

## WEEKLY UPDATES – (21<sup>st</sup> -27<sup>th</sup> Aug)

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## ART & CULTURE

### Seethakali Folk Art

**Context:** Artists breathe new life into Seethakali folk art; all set to perform outside Kerala.

- Over the years, the staging became sporadic and around three decades ago, the folk art started fading away from public domain.
- A group of folk art aficionados cutting across caste and communal barriers could successfully salvage it in 2017. The Perinad Seethakali Sangham currently has artists from all walks of life and the 20-member group is all set to perform outside Kerala for the first time.
- Since the Seethakali songs were orally passed on from one generation to the next, the tradition came to a standstill at one point.

### About Seethakali Folk Art

- Seethakali is a dance drama primarily performed by Dalit artists belonging to the Veda and Pulaya communities.
- It presents minuscule episodes of the Ramayana at every homestead.
- Seethakali was a part of Onam festivities in the past and it's a Dravidian dance form portraying the portions from vanayatra (exile to the forest) to Sita's andardhanam (descend into the earth).
- Key characters include Sita, Ram, Lakshman, Ravan, and Hanuman.
- It's a blend of songs, storytelling and fast movements.
- Instruments used are ganjira, manikatta, chiratta and kaimani.
- Stories are conveyed through folk-style songs influenced by Vallappaattu Kuthirappaattu, and Rakshasappattu.



## AGRICULTURE

### Third Phase of Universalisation of Distribution of Fortified Rice

**Context:** The Union Food Ministry has set a target to procure 521 lakh tonnes of rice this kharif season. It was also decided to complete the third phase of universalisation of distribution of fortified rice ahead of its earlier target of March 2024.

- Union Food Secretary said the target for rice procurement was decided after discussions with all States.
- The Ministry will release additional quota of two lakh tonnes of sugar, over and above the 23.5 lakh tonnes already allocated for August, in view of the "strong demand" for the upcoming festivals of Onam, Raksha Bandhan and Krishna Janamashtami.

#### Food for thought

Fortification of eatables is aimed at fighting malnutrition

#### What it means

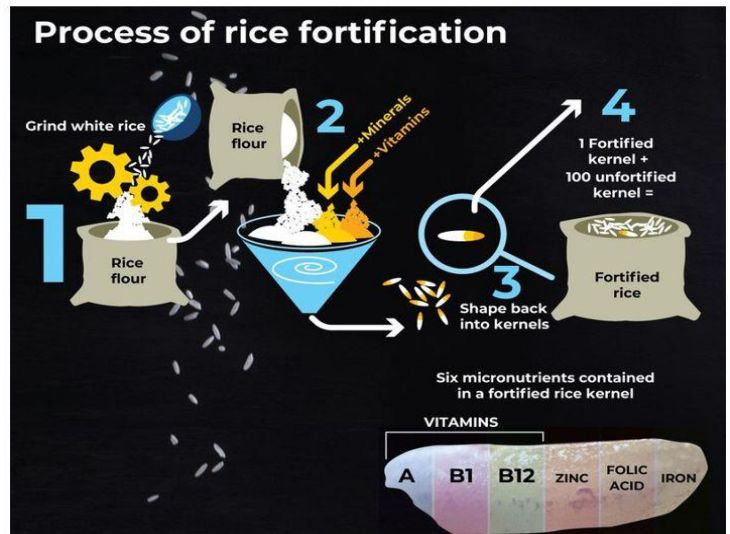
Fortification is the addition of key vitamins and minerals, such as iron, iodine, zinc, Vitamins A & D, to staple foods such as rice, milk and salt to improve their nutritional content



- The nutrients may or may not have been originally present in the food before processing
- It is a simple, proven, cost-effective and complementary strategy in use across the globe
- The draft Food Safety and Standards Regulations, 2016, prescribe the standards for fortification of salt, oil, milk, and rice

## About The Programme

- A scheme for the distribution of fortified rice, containing prescribed micronutrients (Iron, Folic Acid, and Vitamin B12) was launched in October 2021 in a phased manner in order to address the problem of anaemia in children and women.
- In April 2022, the Cabinet Committee on Economic Affairs (CCEA) approved the supply of fortified rice throughout the Public Distribution System (PDS), Integrated Child Development Services (ICDS), Pradhan Mantri Poshan Shakti Nirman-PM POSHAN and other welfare schemes in all states and Union Territories by 2024 in a phased manner.
- The entire cost of rice fortification, which is around Rs 2,700 crore per annum, would be borne by the Centre as part of the food subsidy till its full implementation up to June 2024.



It is said that Ministry was on track to achieve the target of 100% distribution of fortified rice across all rice-consuming districts in the country.

- The third phase of the programme was in progress and the entire public distribution system would be covered with fortified rice.
- The scheme will be universalised within some months, adding that of the 250 lakh tonnes with the Food Corporation of India, only 12 lakh tonnes was non-fortified rice.
- The Ministry organised a national seminar on the efficacy of rice fortification.
- The scheme is an evidence-based programme and fortified rice was safe even for those with thalassemia and sickle cell anaemia.
  - It would not cause any toxicity.
  - Five kilograms of fortified rice would be supplied to a person every month, which is 160 grams of fortified rice per day containing 7 mg of iron.

## INTERNATIONAL RELATIONS

### India, ASEAN Agree to Review Goods Trade Pact by 2025

**Context:** India and the ASEAN countries reached an agreement to review their free trade pact for goods and set a 2025 goalpost for concluding the review aimed at addressing the “asymmetry” in bilateral trade.

#### Key Highlights

- A Joint Committee of the ASEAN-India Trade in Goods Agreement (AITIGA), signed in 2009, deliberated on the roadmap for the review of the pact and finalised the terms of reference for the fresh negotiations, ahead of an ASEAN-India Economic Ministers’ meeting held in Indonesia.
- The AITIGA review will now be taken up at the India-ASEAN Leaders’ Summit scheduled in early September for further guidance.

- The review of the AITIGA was a long-standing demand of Indian businesses and the early commencement of the review would help in making trade facilitative and mutually beneficial.
- The Ministers agreed to follow a quarterly schedule of negotiations and conclude the review in 2025.
- The review of AITIGA is expected to enhance and diversify trade while addressing the current asymmetry in the bilateral trade.

## India and the Northern Sea Route

**Context:** Murmansk, popularly called the capital of the Arctic region and the beginning point of the Northern Sea Route (NSR), is witnessing the rising trend of Indian involvement in cargo traffic.

- In the first seven months of 2023, India got the lion's share with 35% of eight million tonnes of cargo handled by the Murmansk port, which is about 2,000 km northwest of Moscow.
- India has been showing greater interest regarding the NSR for a variety of reasons.

### Do You Know

- ? What are the significances of the arctic region for India's interests?
- ? Why is India involved in Murmansk's Cargo Traffic?
- ? How long has India been engaged with the Arctic region?
- ? What is the NSR?
- ? How does Russia ensure the navigability of the NSR?
- ? How does the Chennai-Vladivostok Maritime Corridor impact NSR?

### THE GIST

- India's involvement in Murmansk's cargo traffic has increased significantly, with the country handling 35% of cargo at the Murmansk port in 2023.
- The Arctic region's vulnerability due to climate change could impact India's economic and water security, as well as sustainability.
- India's engagement in the Arctic dates back to the 1920 signing of the Svalbard Treaty and includes various scientific studies and research activities.
- The Northern Sea Route (NSR) is a key focus for India, as it offers the shortest shipping route between Europe and the Asia-Pacific region.





## Why Is The Arctic Region Significant To India?

- The vulnerability of the Arctic region, which is above the Arctic Circle and includes the Arctic Ocean with the North Pole at its centre, to unprecedented changes in the climate may have an impact on India in terms of economic security, water security and sustainability.
- The region also constitutes the largest unexplored prospective area for hydrocarbons remaining on the Earth.
- It is estimated that the region may hold over 40 per cent of the current global reserves of oil and gas. There may also be significant reserves of coal, zinc and silver.
- However, the government's Arctic Policy of 2022 mentions that the country's approach to economic development of the region is guided by UN Sustainable Development Goals.

## How Old Is India's Engagement With The Arctic?

- India's engagement with the Arctic can be traced to the signing of the Svalbard Treaty in February 1920 in Paris and India is undertaking several scientific studies and research in the Arctic region.
- This encompasses atmospheric, biological, marine, hydrological and glaciological studies.
- Apart from setting up a research station, Himadri, at Ny-Ålesund, Svalbard, in 2008, the country launched its inaugural multi-sensor moored observatory and northernmost atmospheric laboratory in 2014 and 2016 respectively.
- Till last year, thirteen expeditions to the Arctic were successfully conducted.
- In May 2013, India became an observer-State of the Arctic Council along with five others including China.

## What is NSR?

The Northern Sea Route (NSR), the shortest shipping route for freight transportation between Europe and countries of the Asia-Pacific region, straddles four seas of the Arctic Ocean.

- Running to 5,600 km, the route begins at the boundary between the Barents and the Kara seas (Kara Strait) and ends in the Bering Strait (Provideniya Bay).
- A paper published on the website of the Arctic Institute in September 2011 states that "in theory, distance savings along the NSR can be as high as 50% compared to the currently used shipping lanes via Suez or Panama."
- The 2021 blockage of the Suez Canal, which forms part of the widely-used maritime route involving Europe and Asia, has led to greater attention on the NSR.



## How Is Russia Making The NSR Navigable?

As the seas of the Arctic Ocean remain icebound during most of the year, the icebreaking assistance is organised to ensure safe navigation along the NSR.

- Russia is the only country in the world with a nuclear-powered icebreaker fleet, according to Rosatom State Nuclear Energy Corporation, the NSR infrastructure operator.
  - In December 1959, the world's first nuclear icebreaker, "Lenin," was put into operation, unveiling the new chapter in the NSR development. It was decommissioned 30 years later.
- Today, FSUE Atomflot, a subsidiary of Rosatom, acts as the fleet operator of nuclear-powered icebreakers.
  - The fleet comprises seven nuclear-powered icebreakers, apart from one nuclear container ship.
  - Three more are expected to be commissioned between 2024 and 2027.

## What Are The Driving Factors For India To Participate In The NSR Development?

**Primarily**, the growth in cargo traffic along the NSR is on the constant rise and during 2018-2022, the growth rate was around 73%.

- Last year, the volume of cargo traffic was 34.117 million tonnes.
- With India increasingly importing crude oil and coal from Russia in recent years, Rosatom says that "the record supplies of energy resources for the Indian economy are possible due to such a reliable and safe transport artery as the NSR."

**Secondly**, the NSR assumes importance, given India's geographical position and the major share of its trade associated with sea transportation.

**Thirdly**, the Chennai-Vladivostok Maritime Corridor (CVMC) project, an outcome of signing of the memorandum of intent between the two countries in September 2019, is being examined as one linking with another organise international container transit through the NSR.

- The 10,500 km-long CVMC, passing through the Sea of Japan, the South China Sea and Malacca Strait, will bring down transport time to 12 days, almost a third of what is taken under the existing St. Petersburg-Mumbai route of 16,000 km.
- A study commissioned by Chennai Port Trust reveals that coking coal [used by steel companies], crude oil, Liquefied Natural Gas (LNG) and fertilizers are some of the cargo that can be imported from Russia to India through CVMC.

**Fourthly**, experts are discussing the possibility of China and Russia gaining collective influence over the NSR.

## What Lies Forward?

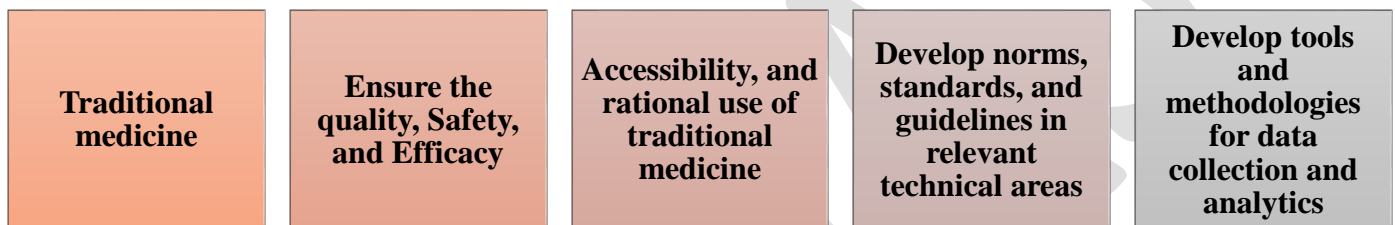
The NSR development plan until 2035, as approved by the Russian government last year, sets the cargo traffic target as 80 million tonnes and 150 million tonnes for 2024 and 2030. The plan approval took place amid economic sanctions imposed by the West against Russia.

In March, a Russian delegation held meetings with the Indian business community in New Delhi and Mumbai on the NSR development, according to media reports. The delegation had promised to provide the availability of key components for the year-round operation of the route. Rosatom seeks the participation of Indian companies in projects related to the NSR.

## Asian Development Bank: Climate Change & Health Centre In Delhi

**Context:** Having bagged the first WHO Centre for Global Traditional Medicine, to be set up in Gujarat, India is now all set to open a climate change and health hub in New Delhi in partnership with the Asian Development Bank (ADB).

- The World Health Organization (WHO) outpost in Jamnagar will aim to provide leadership on global health matters pertaining to



### Key Highlights: Need to Pool Resources

- Climate change affects all of us and this centre will give us the opportunity to have different partners discussing this important issue and learning from each other.
- The world is facing new challenges, and we must pool in our resources, learning and innovations to tackle the fall-out of this change in a timely manner.
- In its recently released G-20 outcome document, India also noted that climate change will continue to drive health emergencies, including the emergence and re-emergence of infectious diseases, and by increasing the severity and frequency of natural disasters, thereby threatening to overwhelm health systems' ability to deliver essential services.
- As such, we recognise the need to enhance the resilience of health systems against the impact of climate change. We commit to prioritising climate-resilient health systems development, building sustainable and low-carbon/low greenhouse gas (GHG) emission health systems and healthcare supply chains that deliver high-quality healthcare, mobilise resources for resilient, low-carbon sustainable health systems, and facilitate collaboration, including initiatives such as the WHO-led Alliance for Transformative Action on Climate and Health (ATACH)," the document noted.

## GOVERNANCE

### Indianised Research Methodology Tools

**Context:** ICSSR to develop Indianised research methodology tools. 500 researchers will get funding for the studies based on fieldwork focused on a geographical region.

#### Key Highlights

- The Indian Council of Social Science Research (ICSSR) will soon announce the results of the research award proposals it had invited to study the impact of various schemes and public policy initiatives of the Union government.

- About 500 researchers will get funding for the studies based on fieldwork focused on a specific geographical region.
- The ICSSR also plans to develop “Indianised research methodology tools” to study the country’s social and economic changes.
  - The schemes and policy initiatives for empirical research include

PM Ujjwala Yojana	PM Awas Yojana	Deendayal Antyodaya Yojana	PM Krishi Sinchai Yojana
PM Fasal Bima Yojana	PM Kisan Samman Nidhi	Year of Millet 2023	Ayushman Bharat
Jan Aushadhi Yojana	Swachh Bharat Abhiyan	Make-in-India	PM Gati Shakti
New Education Policy 2020	Black Money (Undisclosed Foreign Income and Assets)	Imposition of Tax Act, 2015	Benami Transactions (Prohibition) Amendment Act, 2016

- The ICSSR has a mandate to carry out primary data-driven empirical research on the social and economic impact of the policies of the government.
- Under the scheme, we have two types of studies.
  - Collaborative studies with institutions [₹30 lakh for six months] and
  - Individual studies [₹6 lakh for six months] by encouraging researchers from peripheral areas and underprivileged institutions.
  - About 500 proposals will be selected by an expert committee.

When the country moves ahead towards the goal of becoming a developed country in 2047, social science has a crucial role to play.

- ✓ It is in that context that we decided to study public policy initiatives.
- ✓ We have to have an equitable and sustainable development of the people.
- ✓ The specific research outcome is to recommend the government about the direction in which these schemes are moving and to inform the people about these policies.



## Bharat NCAP

**Context:** The Ministry of Road Transport and Highways has rolled out an indigenous star-rating system for crash testing cars under which vehicles will be assigned between one to five stars indicating their safety in a collision. Called the Bharat New Car Assessment Programme (NCAP), the rating system will be voluntary and will come into effect from October 1, 2023.

### Bharat New Car Assessment Programme (Bharat NCAP)

- The Bharat New Car Assessment Programme (Bharat NCAP) is modelled on the Global New Car Assessment Programme (Global NCAP), a project of the Towards Zero Foundation, which is a U.K.-registered charity that promotes the universal adoption of the United Nation's motor vehicle safety standards worldwide.
- The new programme will be applicable to passenger vehicles with not more than eight seats in addition to the driver's seat with a gross vehicle weight not exceeding 3,500 kg.
- It will be based on the soon-to-be published Automotive Industry Standard 197, which lays down testing protocols.
- Officials of the Union Road Transport and Highways Ministry said manufacturers had offered 30 models for testing.
- A rating between one to five stars will be assigned to a vehicle after an evaluation of three parameters — adult occupant protection, child occupant protection, and safety assist technologies present in the car.
  - The first two parameters will be calculated with the help of three tests, which include a frontal offset test in which a vehicle is driven at 64 kmph and with 40% overlap into a deformable barrier which represents an oncoming vehicle. This replicates a crash between two cars of the same weight.
  - The other tests are side impact test at 50 kmph and pole-side impact test (where a car is crashed into a rigid pole sideways) at 29 kmph.
- An original equipment manufacturer must nominate a vehicle model for testing.

#### Objective of the Programme

The **objective of the programme** is to help consumers make an informed decision before purchasing a car, thereby spurring demand for safer cars.

- ✓ India sees nearly 1.5 lakh road fatalities in a year, accounting for 10% of deaths due to road crashes globally with only 1% of the world's vehicles.
- ✓ According to a World Bank study, road crashes are estimated to cost the Indian economy between 5 to 7% of GDP a year.

#### Bharat- NCAP Norms To Benefit Consumers

- Auto and auto-component makers have responded positively to the Bharat-NCAP norms.
- In addition to empowering consumers, this will also help bring about greater awareness and further transparency by allowing them to know comparative safety aspects of various products on offer.
- This effort will raise safety standards, empower consumers with vital information and make Indian roads safer for all.
- This initiative will not only bolster the auto component industry's value chain but will also stimulate the production of cutting-edge components.

- Bharat NCAP representatives will visit the manufacturing facility or a dealer outlet to select the base variant of the model through random sampling and send it to a testing centre, in coordination with the Central Institute of Road Transport (CIRT).
- The test results will be approved by the Bharat NCAP Standing Committee and published on its website. The CIRT will issue a certificate.
- The programme is voluntary except in certain cases such as a base variant of a popular vehicle variant with a minimum clocked sale of 30,000 units, or when the Ministry recommends a model for testing based on market feedback or for public safety.

### Way Forward

- ✓ India will need to develop its **crash testing capabilities and knowledge expertise** for the Bharat NCAP programme to be implemented meaningfully, such as a software system wired to the dummies placed inside cars to assess the nature and extent of injuries to analyse scores.
- ✓ Over the years, India will also have to **align Bharat NCAP with global standards** by expanding testing parameters.
  - For example, the U.S. NCAP also includes a roll-over test which tests whether a vehicle is vulnerable to tipping up on the road in a severe manoeuvre.
  - Japan's NCAP covers electric shock protection performance after a collision, performance of neck injury protection in a rear end collision, passenger seat belt reminder evaluation, evaluation of pedestrian protection technologies apart from preventive safety performance such as autonomous emergency braking system, lane departure prevention system, rear-view monitoring system and pedal misapplication, among others.

## National Curriculum Framework

**Context:** The NCF was released by NCERT & Union Education Minister. Students of Classes 11 and 12 to study two languages, including one Indian tongue, while students of Classes 9 and 10 to study three; NCF follows the lead of NEP, 2020, and will form the basis for formulating new textbooks from Classes 3 to 12.

### Key Highlights

- Currently, students in Classes 9 and 10 study two languages, and students in Class 11 and 12 learn one. The NCF expects students to achieve a **“literary level” of linguistic capacity** in at least one of these Indian languages.
- The NCF has said that all students will be allowed to take **Board exams at least two times in a school year**, with only the best score being retained.
- The NCF, drafted by the National Steering Committee headed by former Chairman of the Indian Space Research Organisation (ISRO) K. Kasturirangan, follows the lead of the National Education Policy (NEP), 2020, and forms the basis for formulating textbooks from Classes 3 to 12 under the Central Board of Secondary Education.
- Textbooks for Classes 1 and 2 have already been released by the NCERT.
- So far, students from Classes 9 to 12 studied five mandatory subjects, with an option of adding one more. Now, the **number of mandatory subjects** for Classes 9 and 10 is **seven**, and it is **six** for Classes 11 and 12.

- **Optional subjects** have been grouped in three parts in the NCF.
  - The **first** includes art education, emphasising both visual and performing arts, with equal emphasis on making, thinking about, and appreciating works of art. It also includes physical education and vocational education.
  - The **second group** includes social science, the Humanities, and interdisciplinary areas. The third group includes science, mathematics, and computational thinking.

## Term-Based Systems

- The NCF has recommended that in the long term, all Boards should change to semester or term-based systems, where students can be tested in a subject as soon as they have completed the subject, which would reduce the content load being tested in any one examination.
- For Classes 6 to 8, the NCF states that 20% content would be from the local level for the social science curriculum, 30% content from the regional level, 30% from the national level, and 20% content would be global.
- The “secondary stage” has been significantly redesigned to offer more flexibility and choice for students.
- There is no hard separation between academic and vocational subjects, or between Science, Social Science, Art, and Physical Education. Students can choose interesting combinations of subjects for receiving their school leaving certificates.
- Environmental education is given emphasis across all stages of schooling, culminating in a separate area of study in the secondary stage.
- The textbooks for Classes 3 to 12 are to be aligned with 21st century requirements, making them rooted and futuristic.

## HEALTH

### Post-COVID Mortality

**Context:** At least one dose of vaccine prior to COVID-19 infection provided 60% protection against post-discharge mortality, an Indian Council of Medical Research (ICMR) study on factors related to mortality within one year after discharge in hospitalised COVID-19 patients has found.

#### Key Highlights

- The study has found that there is a higher chance of mortality within one year following discharge for those over 40 years of age, those with comorbidities, and those who suffered moderate to severe COVID.
  - It also observed that of the 14,419 participants contacted at least once in one year after discharge from the hospital, 942 deaths, or 6.5% all-cause mortality, were reported.
- Encouragingly, vaccination before the COVID-19 infection confers protection from post-discharge mortality. Post-COVID Conditions (PCC) and the

#### Clinical Registry

The ICMR has been maintaining the National Clinical Registry for COVID-19 at 31 centres across the country, where all hospitalised COVID-19 patients are periodically contacted by telephone. Data collected till February 2023 were included in this analysis.

A matched nested case control analysis was conducted to evaluate the factors related to one-year post-discharge mortality.

presence of comorbidities may have some association with late post-discharge deaths; further research is warranted in this field.

- The study states that post-COVID conditions (PCC) were associated with 2.7 times higher odds of post-discharge mortality.
- The **limitations of the current investigation** include reliance on telephonic follow-up, which could have led to under-reporting of the symptoms.
- Other ongoing studies on COVID include the effect of the vaccine on thrombotic events in the 18-45 years population in India in 2022, and factors associated with sudden deaths in the same age bracket.

### Long-Term Health Issues Following COVID-19

In May 2023, WHO declared the emergency phase of the pandemic to be over. While COVID-19 lingers in waves, its impact has lessened. Focus is now shifting to the continued health of those who survived the initial infection. The influence of COVID-19 on blood vessels, heart, and nervous system raises concerns about delayed health issues.

- The risk of Long COVID, an assorted group of health conditions, persisted for two years. This was more marked in the hospitalised group than the non-hospitalised group.
- Among 80 health conditions that comprise Long COVID, 65% conditions persisted at two years in the hospitalised group, while 31% persisted in the latter.
- Compared with uninfected individuals, those who had prior COVID-19 had greater risk of blood clots, lung disease, fatigue, digestive ailments, muscle and joint problems and diabetes for up to two years.
- Significant amount of disability occurred, 25% of which was reported in the second year.
- At the end of two years, 8.7% of those who had prior COVID-19 had died compared with only 4.1% in the other group.
  - The rate of death was highest in the initial few months.
  - Among those who survived the first six months, the death rate declined afterwards, unexpectedly dropping below the average death risk of the comparison group.
  - The reason for this apparent drop could probably be a phenomenon called the ‘depletion of susceptibles’ in the COVID-19 group — the initial period killing those who were more likely to die.
  - The relatively healthier individuals who survived had a lower death rate than the comparison group. Close healthcare monitoring too might have also prevented a few deaths.
- An ICMR study looked at 14,419 people who survived COVID-19 hospitalisation, revealing a one-year death rate of 6.5%.
  - New or persistent symptoms of post-COVID condition such as fatigue, breathlessness and memory problems lasting four-eight weeks were present in 17% of the patients.
  - Death during follow up was more common among such individuals.
  - Those who had prior vaccination had lower death risk.

### India Must Maintain Close Watch On New Variants of COVID-19

**Context:** While the COVID-19 situation in the country remains stable and public health systems in the country remain geared up, there is need for States to monitor trends of Influenza-like Illness (ILI) and Severe Acute Respiratory Infections (SARI) cases, and send sufficient samples for testing of COVID-19 while ramping up Whole Genome Sequencing,” P.K. Mishra, Principal Secretary to Prime Minister Narendra



Modi said, after chairing a high-level meeting to review the global and national COVID-19 situation, newer variants of the virus in circulation, and their public health impact. He added that India must maintain close watch on new global variants of the virus.

### Key Highlights

- According to the World Health Organization (WHO), while EG.5 (Eris) has been reported from over 50 countries, the BA.2.86 (Pirola) variant has been reported from four countries.
- It was also noted that, globally, a total of 2,96,219 new cases of COVID-19 had been reported in the past seven days.
- India, which makes up nearly 17% of the global population, has reported only 223 cases (0.075% of global new cases) in the past week.

## Different Blow Flies Helps to Estimate Post-Mortem Interval

**Context:** Study on life cycle of different blow flies helps to estimate post-mortem interval. **About The Blow Flies**

### Key Highlights

- The flies belonging to the Calliphoridae family in the order Diptera are the first visitors to inhabit and colonise a dead body.
- Commonly known as blow flies, these flies have significant importance in the accurate assessment of post-mortem interval (PMI), the time that has elapsed since one's death.
- However, studies reveal significant differences in the developmental rate of these flies according to seasonal changes.
  - These changes may be due to changes in humidity, rainfall, temperature in the area, and genetic variations of blow flies.
- A study conducted, has recorded 17 blow fly species belonging to four subfamilies and eight genera from central Kerala.
- The study covers four forensically significant blow flies, *Chrysomya megacephala*, *Chrysomya rufifacies*, *Chrysomya chani*, and *Hemipyrellia ligurriens*, that have been identified based on their morphological and molecular characteristics.
- Effect of temperature and humidity on the life cycle of blow flies was investigated and it showed that the pre-oviposition period was significantly higher in winter in all the four species.
- Length and weight larval instars were significantly higher in monsoon for *C. megacephala* and *C. rufifacies*.”
- The **regression equation method** developed in this study emerged as the best suitable method for the estimation of PMI using life history of blow flies.



## REPORT & INDEX

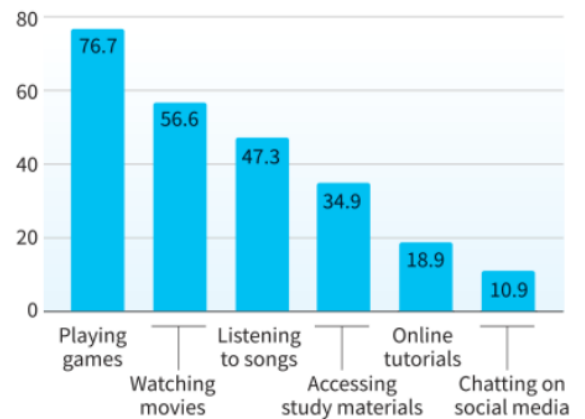
### State of Elementary Education in Rural India

**Context:** On August 8, Education Minister Dharmendra Pradhan launched the ‘State of Elementary Education in Rural India’ report which shows that schoolchildren spend most of their screen time playing games, watching movies or listening to songs. Accessing study materials and online tutorials featured way down the order.

#### Key Highlights

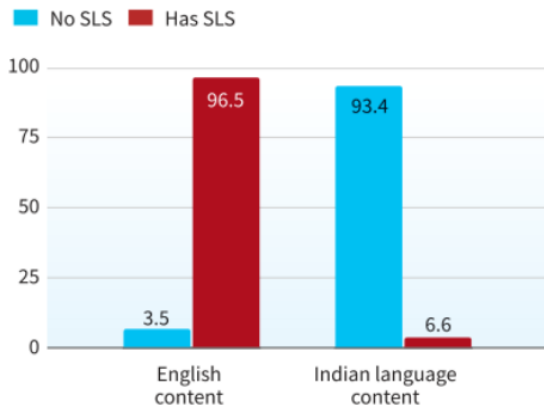
- Chart 1 shows the findings from the survey. Of the 49.3% of parents whose children used gadgets, 76.7% said that their children mainly used mobile phones to play video games, over 56% said that their children used phones to watch movies, 35% said they used phones to access online materials, and only 19% said they used phones to attend online tutorials.
- Instead of seeing this trend as a cause for concern, it can be viewed as a promising opportunity where education meets entertainment.
- Traditional media consumption has increasingly transitioned to OTT platforms, which have the ability to make meaningful contributions to reading literacy and language learning.
- Captions were invented in the U.S. in the early 1970s to make television accessible to people with various degrees of hearing impairments.
- Viewers without hearing disabilities also came to appreciate the value of captions and same language subtitling (SLS) as it helped them follow the dialogues better.
- Caption and SLS are now available in around 40-50 countries. But a major benefit of SLS — improving mass reading literacy — has not been leveraged by any country yet.
- The PlanetRead survey estimates that of the billion “literate” people in the country, 600 million are weak readers.
  - The survey, conducted in four Hindi-speaking States, measured literacy using two methods — the census method which relies on self-reporting and another which required people to read a Grade 2-level text.
- An Ormax OTT audience report showed that India’s OTT base in 2022 was 424 million people, with a nearly 80% penetration in metros. Future OTT growth will predominantly come from rural areas where the preference tilts toward Indian language content.
- SLS on all Indian language content is, therefore, a massive opportunity.
- Universalisation of SLS may act as an automatic reading practice in the viewer’s language.
- The Billion Readers initiative of the PlanetRead organisation is scaling SLS on TV and streaming platforms to achieve that.
- Moreover, under the Rights of Persons with Disabilities Act, 2016, all OTT platforms are required to offer SLS with their content. The Ministry of Information and Broadcasting framed the Accessibility Standards, 2019 mandating SLS on half the content on TV by 2025.

**Chart 1** | About 76.7% of parents said that their children mainly used mobile phones to play video games

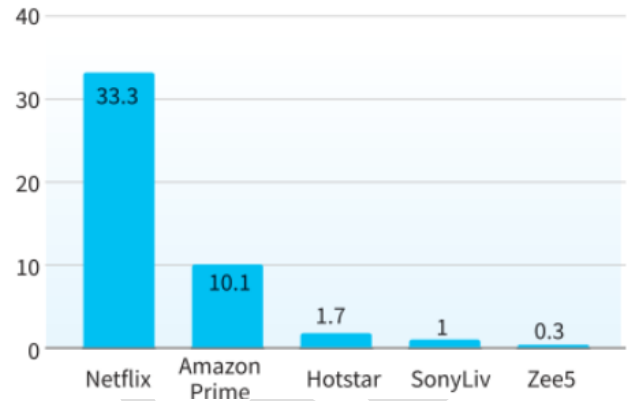


- PlanetRead conducted a survey of 2,673 movies/shows produced in 2022-23 that are on India's top five OTT platforms – Hotstar, Netflix, Amazon Prime, Zee5, and Sony Liv.

**Chart 2** | Same language subtitling (SLS) on Indian language and English content (as a % of total content)

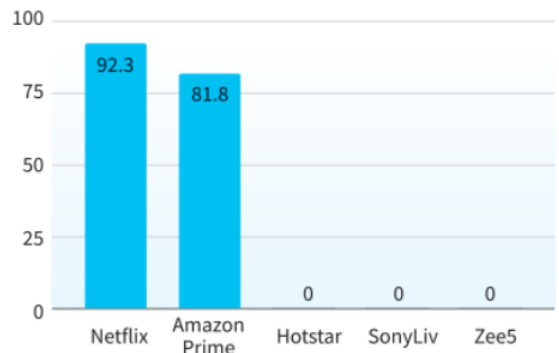


**Chart 3** | Availability of SLS on Indian language content across OTT platforms (as a % of total content)



- Almost all English language content on OTTs is available with English subtitles. In contrast, SLS is missing from most Indian language content (Chart 2).
- Netflix leads SLS implementation in Indian languages with one-third of the content having SLS (Chart 3).
- Amazon Prime is a distant second (10.1%), while the other big OTT platforms have barely made a start.
- SLS penetration is higher on content produced by the platforms themselves. Of the original Indian language content produced by Netflix and Amazon Prime, SLS is on 92.3% and 81.8% of content, respectively (Chart 4).
- However, Hotstar, Sony Liv, and Zee5 are yet to implement SLS in their original Indian language content. This suggests that if content producers were to include SLS and caption files, OTT platforms may include these features.

**Chart 4** | Availability of SLS on original Indian language content produced by OTT platforms (as a % of total content)



## SCIENCE

### Understanding the failure of Luna 25

**Context:** On August 11, Roscosmos, the Russian space agency, launched its Luna 25 spacecraft onboard a Soyuz 2 rocket.

- Luna 25 consisted of a lander and its mission was to soft-land near the moon's south pole and study the properties of lunar soil and the atmosphere.
- But on August 20, Roscosmos stated that Luna 25 had suffered a glitch and crashed on the moon's surface the previous day, ending the mission in a failure.

## Why Did Russia Launch Luna 25?

- The Luna 25 mission has been in the works for more than two decades.
- It was initially called Luna-Glob and the name was later changed to make the mission a part of the Luna series, the last edition of which was launched in 1976.
- In its statement, Roscosmos said one of the mission's purposes was to "ensure Russia's guaranteed access to the moon's surface" — an allusion to the growing importance of the moon as a spaceflight destination.
- While Russia and China are together leading the International Lunar Research Station (ILRS), versus the U.S.-led Artemis Accords, Russia has not executed a successful interplanetary mission in 34 years now.
- Some experts have also said that Russia intended Luna 25 as President Vladimir Putin's demonstration that the country's economy — including the spaceflight sector — hasn't buckled under the weight of international sanctions following Mr. Putin's invasion of Ukraine in 2022.

### THE GIST

■ On August 11, Roscosmos, the Russian space agency, launched its Luna 25 spacecraft onboard a Soyuz 2 rocket. But on August 20, Roscosmos stated that Luna 25 had suffered a glitch and crashed on the moon's surface the previous day, ending the mission in a failure.

■ In its statement, Roscosmos said that it would put together a committee to investigate the precise mode of failure of Luna 25. Beyond that, it has only said that the spacecraft suffered a technical problem.

■ Whatever the technical reasons for Luna 25's failure, it's clear that Russia is falling behind vis-à-vis going to the moon.

## Were The Two Missions In A Race?

Too many details are misaligned to expect that Luna 25 and Chandrayaan 3 were in a race.

- Both missions were launched in a similar timeframe and were expected to attempt a soft-landing on the moon within days of each other.
- However, these mission parameters are determined by the launch vehicle, the mass of the spacecraft, the earth-moon trajectory, and availability of sunlight at a point on the moon.
- In addition, while Chandrayaan 3 has been in development since 2019, Roscosmos was working on Luna 25 since the early 2010s.
- Both missions also suffered delays due to the COVID-19 pandemic.
- Finally, recall that Russia pulled out of building the lander for Chandrayaan 2 due to delays imposed by the failure of the former's Fobos-Grunt mission in 2011.
- Roscosmos and the Indian Space Research Organisation (ISRO) have otherwise been partners; the former is also helping train Indian astronauts for the Gaganyaan mission.

Therefore, Luna 25 and Chandrayaan 3 couldn't have been in a race.

## Why Did Chandrayaan-3 Land on the Near Side of the Moon?

**Context:** The controlled descent of the Vikram lander of Chandrayaan-3 made it one of the closest approaches of a lunar mission to the moon's South Pole.

- However like most of the lunar-landing missions before, Vikram too landed on the near side, making the Chinese Chang'e 4 mission the only one to have landed on the far side.



## The Moon's 'Near', 'Far Sides' And 'Dark' Side

- The **near side** refers to the portion of the moon — about 60% — that is visible to us.
  - It is always the same side that is visible from Earth because the moon takes the same time to rotate about its axis as it does to circle around the Earth.
  - However this doesn't imply that the half the moon is in perpetual darkness.
- The 'new moon' or when the moon is invisible from Earth is the time when the other '**far side**' of the moon is bathed in sunlight and continues to receive light for nearly a fortnight.
  - Astronauts aboard the Apollo 8 mission of 1968 were the first humans to see the far side of the moon.
- The '**dark side**' is thus dark only in the sense that it was mysterious and its various topographical features hidden until the Soviet spacecraft Luna 3 in 1959 photographed it and the Soviet Academy of Sciences released an atlas of these images.

## Is The Dark Side Very Different From The Near Side?

The major difference between the two sides is that the near side is relatively smoother and has many more 'maria' or large volcanic plains compared to the far side. On the far side however, there are huge craters, thousands of kilometres wide, which have likely resulted from collisions with asteroids.

- While both sides of the moon in its formative phase were similarly bombarded, the crust on the near side is thinner because of which, over millions of years, the volcanic lava in the lunar crust has flowed more extensively into the thinner side and filled up its craters.
- The resulting plains that have thus formed are far more conducive to space missions because they provide a relatively flat terrain for landers and rovers.

Chandrayaan-3 identified an area 2.4 km wide and 4.8 km long that had spots of 150 m spaces that would be conducive to a safe descent. China's Chang é-4 lander remains the only one to have successfully landed on the far side. This vehicle landed on the Von Karman crater situated within a larger 2,500 km wide crater called the South Pole Aitken basin.