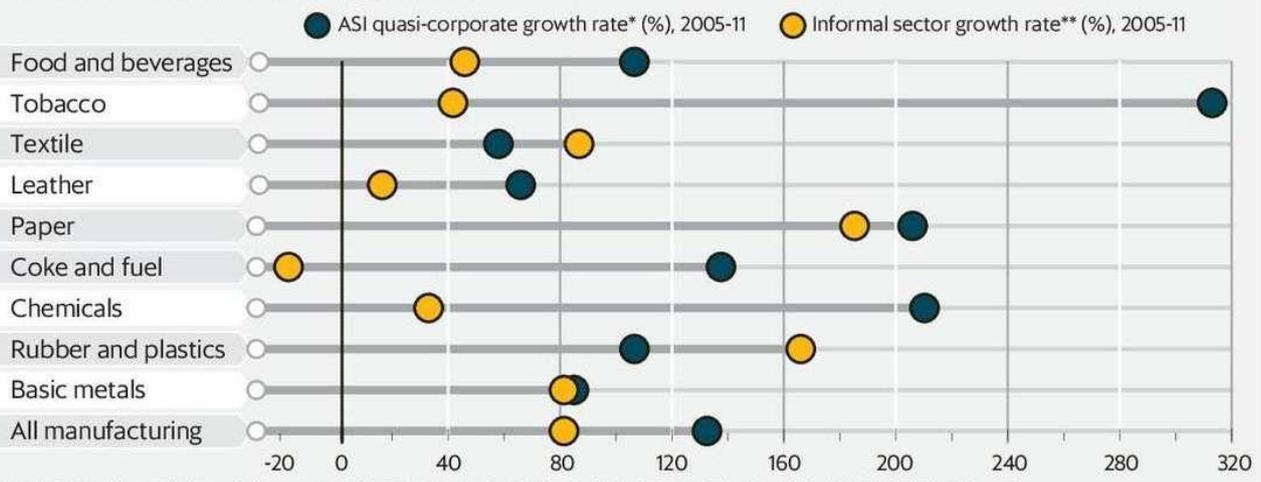
The factory wage bill refers to aggregate wages and salaries paid by factories, as reported by ASI. *Wages paid by non-financial services firms refer to their total employee costs, as reported by CMIE. CPI-IW has been used as to deflate the nominal values in both these series. Average rural wages (men) are based on the adjusted rural wage series reported by CMIE based on labour bureau data, and have been deflated using CPI-RL. **Average wages for informal and salaried workers are as reported by a Jan 2020 IHD working paper by Ravi Srivastava and Balakrishna Padhi based on an analysis of NSS data for the 2004-11 and 2011-18 periods.

Several firms in the MCA-21 database were found missing or misclassified by NSS surveyors

Share of firms (in %)



Historically, ASI firms have reported higher growth rates than the informal manufacturing sector



*Growth rates of partnerships and proprietary units covered by ASI; **As derived from successive rounds of NSSO surveys on unincorporated enterprises
Source: NSS, CMIE, Mospi, Ravi Srivastava and Balakrishna Padhi (IHD WP 01/2020), An investigation into some contentious issues in GDP estimation, G.C. Manna, ISPE Journal 2017, Mint research

TOPIC 16. ECONOMIC REVIVAL

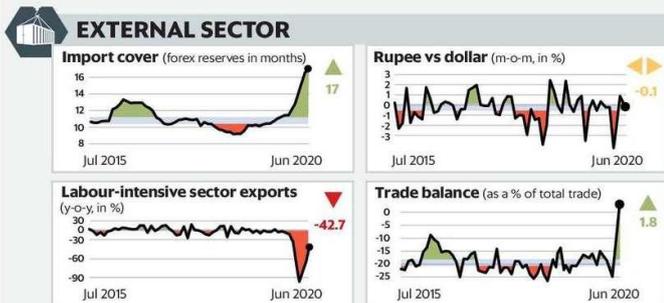
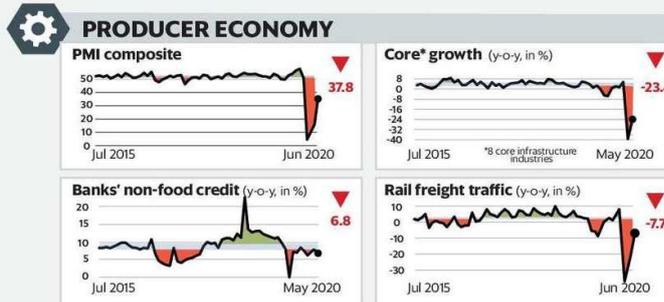
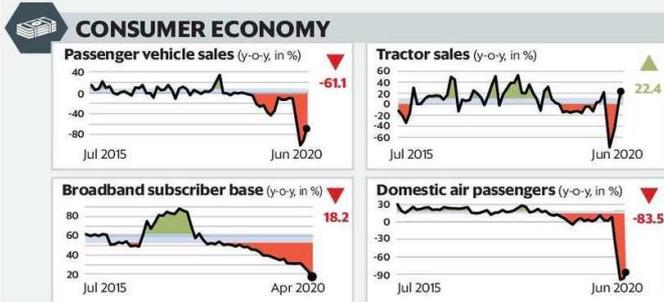
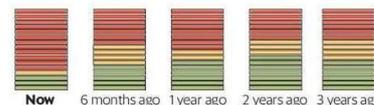
1. The country's macroeconomic indicators showed no signs of improvement in June, with 12 of the 16 indicators considered in the tracker in the red
2. India's economic improvement seems to have stalled in June after improving sharply in May, the latest update of the Mint Macro Tracker shows.
3. As of June, 12 of the 16 macroeconomic indicators considered in the tracker were in the red (below their five-year growth trend), the same as last month, while three were in green (above their five-year growth trend) and one maintained trend.
4. This reading is only slightly better than the lows of April, when 14 of the 16 indicators were in red, the worst reading since the tracker was launched in October 2018.
5. The trends in the tracker broadly mirror the trends in public movement, captured by Google, which suggest that public movement picked up significantly in May and early June but the improvement stopped in the second half of June and reversed in the first half of July.
6. In some of the most prosperous parts of the country, public movement fell in June as the epidemic picked up pace and local lockdowns were re-imposed.
7. Both production and consumption have been hit hard, the macro tracker shows. All four indicators of production activity, the composite Purchasing Managers' Index (PMI), core infrastructure sector growth, bank non-food credit, and rail freight traffic, were in the red for the third successive month. The composite PMI, which measures combined manufacturing and services output improved to 37.8 from 14.8 in May but remained below the crucial 50-mark boundary, which separates an expansion in activity from contraction.
8. The PMI reading for India suggests a contraction compared to the month-ago period. Rail freight traffic fell 8% in June compared to the year-ago period. Core sector growth (published with a month's lag) contracted in May. Bank (non-food) credit grew only 6.8% in May. This is slightly slower than the 7.3% rate recorded during April, the worst phase of the nationwide lockdown.
9. Three of the four consumption indicators continue to be in the red. Passenger vehicle sales (-61%) and the number of domestic air passengers (-84%) both contracted sharply in June.
10. Only tractor sales saw a sharp growth (22%) in June. The on-year growth in broadband subscribers (18%), data on which is available with a two month lag, was the lowest in over five years as of April. The number of both broadband and mobile subscribers in India declined month-on-month as millions of users discontinued their subscriptions.
11. The trends so far suggest that India's economic recovery may be a long and arduous process.
12. The economy was already losing momentum for many months before the pandemic hit. The pandemic-induced lockdown seems to have delivered the final blow.
13. Unlike the sudden and synchronized lockdown, the 'unlock' phase has been slower and heterogeneous, with some of the economic hubs of the country reimposing lockdowns again during this phase as cases and deaths have surged.
14. The uncertainty over spread of coronavirus has clouded economic outlook and dampened sentiment.
15. "We see a rising risk that the sequential improvement in activity may fade after the initial post-lockdown normalization," wrote Nomura economists Sonal Varma and Aurodeep Nandi in a note to clients dated 27 July. The investment bank expects India's gross domestic product to contract (-) 5.0% in 2020 and (-) 6.1% in fiscal 2021.
16. The pandemic-induced disruptions in supply chains have led to a spike in inflation and shutting down of businesses have hurt jobs. All four indicators of the ease of living scorecard, CPI inflation (6%), core CPI inflation (5%), real rural wage growth (-2%), and job outlook (2%), were in red as of June.
17. India's external sector is more of a mixed bag, and perhaps reflects the lone bright spot in the economic report card.
18. The contraction in merchandise exports ebbed in June in India but imports continued to contract at a sharp pace as domestic demand remained weak, leading to a record trade surplus.
19. Overall, the report card suggests that the Indian economy is not out of the woods yet.

MINT MACRO TRACKER

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

MACRO TRACKER SNAPSHOT

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



The average band is constructed as +/- 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, DGCA, MOSPI, Mint calculations

TOPIC 17. MSME PACKAGE

1. The government's MSME relief measures are ostensibly aimed at small businesses, but in effect provide support to medium-sized corporations
2. One of the key components of the government's Atmanirbhar Bharat stimulus package to boost the economy, announced in mid-May, is a set of relief measures for micro, small, and medium enterprises (MSMEs). This was ostensibly aimed at small businesses that were hit hardest by the lockdown put in place to contain the spread of covid-19.
3. However, given that this relief was accompanied by definitional changes that favoured larger firms, the benefits of the Atmanirbhar package are unlikely to flow to the large number of small businesses that make up the bulk of the MSME universe, our analysis suggests.
4. The definitional changes by the government included the abolition of the distinctions between manufacturing and services firms, changes in the upper limit for investment in plant and machinery to qualify as an MSME, and the introduction of turnover as an additional criterion.
5. To understand how the benefit of the redefinition could work, we analysed the CMIE Prowess firm-level database. Of about 50,000 companies with balance-sheet details as of fiscal year 2016, there were 20,440 companies for which data on investment and sales were available.
6. Our analysis shows that the new definitions have put several erstwhile 'large' firms within the MSME bracket, even as they have excluded some small firms from the same universe **(See chart 1)**.
7. The total number of firms in the MSME universe goes up by 30% to 14,133 with the revised definitions. The bulk of the new entrants are in the largest sub-segment (medium enterprises) and a small fraction in the micro segment. The small segment actually saw 496 firms (nearly 9% firms) excluded based on the new definition.
8. The average value of sales of new entrants into the MSME universe, based on the revised definitions, was ₹83.4 crore in fiscal 2016 and their investments averaged ₹2.6 crore for the same period.
9. It is instructive to compare the size of the potential beneficiaries with the registered MSME sector. On average, the net sales of potential beneficiaries is 191 times the gross output of a registered MSME, according to the last official MSME census conducted in 2006-07. Though the two figures are not for the same year and, hence, not strictly comparable, the magnitude of the difference between them is so large that they seem to belong to entirely different worlds.
10. When one considers the larger MSME universe, which includes unregistered and informal small businesses, the gap between the beneficiaries of the Atmanirbhar package and the average small business appears wider. The MSME ministry's annual report says the sector includes the entire non-agricultural informal sector consisting of 63.4 million enterprises, contributing 29% of gross domestic product (GDP) in 2015-16. However, the proportion of units registered with the official agencies, eligibility for government assistance, form a minis fraction of the total. There were 1.6 million registered enterprises, employing on average six workers, and producing gross value of output worth ₹46 lakh per enterprise, according to the last MSME census of 2006-07.
11. The new definitions thus cater to only a minuscule minority of broader MSME universe in country. It is worth noting that even under earlier norms and credit relief programmes, only a small creamy layer of MSMEs garnered most of the benefits, given wide disparities within the registered MSME sector.
12. As much as 95% of registered MSMEs are micro units, and 90% proprietary concerns. Medium-sized enterprises constitute just 0.2% of units, but nearly half of them are corporate entities and, hence, typically have much better access to credit subventions and other government aid **(See chart 2)**.
13. On average, a medium-sized enterprise employs 27 times more workers, has 73 times more fixed assets (at market value), and produces 62 times more gross output than average registered MSME firm **(See chart 3)**.
14. The new definitions will only add to pre-existing disparities and channel even more funds away from genuinely small firms. In contrast, a sizeable number of medium-sized corporations stand to gain from new definitions.

15. The government claims that Atmanirbhar stimulus package is meant to help small firms. Our analysis suggests that package is in effect a corporate subsidy that will do very little for really small firms.

MINT GRAPHITI

Chart 1
Most of the new inclusions are in the 'medium' category

Category-wise number of firms in CMIE Prowess database

	Old definition	New definition (May 2020)	New inclusions/exclusions
Micro	2,873	3,006	133
Small	5,751	5,255	-496
Medium	2,129	5,872	3,743
MSME	10,753	14,133	3,380
Large (non-MSME)	9,687	6,307	-3,380
Total	20,440	20,440	

MSME includes micro, small, and medium firms



Chart 2

Most registered MSMEs are small owner-led firms

Registered MSMEs by type of organization as per 2006-07 Census (in %)

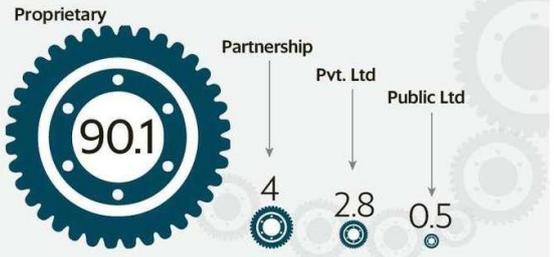


Chart 3

There is a wide gap between medium-category firms and the rest of the registered MSMEs

■ MSME average

■ Average for medium enterprises



Source: CMIE, Authors' calculations, MSME census 2006-07

FACT 1. PRISONS

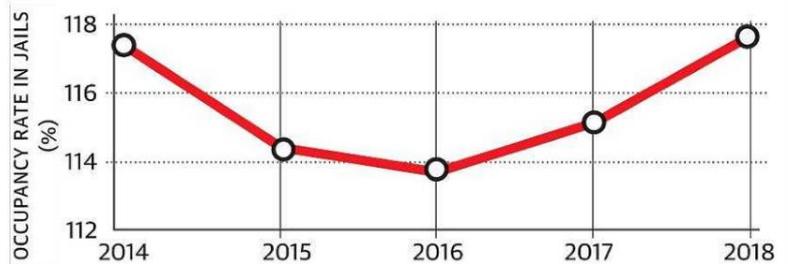


Contagion in crowded jails | Prisons in India registered the highest occupancy rate in five years in 2018 (latest available data). U.P. prisons were the most overcrowded, while Sikkim registered the highest relative increase in inmate population since 2014. Data from newspaper reports also show that the number of prisoners found to be COVID-19 positive (at least 2,191 such inmates) was higher in prisons in States with high occupancy rates. By **Sumant Sen and Naresh Singaravelu**

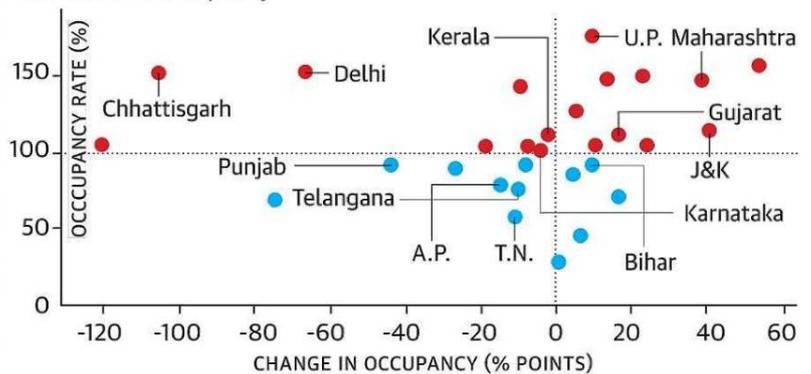
INFECTED JAILS | The table depicts the number of inmates found positive for COVID-19 in a select list of jails*

Prison	State	No. of positive inmates
Guwahati Central	Assam	435
Tihar Central	Delhi	221
Ballia District	U.P.	225
Nagpur Central	Maharashtra	219
Mumbai Central	Maharashtra	182
Jhansi District	U.P.	120
Jaipur District	Rajasthan	100
Akola District	Maharashtra	97
Anantnag District	J&K	96
Bareilly	M.P.	64
Solapur District	Maharashtra	62
Vadodara Central	Gujarat	60
Parappana Agrahara	Karnataka	51
Sabarmati Central	Gujarat	47
Etah District	U.P.	36
Puzhal Central	T.N.	30
Yerwada Central	Maharashtra	29
Ludhiana Central	Punjab	26
Perurani District	T.N.	25
Cuddalore Central	T.N.	18
Madurai Central	T.N.	15
Baruipur	W.B.	15
Thane Central	Maharashtra	6
Sitarganj	Uttarakhand	6
Kishanganj District	Bihar	3
Bhagalpur District	Bihar	3

OCCUPANCY RATE | The chart depicts the occupancy rate (%) (inmate population/capacity) of prisons in India between 2014 and 2018. For a sanctioned capacity of 100 inmates, jails in India had 118 prisoners in 2018



STATE OF AFFAIRS | The chart plots the occupancy rate of prisons in 2018 against its change from 2014 across States. While prisons in Uttar Pradesh were the most overcrowded in 2018, jails in 18 States (●) had exceeded their capacity



*Note: The number of inmates who have tested positive is a conservative estimate based on information collated from The Hindu news reports and reports from news agencies such as PTI and ANI

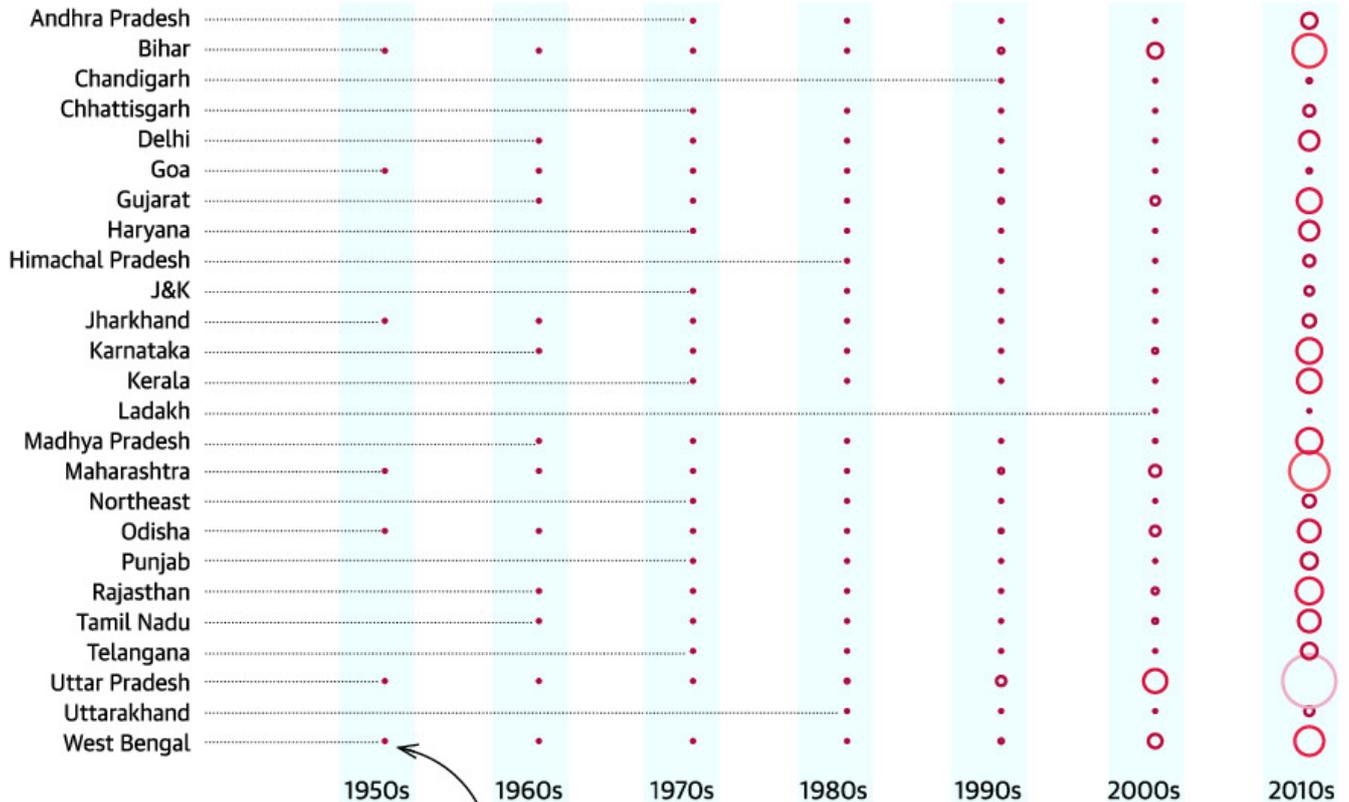
SOURCE: PRISON STATISTICS OF INDIA

FACT 2. JUSTICE

Justice DELAYED

A court in Mathura recently sentenced 11 policemen to life imprisonment for the murder of 'Raja' Man Singh, ruler of the former princely State of Bharatpur, 35 years after the killing. However, such a delayed judgment is not a rare occurrence. As many as 77 cases filed in the 1950s are still pending across the country with the volume of pending cases increasing with every decade. By **The Hindu Data Team**

HOW TO READ THE CHART | The chart shows the number of civil and criminal cases pending disposal by District and Taluka courts across States, UTs and regions as on Monday, filed in each decade between 1950 and 2019. Each circle corresponds to the number of pending cases in that decade. The larger the circle, more the number of cases awaiting a ruling



■ In Bihar, Goa, Jharkhand, Maharashtra, Odisha, U.P. and W.B., cases filed in the 1950s are still pending

■ The earliest pending case was filed in 1951 in a court in W.B.

■ Out of the nearly 3 crore cases pending in the country, 2.6 crore were filed after 2010

■ Nine States have more than 10 lakh pending cases

FACT 3. INFRASTRUCTURE

403 infra projects show cost overruns of ₹4.05 lakh crore

As many as 403 infrastructure projects have been hit by cost overruns of over ₹4.05 lakh crore owing to delays and other reasons, according to the MoSPI's report for March 2020

₹20,66,771.94 CRORE:

Total original cost of implementation of the 1701 projects

₹24,71,947.66 CRORE:

Anticipated cost of implementation of all projects

₹4,05,175.72 CRORE:

Overall cost overruns, i.e. 19.66 per cent of original cost

REASONS FOR TIME OVERRUNS, AS REPORTED BY IMPLEMENTING AGENCIES:

- Delays in land acquisition, forest clearance and supply of equipment
- Fund constraints
- Geological surprises
- Geo-mining conditions
- Slow progress in civil works
- Shortage of labour

1,686: Projects worth ₹150 crore and above monitored by the Ministry of Statistics and Programme Implementation (MoSPI)



Source: MoSPI/PTI