



Factly Compilation

July, 2023

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1. [India adds 664 animal species to its faunal database in 2022, 339 taxa to its flora](#)

Source: The post is based on the article “**India adds 664 animal species to its faunal database in 2022, 339 taxa to its flora**” published in **The Hindu on 3rd July 2023**

What is the News?

The Union Minister for Environment, Forest, and Climate Change has released data on the floral and faunal database in 2022.

What are the key highlights from the Flora and faunal database?

Faunal Discoveries: The faunal discoveries are compiled in a publication by the Zoological Survey of India (ZSI) titled Animal Discoveries – New Species and New Records 2023.

According to the document, India has added 664 animal species to its faunal database in the year 2022. These comprise 467 new species and 197 new records [species found in India for the first time].

The maximum number of new faunal discoveries has been of invertebrates with 583 species, while vertebrates constitute 81 species.

In 2022, the maximum number of new discoveries were recorded from Kerala, followed by Karnataka and Tamil Nadu.

Major faunal discoveries are:

- **Two species of bats** – *Miniopterus phillipsi*, a long-fingered bat and *Glischropus meghalayanus*, a bamboo-dwelling bat, both from Meghalaya.
- **Sela macaque (*Macaca selai*)**: It is a new macaque species discovered in western and central Arunachal Pradesh and named after the Sela Pass
- ***Macaca leucogenys***: It is a white-cheeked macaque earlier found in Modog, southeastern Tibet, and sighted in India for the first time in 2022 in West Siang, Arunachal Pradesh.
- ***Ficedula zanthopygia***: It is a yellow-rumped flycatcher, earlier known from Mongolia, Transbaikal, southern China, Korea, and western Japan, and found last year in Narcondam Island of the Andaman archipelago.

Floral Discoveries: The floral discoveries are contained in Plant Discoveries 2022 published by the Botanical Survey of India (BSI).

According to it, India has added 339 taxa to its flora during 2022. These comprise 319 species, and 20 infraspecific taxa as new to the Indian flora.

The discoveries encompass seed plants, fungi, lichen, algae, bryophytes, microbes, and pteridophytes.

Western Himalayas and Western Ghats are prominent regions for plant discoveries.

Kerala recorded the highest number of plant discoveries (57), accounting for 16.8% of all discoveries.

Major new plant discoveries are:

- **Nandadevia Pusalkar**: It is common throughout the foothills and warm outer valleys of the Uttarakhand Himalayas. and
- **Nilgiriella Pusalkar**: It is endemic to the southern Western Ghats of India and distributed in Karnataka, Kerala, and Tamil Nadu.

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— **Calanthe lamellosa**: It is an orchid species. It was earlier recorded in China and Myanmar, and found for the first time in India in the Japfu mountain range in Kohima, Nagaland.

2. [DPIIT successfully organizes National Workshop on Industrial Park Rating System](#)

Source: The post is based on the article “**DPIIT successfully organizes National Workshop on Industrial Park Rating System**” published in **PIB on 3rd July 2023**

What is the News?

The Department for Promotion of Industry and Internal Trade(DPIIT) has successfully organized the National Workshop on Industrial Park Rating System (IPRS).

What is the Industrial Park Rating System (IPRS)?

The Industrial Park Rating System (IPRS) was launched by the Department for Promotion of Industry and Internal Trade (DPIIT) in 2018. It a pilot initiative, launched with the support of the Asian Development Bank(ADB) and the Ministry of Electronics and Information Technology(MeitY).

It is an extension of the **India Industrial Land Bank (IILB)** platform which features more than 4,500 industrial parks

Aim: To rate the country’s industrial parks and special economic zones.

Parameters: It rates industrial parks across four pillars: internal infrastructure and utilities, external infrastructure and facilities, business support services, and environmental and safety management.

Based on the findings of the pilot and review of the global approaches, frameworks, and guidelines DPIIT **launched ‘IPRS 2.0’ in October, 2021. It is** a key enabler for identifying additional measures to enhance industrial competitiveness.

Compared with the 34-parameters assessment framework used for the pilot phase, 45 parameters were developed for the assessment of industrial parks and 40 parameters separately for SEZs under the four pillars of IPRS 2.0.

3. [Prime Minister launches National Sickle Cell Anaemia Elimination Mission from Shahdol, Madhya Pradesh](#)

Source: The post is based on the article “**Prime Minister launches National Sickle Cell Anaemia Elimination Mission from Shahdol, Madhya Pradesh**” published in **pib on 3rd July 2023**

What is the News?

The Prime Minister has launched the National Sickle Cell Anaemia Elimination Mission (NSCEM) in Shahdol, Madhya Pradesh.

What is Sickle Cell Anaemia?

[Click Here to read](#)

What is the National Sickle Cell Anaemia Elimination Mission?

The Mission was announced in the Union Budget 2023.

Aim: To address the pressing health challenges posed by sickle cell disease, particularly among the tribal population.

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Part of: The mission is being implemented in a mission mode as part of the **National Health Mission (NHM)**.

Target: The mission aims to eliminate sickle cell disease as a public health problem by 2047.

States covered: The mission will be implemented in 278 districts of 17 states in India namely Gujarat, Maharashtra, Rajasthan, Madhya Pradesh, Jharkhand, Chhattisgarh, West Bengal, Odisha, Tamil Nadu, Telangana, Andhra Pradesh, Karnataka, Assam, Uttar Pradesh, Kerala, Bihar, and Uttarakhand.

Features of the mission: The mission focuses on awareness creation, universal screening of approximately seven crore people in the 0-40 years age group in affected tribal areas and counseling through collaborative efforts of central ministries and state governments.

4. [Rules of origin delay FTA tariff discussions with EU](#)

Source: The post is based on the article **“Rules of origin delay FTA tariff discussions with EU”** published in **Business Standard on 3rd July 2023**

What is the News?

India and the European Union (EU) have not been able to make major progress in the tariff negotiations under the ongoing free trade agreement (FTA) discussions due to differences over the rules of origin criteria.

This is because India wants a conservative rule of origin, while the EU wants us to follow liberal criteria.

What is Rules of origin?



THE CRITERIA

- ▶ Rules of origin are the criteria needed to determine the national source of a product
- ▶ It prevents an FTA partner country from re-exporting an imported item to the other partner country without substantial value addition

TARIFF PLAY

- ▶ While the EU asks for 95% tariff elimination from India, the country is not ready for it
- ▶ But the EU is ready to provide 100% tariff elimination as a majority of its items anyway have zero tariffs
- ▶ India seeks to get clarity on carbon border adjustment mechanism and deforestation Act

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Source: Business Standard

Rules of origin criteria are critical to determining the country of origin of a product. The country of origin refers to the country where the products were manufactured or substantially transformed.

What are rules of origin used for?

- to implement measures and instruments of commercial policy, such as anti-dumping duties and safeguard measures;
- to determine whether imported products shall receive most-favored-nation (MFN) treatment or preferential treatment;
- for the purpose of trade statistics;
- for the application of labeling and marking requirements and
- for government procurement.

Criteria used to qualify for the rules of origin requirements: Tariff level changes and minimum value additions are the two most commonly used criteria for a product to qualify for the rules of origin requirements.

– Most developed countries prefer the flexibility to use either of the criteria, as it allows flexibility for exporters. India has traditionally preferred the use of both criteria and is not given the flexibility to use either of them.

5. [Government revises the Crop Residue Management guidelines](#)

Source: The post is based on the article “**Government revises the Crop Residue Management guidelines**” published in **PIB on 2nd July 2023**

What is the News?

The Government of India has revised the crop residue management guidelines for Punjab, Haryana, Uttar Pradesh, and Delhi to help tackle the challenge of stubble burning in these states and improve air quality.

What are Crop Residues?

Crop residues are materials left in an agricultural field after the crop has been harvested. These residues include stalks and stubble (stems), leaves, and seed pods.

Crop residues are primarily used as bedding material for animals, livestock feed, soil mulching, bio-gas generation, bio-manure/compost, thatching for rural homes, mushroom cultivation, biomass energy production, fuel for domestic and industrial use, etc.

However, a large portion of crop residue is burnt ‘on-farm’ primarily to clean the field for sowing the next crop.

The problem of ‘on-farm’ burning of crop residues is intensifying in recent years due to a shortage of human labor, the high cost of removing the crop residue from the field, and mechanized harvesting of crops.

Adverse effects of crop residue burning:

Loss of nutrients: It is estimated that burning one tonne of rice straw accounts for the loss of 5.5 kg Nitrogen, 2.3 kg phosphorus, 25 kg potassium, and 1.2 kg sulphur besides, organic carbon.

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Impact on soil properties: Heat from burning residues elevates soil temperature, causing death of beneficial soil organisms.

Emission of greenhouse and other gases: Crop residue burning is a potential source of Green House Gases (GHGs) and other chemically and radiative important trace gases and aerosols such as CH₄, CO, N₂O, NO_x, and other hydrocarbons.

What are the revised crop residue management guidelines the government has released?

Techno-commercial pilot projects for Paddy Straw Supply Chain will be established under the bilateral agreement between the Beneficiary/Aggregator (Farmers, Cooperative Societies of Farmers, Farmers Producer Organizations (FPOs), and Panchayats) and Industries utilizing the paddy straw.

Govt shall provide financial assistance on the capital cost of machinery and equipment.

The required working capital may be financed either by the Industry and Beneficiary jointly or utilizing the Agriculture Infrastructure Fund (AIF), NABARD Financial, or Financing from the Financial Institutions by the beneficiary.

The land for storage of the collected paddy straw will be arranged and prepared by the beneficiary as may be guided by the end-use industry.

Significance of these revised guidelines: 1) This will supplement the efforts of paddy straw management through in-situ options 2) Air pollution caused by stubble burning will be considerably reduced and 3) It would also help generate employment opportunities of about 9,00,000 man-days.

[6. India, China ramp up infra on north bank of Pangong lake](#)

Source: The post is based on the article “**India, China ramp up infra on north bank of Pangong lake**” published in **The Hindu on 3rd July 2023**

What is the News?

India and China are busy with construction in the Pangong Lake area.

What is China and India building along the Pangong Lake?

China: China is constructing a bridge to connect the north and south banks of the lake.

– Apart from the bridge, work on road connectivity along the south bank towards Shandong village is also under progress.

– The Chinese air defence site is also located east of the Khurnak fort. (**Khurnak Fort** is a ruined fort on the northern shore of Pangong Lake).

India: India is building a black-topped road on its side on the north bank.

What is Pangong Tso Lake?

[Click Here to read](#)

India-China talks to resolve border issues:

So far, India and China have held 18 rounds of military talks and 27 meetings of the Working Mechanism for Consultation and Coordination on India-China Border Affairs (WMCC).

However, the friction points remain on Depsang Plains and Demchok over the patrolling rights. The Indian army had been patrolling in these areas until the Galwan clash, which restricted the movement.

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[Scientists detect the universe's 'noisy' gravitational wave background: What it means and why you should care about it](#)

Source: The post is based on the article “**Scientists detect the universe's 'noisy' gravitational wave background: What it means and why you should care about it**” published in **Indian Express on 3rd July 2023**

What is the News?

Scientists have said that they have found evidence to suggest that the universe is filled with low-frequency gravitational waves.

How were low-frequency gravitational waves detected?

Scientists used six large radio telescopes around the world, including the one in Pune to detect low-frequency [gravitational waves](#).

These telescopes studied objects called pulsars. Pulsars are distant rapidly-rotating neutron stars that emit pulses of radiation, observed from the Earth as bright flashes of light. These bursts take place at extremely precise intervals, and therefore scientists use pulsars as ‘cosmic clocks’.

After examining 25 pulsars over a period of 15 years, scientists found that some of the signals from these neutron stars arrived a little early while a few others were late, the discrepancies ranging in millionths of seconds.

Scientists have proposed that the observed inconsistencies were due to deformities caused in spacetime by gravitational waves.

These low-frequency gravitational waves probably emerged from a colliding pair of very large, ‘monster’, black holes, millions of times bigger than our Sun.

Why is this discovery important?

Scientists have been looking for low-frequency gravitational waves for decades. They believed that such ripples are perpetually rolling through space like background noise.

This latest breakthrough provides enough data to suggest that there is a gravitational wave background, which exists in our universe.

Moreover, this discovery will also help scientists expand their knowledge about the nature and evolution of the universe. It will also help them gain more information about the environment around massive black holes.

7. [When did humans first arrive in Southeast Asia? – Tam Pà Ling cave](#)

Source: The post is based on the article “**When did humans first arrive in Southeast Asia?** ” published in **The Hindu on 3rd July 2023**

What is the News?

Tam Pà Ling cave provided the earliest evidence of modern humans in mainland South-East Asia.

What is Tam Pà Ling cave?

Tam Pà Ling cave is located in the Annamite Mountain range in Northern Laos.

The cave features a sloping structure formed by periodic slope wash deposition.

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What are the key findings made at Tam Pà Ling cave?

The excavations revealed that humans were present in the vicinity of Tam Pà Ling Cave for roughly 56,000 years.

The age of the lowest fossils found at Tam Pà Ling cave suggests modern humans arrived in this region between 86,000 and 68,000 years ago.

This has pushed back the timing of Homo sapien's arrival in Southeast Asia.

Moreover, a tooth, estimated to be 150,000 years old, was found in the Cave, linking it to the presence of [Denisovans](#), an extinct human relative.

What are the dating methods used at the Tam Pà Ling cave?

Luminescence dating: It is a technique that measures the last time crystalline materials, such as stones, were exposed to sunlight or heat. This technique mainly uses two minerals: quartz and feldspar.

Uranium series dating: It works by measuring uranium, and the elements into which it transforms via radioactive decay within the tooth.

Electron spin resonance dating: It relies on measuring the number of electrons in tooth enamel.

Micromorphology: It is a technique that examines sediments under a microscope to establish the integrity of the layers that buried the fossils.

8. [DoT Launches Bharat 6G Alliance to Drive Innovation and Collaboration in Next-Generation Wireless Technology](#)

Source: The post is based on the article “**DoT Launches Bharat 6G Alliance to Drive Innovation and Collaboration in Next-Generation Wireless Technology**” published in **PIB** on **4th July 2023**

What is the News?

The Union Minister for Communications has launched Bharat 6G Alliance. It will work towards setting up the 6G network in India.

What is Bharat 6G Alliance?

Bharat 6G Alliance (B6GA) is a collaborative platform consisting of public and private companies, academia, research institutions, and standards development organizations.

Objectives of the alliance:

- To understand the business and societal needs of 6G beyond technical requirements.
- Foster consensus on the needs, and promote high-impact open research and development (R&D) initiatives.
- To bring together Indian startups, companies, and the manufacturing ecosystem to drive the design, development, and deployment of 6G technologies in India.
- To facilitate market access for Indian telecom technology products and services, enabling the country to emerge as a global leader in 6G technology.
- Government aims for 10 per cent of 6G patents by 2030.

What is Telecom Technology Development Fund (TTDF)?

Launched in: 2022

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Aim: To fund R&D in rural-specific communication technology applications and form synergies among academia, start-ups, research institutes, and the industry to build and develop the telecom ecosystem.

– To promote technology ownership and indigenous manufacturing, create a culture of technology co-innovation, reduce imports, boost export opportunities, and create Intellectual Property.

Funding: 5% of annual collections from the Universal Service Obligation Fund (USOF) will be available for the TTDF Scheme.

What is the Digital Communication Innovation Square(DCIS) Initiative?

Digital Communication Innovation Square initiative was launched under the [Champion Services Sector Scheme](#).

Aim: To foster an ecosystem of indigenously developed telecom equipment, in a bid to reduce reliance on imported equipment and technologies.

Under the initiative, startups will get a grant of Rs 50 lakhs, while MSMEs will get a grant of Rs 2 crore, and a consortium will get a grant of Rs 10 crore. Financial support will be provided to those projects and ideas that have reached at least the proof of concept level.

– The initiative will also provide the selected startups and MSMEs mentorships, incubation, and technical advisory support during the project.

9. [DAY-NRLM launches eSARAS mobile App](#)

Source: The post is based on the article “**DAY-NRLM launches eSARAS mobile App to Market products made by women of Self-help Groups**” published in **PIB on 3rd July 2023**.

What is the News?

The Union Ministry of Rural Development has launched eSARAS mobile App.

What is eSARAS mobile App?

eSARAS mobile App is an initiative of [Deendayal Antyodaya Yojana- National Rural Livelihoods Mission \(DAY-NRLM\)](#), a flagship program of the Ministry of Rural Development (MoRD).

Purpose: It is an e-commerce mobile app. It will be used as a more effective platform for marketing the products made by women of self-help groups.

What is eSARAS fulfillment center?

eSARAS fulfillment center will be managed by the Foundation for Development of Rural Value Chains (FDRVC).

– **Note:** FDRVC is a Not for Profit Company constituted under MoU between the Ministry of Rural Development and Tata Trusts to support large-scale community-based organizations.

Purpose: The center will be used for processing, packaging, and shipping of products that customers purchase through the eSARAS Portal and eSARAS mobile App.

– It will also handle the logistics required to bring an online order to a customer’s doorstep.

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[10. Political parties can now file financial statements online](#)

Source: The post is based on the article “**Political parties can now file financial statements online**” published in **PIB on 3rd July 2023**

What is the News?

The Election Commission of India (ECI) has launched a new web portal to allow political parties to file their financial accounts online.

What is the purpose of launching an online facility for filing financial statements by Political parties?

The online facility for filing financial statements by political parties has been created with twin objectives:

- **Firstly**, to facilitate political parties in overcoming the difficulties in physical filing of reports and
- **Secondly**, to ensure timely filing of financial statements in the prescribed or standardized formats.

What are the financial reports political parties have to file online?

Political Parties need to file a Contribution Report, Audited Annual Account, and Election Expenditure Statement.

These financial statements are required to be submitted by political parties to the Election Commission/Chief Electoral Officers of States/Union Territories, as per the Representation of People’s Act, 1951 & transparency guidelines issued by the Commission.

The portal also has a facility for sending reminder messages on the registered mobile number and registered emails of the authorized representatives of the political party so that the dates of compliances are not missed.

What happens if the political party does not want to file their financial accounts online?

The political parties not willing to file the financial report through online mode will have to convey the reasons to the Commission in writing. Then, it may continue to file its reports in hard copy along with CDs/Pen drives in the prescribed formats.

The commission will in turn publish all such reports online, along with a letter of justification sent by the party for not filing financial statements online.

[11. WMO revives ozone-UV bulletin after 7 years, shows steady recovery of ozone layer](#)

Source: The post is based on the article “**WMO revives ozone-UV bulletin after 7 years, shows steady recovery of ozone layer**” published in **Down To Earth on 3rd July 2023**

What is the News?

The World Meteorological Organization (WMO) has released Ozone and UV Bulletin after a gap of seven years.

What are the key highlights from the Ozone and UV Bulletin?

Steady recovery of ozone layer: The production and consumption of controlled ozone-depleting substances have been phased out up to 99%. This has happened due to the Montreal Protocol and its amendments.

- Stratospheric ozone is slowly recovering, with a full recovery in most parts of the atmosphere projected to occur in the coming decades.

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– However, unfortunately, climate change is slowing down the recovery of the ozone layer. Ozone depletion is affecting the climate of the lower atmosphere.

Hunga Tonga-Hunga Ha’apai volcanic eruption changed the stratosphere: The Hunga Tonga-Hunga Ha’apai volcanic eruption in January 2022 was the largest in the last 100 years, injecting ice and water vapor high into the stratosphere.

– The eruption increased the water vapor content of the stratosphere by 5% to 10%, resulting in substantial cooling of the stratosphere above the Southern Hemisphere.

– The additional water vapor has resulted in less ozone in the lower stratosphere of the Southern Hemisphere in 2022.

What is an Ozone Layer?

[Click Here to read](#)

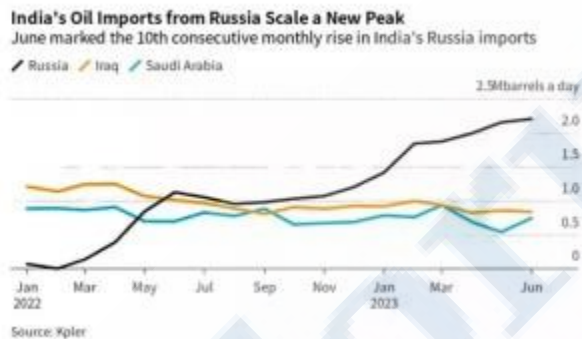
12. [India refiners start yuan payments for Russian oil imports, say sources](#)

Source: The post is based on the article **“India refiners start yuan payments for Russian oil imports, say sources”** published in **The Hindu on 4th July 2023**

What is the News?

Indian refiners have begun paying for some oil imports from Russia in Chinese yuan.

India as the largest buyer of seaborne Russian oil



India has emerged as a largest buyer of seaborne Russian oil. This is because Russia is selling oil at a discounted rate since the invasion of Ukraine.

Moreover, India being able to buy cheap Russian crude has boosted output and profits at Indian refineries.

It has also enabled them to export refined products competitively to Europe and take a bigger market share.

How is India paying Russia for the oil?

The U.S. dollar has long been the main global oil currency, including for purchases by India.

But now the Chinese yuan is playing an increasingly important role in Russia’s financial system because Russia has been frozen out of the dollar and euro financial networks by international sanctions.

Indian Oil Corporation, the country’s biggest buyer of Russian crude oil, became the first state refiner to pay for some Russian purchases in yuan.

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This rise in yuan payments has given a boost to China's efforts to internationalize its currency, with Chinese banks promoting its use specifically for the Russian oil trade.

13. Hul Diwas: Remembering the Santal rebellion against the British

Source: The post is based on the article **“Hul Diwas: Remembering the Santal rebellion against the British”** published in **Indian Express on 3rd July 2023**

What is the News?

The Prime Minister has commemorated Hul Diwas, honoring the sacrifice of Santhals in their fight against British colonial authorities.

What is Hul Diwas or Santhal Rebellion?

The Santal rebellion or 'Hul' began in 1855.

It was an “organized war against colonialism” led by the Santals, standing against the various forms of oppression they were subjected to by the British and their collaborators.

What was the reason for the Santhal Rebellion?

The Santal people – or Santalis – were not the original inhabitants of modern-day Santhal Pargana.

They had migrated from the Birbhum and Manbhum regions (present-day Bengal), due to the 1770 famine in Bengal.

With the enactment of the Permanent Settlement Act of 1790, the East India Company was desperate to bring an ever-increasing area in its control under settled agriculture.

Thus, they chose the area of Damin-i-Koh, at the time heavily forested, to be settled by the Santhals, in order to collect a steady stream of revenue.

However, once settled, the Santals bore the brunt of colonial oppression. Predatory moneylenders and the police were a byproduct of this system.

Who were the leaders in the revolution?

The Murmu brothers – Sidho, Kanhu, Chand and Bhairab – were among those who led the revolt.

But the women also played an important role. Phulo Murmu and Jhalo Murmu, sisters from the same family, participated in the Hul, inspiring women to join the rebellion.

The rebellion saw participation from 32 communities, both tribals, and non-tribals, challenging the notion that it was solely a Santhal rebellion.

The East India Company's army was defeated twice during the rebellion, debunking the belief that they were invincible.

In 1855, martial law was introduced to curb the revolt, and the Hul was quashed by early 1856.

What was the impact of the Santhal rebellion?

The Santhal rebellion did not end with its suppression in 1855. It continued to inspire future uprisings, such as the Santhal involvement in the 1857 mutiny.

The Hul rebellion also symbolized resistance against British colonialism and laid the foundation for subsequent movements in Jharkhand.

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[14. Diversity for Restoration\(D4R\) Tool to drive India's eco-restoration initiatives](#)

Source: The post is based on the article “**This new tool can drive India's eco-restoration initiatives; here's how**” published in **Down To Earth** on **3rd July 2023**

What is the News?

Researchers have developed a tool called Diversity for Restoration (D4R) to aid in agroforestry and ecosystem restoration efforts.

What is the Diversity for Restoration(D4R) Tool?

The Diversity for Restoration (D4R) tool has been developed by **Biodiversity International**.

The tool has been modified to adapt to the Indian context by researchers from **Ashoka Trust for Research in Ecology and the Environment (ATREE)**.

The tool aims to **support ecosystem restoration programs** in India by improving decision-making and promoting sustainable development.

The tool is already being used in countries such as Malaysia, Ethiopia, Columbia, Peru, Burkina Faso, Cameroon, etc.

What are the services that Diversity for Restoration(D4R) Tool can provide?

The Diversity for Restoration tool can:

- Help the user in identifying species that match their restoration objectives.
- Identify species that can resist local stresses and adapt to evolving environmental conditions.
- Can pinpoint areas and regions to procure the seeds for the required species.
- Informs the user whether the tree species offers timber, fruit, manure, or other commercial benefits.
- It also informs if the tree is resilient to physiological stresses such as extremely high or low temperatures, salinity, or acidity tolerance in the soil among others.
- Identify windbreakers – the trees can act as a barrier against high winds.
- The user can also know if the species offers better nitrogen fixing and whether it serves as a good pollinator for birds and bees.

What is the significance of the Diversity for Restoration(D4R) Tool?

The tool will help improve the **effectiveness of restoration programs** by providing manifold benefits to interested stakeholders while promoting sustainable development.

It will also **help in better decision-making** and bring the best outcome for plantation programs.

[15. 23rd SCO Summit – SCO calls for multipolar world order as Iran joins grouping](#)

Source: The post is based on the article “**SCO calls for multipolar world order as Iran joins grouping**” published in **The Hindu** on **5th July 2023**.

What is the News?

India hosted the 23rd Summit of the Shanghai Cooperation Organisation (SCO) Council of Heads of State in the virtual format. This is the first time India is hosting the summit.

What are the key takeaways from the 23rd SCO Summit?

Iran as new member: SCO has decided to induct Iran as its ninth member.

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New Delhi Declaration: One of the major outcomes of the SCO summit was the New Delhi Declaration.

- The name of the declaration was coined by the Indian government.
- The declaration proposes five joint statements namely: fight against terrorism, de-radicalisation, sustainable lifestyle to tackle climate change, production of millets and digital transformation.
- The declaration also listed a number of global challenges, including new and emerging conflicts, turbulence in the markets, supply chain instability, climate change and the COVID-19 pandemic.

India on China's Belt and Road Initiative (BRI): India has once again refused to endorse China's ambitious Belt and Road Initiative (BRI) scheme which envisions rebuilding the old Silk Road to connect China with Asia, Europe and beyond with large infrastructure spending.

- India was the only country in the Shanghai Cooperation Organisation (SCO) not to support the project.

India has also stayed out of a joint statement on **SCO Economic Development Strategy 2030**, indicating a lack of consensus in the grouping.

India on cross border terrorism: Prime Minister has said that some countries use cross-border terrorism as an instrument of their policies.

The PM said that SCO should not hesitate to criticize such nations because there can be no place for double standards on such serious matters.

India has been repeatedly pointing out that Islamabad uses terrorist groups as instruments of state policy.

China has been blocking the listing of Pakistan-based terrorists at the UN Security Council (UNSC).

[16. Govt. to help combat child trafficking in border areas, set up rehabilitation homes](#)

Source: The post is based on the article **“Govt. to help combat child trafficking in border areas, set up rehabilitation homes”** published in **The Hindu** on **5th July 2023**.

What is the News?

The Central Government has decided to help build infrastructure in border areas to combat child trafficking and help in rehabilitation and protection of victims.

About Trafficking in border areas of India:

India is a source as well as destination country for trafficking of persons.

The source countries of such trafficking are Nepal, Bangladesh and Myanmar from where women and girls are trafficked under false promises of providing a better life, jobs and good living conditions in India.

A majority of those trafficked are minor girls or young women who after their arrival in India are sold and forced into commercial sex work.

These girls/women often reach major cities like Mumbai, Delhi, Hyderabad etc. from where they are taken out of the country mainly to the Middle East and SouthEast Asia.

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What are the steps the government has taken till now to combat trafficking in border areas?

Till now, the Women and Child Development Ministry has been providing financial assistance to all States and Union Territories under the Nirbhaya Fund to set up and strengthen Anti-Human Trafficking Units (AHTU) in every district of the country.

Funding has also been provided for setting up of AHTU units in border guarding forces such as the Border Security Force (BSF) and Sashastra Seema Bal (SSB).

What are the further steps the government is planning to take to combat trafficking on border areas?

Government has decided to provide financial assistance to States/UTs in border areas to set up protection and rehabilitation homes for the victims of trafficking particularly for minor girls and young women.

These homes will provide services like shelter, food, clothing, counseling, primary health facilities and other daily requirements.

The government will also help build infrastructure to combat child trafficking in border areas.

The victims of trafficking will also be produced before the child welfare committee to declare fit facility for providing sponsorship as per the [Mission Vatsalya Scheme](#) guideline and accordingly, the states/UTs will be requested to do the needful.

17. [Impact of CSR funds 'not widely felt' despite jump in spending: Ministry of Corporate Affairs](#)

Source: The post is based on the article “**Impact of CSR funds 'not widely felt' despite jump in spending: Ministry of Corporate Affairs**” published in **Economic Times** on **2nd July 2023**.

What is the News?

The Ministry of Corporate Affairs (MCA) has said that there has been a limited impact of corporate social responsibility (CSR) initiatives despite an increase in such spending in recent years.

What is Corporate Social Responsibility(CSR)?

[Click Here to read](#)

Data on Corporate Social Responsibility(CSR):



Source: Economic Times

CSR spending in FY21 amounted to Rs 26,210 crore representing an 80% growth since FY16.

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This increase is commendable but the impact of CSR funds is not widely felt, necessitating a strategic and sustainable approach.

What are the challenges to CSR in India?

Regional disparity: There is a substantial regional disparity in the deployment of CSR funds.

In FY21, ten states, including Maharashtra, Gujarat, Karnataka, and Andhra Pradesh accounted for over 44% of the CSR funds. In contrast, the eight northeastern states received a meager 0.91% share.

This regional imbalance is worrisome as the smaller regions often face higher levels of socio-economic challenges and underdevelopment.

The potential reason for such disparity could be the stipulation under the Section 135(5) of the Companies Act 2013 which says that companies should give preference to the areas around which they operate while allocating CSR funds. But this rule is not mandatory.

Hence, companies can avoid concentrating CSR funds in specific regions by adopting a multi-dimensional approach to CSR. This involves identifying regions with high socioeconomic vulnerabilities and directing resources towards their development.

For this, they can collaborate with local NGOs, community-based organizations, and government agencies to ensure the effective implementation of CSR projects at the grassroots level.

CSR funding in few specific sectors: Education, healthcare, and rural development have remained the top receivers of the CSR funds.

According to the official data, between FY15 and FY21, the education sector received about 37% of the total CSR spending.

The health sector received 30% and Rural development projects received 9.6% of the total CSR expenditure.

18. Deep sea mining permits may be coming soon. What are they and what might happen?

Source: The post is based on the article “Deep sea mining permits may be coming soon. What are they and what might happen?” published in **Indian Express** on **3rd July 2023**

What is the News?

The International Seabed Authority is preparing to resume negotiations on the opening up of international seabed for deep sea mining.

What is Deep Sea Mining?

Deep-sea mining is the process of retrieving mineral deposits from the ocean below 200 metres—the deep seabed, which covers around two-thirds of the total seafloor.

There are three types of deep sea mining: **1)** taking deposit-rich polymetallic nodules off the ocean floor **2)** mining massive seafloor sulphide deposits and **3)** stripping cobalt crusts from rock.

How is Deep Sea Mining regulated now?

Countries manage their own maritime territory and exclusive economic zones, while the high seas and the international ocean floor are governed by the United Nations Convention on the Law of the Seas (UNCLOS). It is considered to apply to states regardless of whether or not they have signed or ratified it.

Under the treaty, the seabed and its mineral resources are considered the “common heritage of mankind” that must be managed in a way that protects the interests of humanity through the

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sharing of economic benefits, support for marine scientific research, and protecting marine environments.

Mining companies interested in deep sea exploitation are partnering with countries to help them get exploration license.

Why is there a pressure on ISA to establish regulations now?

In 2021 the Pacific island nation of Nauru — in partnership with mining company Nauru Ocean Resources applied to the ISA to exploit minerals in a specified deep sea area.

This triggered a clause of the UN treaty that requires the ISA to complete regulations governing deep sea exploitation by July 2023.

If no regulations are finalized, Nauru can submit an application to conduct the mining without any governing regulations. Other countries and private companies can start applying for provisional licenses if the ISA fails to approve a set of rules and regulations by July,2023.

What is the environmental impact of deep-sea mining?

Firstly, the deep ocean absorbs and stores more than 90% of the excess heat and approximately 38% of the carbon dioxide generated by humanity. Breakdown of even a small fraction of carbon stored in marine sediments could exacerbate climate change.

Secondly, noise from deep-sea mining could disrupt marine mammals, such as whales and dolphins, that use sound as a primary means of underwater communication and sensing.

Thirdly, waste water and the particles discharged by mining ships at the ocean surface will affect ecosystems and commercially important or vulnerable species,

Fourthly, there are implications for the human rights of communities that could be affected by pollution or damaged fisheries.

What do mining companies say about the environmental impact?

The mining companies argue that the biggest threat to the oceans is climate change, and that the planet's top priority should be to achieve net-zero emissions. To achieve this, trade-offs will be necessary.

Zo peoples of Manipur and Mizoram: ethnicity, religion, a shared history.

Source: The post is based on the article “**Ethnicity, religion, a shared history: ties that bind the Zo peoples of Manipur & Mizoram**” published in **Indian Express** on **5th July 2023**.

What is the News?

Mizoram's Zoram People's Movement (ZPM) has called for a reunification of the Zo people in view of the continuing ethnic violence between the dominant Meiteis and the Kuki-Zomi tribes in Manipur.

Who are Zo people?

The Zo people are an ethnic group which inhabit areas of India, Myanmar and the Chittagong hill tracts of Bangladesh.

The Chin Hills or Indo-Chin hill ranges in northwestern Myanmar is the home to a large number of tribes that come under the Zo umbrella.

Zo group includes many sub-tribes and clans such as the Chin, **Kuki, Mizo**, Lushei, Zomi, Paitei, Hmar, Ralte, Pawi, Lai, Mara, Gangte, Thadou, etc.

These tribes are believed to have migrated from China through Tibet to settle in Myanmar, and speak a group of Tibeto-Burman languages.

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Constant feuds among the tribal clans and their kings (chieftains) drove many of the clans westward to modern-day Mizoram and parts of Manipur in the 17th century.

They settled in new villages but even so remained socially and emotionally connected with the Chin tribes of Myanmar.

Apart from ethnicity— the tribes are also connected together by Christianity

[19. Union Minister lays foundation stone of Inland Waterways Transport Terminal at Bogibeel, Dibrugarh](#)

Source: The post is based on the article “**Union Minister lays foundation stone of Inland Waterways Transport Terminal at Bogibeel, Dibrugarh**” published in **PIB on 5th July 2023**.

What is the News?

Union Minister of Ports, Shipping & Waterways has laid the foundation stone of Inland Waterways Transport (IWT) terminal to be developed at Bogibeel in Dibrugarh, Assam.

Where is the Inland Waterways Transport (IWT) terminal being developed?

Inland Waterways Transport (IWT) terminal is being developed at **Bogibeel in Dibrugarh, Assam** by the bank of the **River Brahmaputra (National Waterways 2)**.

The terminal is being developed under the aegis of Inland Waterways Authority of India(IWAI).

The executing agency of the terminal is being done by the **Indian Port Rail and Ropeway Construction Limited**.

Some major features of the terminal include cargo and passenger berths, approach and other internal roads, transit shed, open storage area, truck parking area, passenger waiting area among others.

The terminal is scheduled to be completed by **February 2024**.

What is the significance of developing this Inland Waterways Transport (IWT) terminal at Bogibeel?

Firstly, this terminal is likely to play a pivotal role in rejuvenating inland waterways transportation in the region for both cargo and passenger movement.

Secondly, the terminal will act as a catalyst towards reclaiming the lost glory of Dibrugarh as a major commercial hub. It will also play a crucial role in the development of upper Assam and nearby states such as Arunachal Pradesh, Nagaland in terms of cargo as well as passenger transportation.

Thirdly, it will also lead to increase in eco-tourism, and easing the movement of EXIM cargo with comparatively lower transportation cost vis-a-vis others.

[20. Startup20 -India’s remarkable economic scale and market potential enable startups to flourish and thrive in global startup ecosystem: Union Commerce and Industry Minister](#)

Source: The post is based on the article “**India’s remarkable economic scale and market potential enable startups to flourish and thrive in global startup ecosystem: Union Commerce and Industry Minister**” published in **PIB on 3rd July 2023**.

What is the News?

The Union Minister for Commerce and Industry has addressed the Startup20 meeting at Gurugram.

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What is Startup20?

Startup20 is an official engagement group established under India's G20 Presidency.

It acts as a dialogue forum with the G20 nations startup ecosystem stakeholders and intends to represent the startup ecosystem of the G20 nations to raise the macroeconomic concerns and challenges faced by the startup ecosystem players in these nations.

Startup20 Engagement Group will operate through three Task Forces:

– **The Foundations and Alliances Taskforce:** It will work to create a startup terminology handbook, set up a global knowledge hub, and create bilateral and Multilateral collaborations with governments, policymakers, academic & research institutes, industry associations and international organizations to promote startups.

– **The Finance Taskforce:** It will broaden the array of financial instruments available to startups, through policy level intervention and create pitching, capacity building and networking opportunities for startups with the global investor community.

– **Inclusion and Sustainability Taskforce:** It will work towards promotion of inclusive entrepreneurship, startups working towards inclusion, creating a sustainable planet on the back of startups working towards the SDGs, while also encouraging them to adopt growth-centric sustainable strategies.

First meeting of Startup20: Startup20's inception meeting was held in Hyderabad in January 2023. At the meeting, Startup20X was launched.

– **Startup20X** is a platform conceptualized to host talks, conferences, and events conducted under the aegis of India's Startup20 Engagement Group. It will bring together leaders from the world of innovation and entrepreneurship and give them a platform to share their experiences and network with ecosystem stakeholders.

[21. India ranked 67th on Energy Transition Index, Sweden on top: WEF](#)

Source: The post is based on the article "**India ranked 67th on Energy Transition Index, Sweden on top: WEF**" published in **The Hindu** on **28th June 2023**

What is the News?

The World Economic Forum(WEF) has released the Energy Transition Index 2023.

What is the Energy Transition Index?

[Click Here to read](#)

What are the key takeaways from Energy Transition Index 2023?

Rankings: Sweden has topped the list and was followed by Denmark, Norway, Finland and Switzerland in the top five.

– France (7) was the only G20 Country in the top 10, followed closely by Germany (11), the U.S. (12), and the U.K. (13).

India: India has been ranked 67th out of 120 countries.

Observations made on India: India is the only major economy with energy transition momentum accelerating across all dimensions.

– Despite continued economic growth, India has successfully reduced the energy intensity of its economy and the carbon intensity of its energy mix, while achieving universal energy access and effectively managing affordability of electricity.

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Contributors: Universal access to electricity, replacing solid fuels with clean cooking options and increasing renewable energy deployment have been primary contributors to the improvement of India's performance.

Concerns: Rising import dependence amid global energy market volatilities, predominantly carbon-intensive energy mix. Challenges include balancing economic growth and creating quality jobs for the growing working-age population.

Recommendations: Continued progress of India will be challenged by two key macro trends: strong economic growth and the urgency to create quality jobs for a growing working age population.

– Hence, for this a skilled workforce, public-private collaboration in innovation, and investment in research and development in low-carbon technologies are necessary to enable India's energy transition.

[22. Data scraping explained: What is data scraping and why Elon Musk is changing Twitter rules over it?](#)

Source: The post is based on the article **“Explained: What is data scraping and why Elon Musk is changing Twitter rules over it?”** published in **TOI** on **5th July 2023**

What is the News?

Twitter has implemented temporary reading limits to address issues of Data Scraping and system manipulation.

What is data scraping?

Data scraping, also known as web scraping, is the automated process of extracting large amounts of data from websites or online sources.

It involves using software tools or programming techniques to gather information from web pages and convert it into a structured format, such as a spreadsheet or a database.

What are the positive implications of Data Scraping?

Data Scraping can be used for various legitimate purposes. Researchers and analysts can scrape data to gather information for market research, trend analysis, or monitoring competitors' pricing and product information.

Companies can scrape data to collect customer feedback, reviews, or to generate leads for their sales teams.

Data scraping can also be used for academic research, data journalism or to create innovative applications and services.

What are the drawbacks of data scraping?

Firstly, data scraping can be harmful when used for unethical or illegal purposes. For instance, many websites have terms of service or usage agreements that prohibit scraping their data without permission. When scraping violates these terms, it becomes unauthorized access to a website's data and can lead to legal consequences.

Secondly, there's always the threat of copyright infringement as data scraping may involve copying and reproducing copyrighted material without proper authorisation.

Thirdly, scraping personal data, such as email addresses, phone numbers, or sensitive information, without the consent of individuals can result in privacy violations. It may lead to the misuse of personal data, identity theft, or targeted advertising.

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Fourthly, data scraping impacts a website's performance. Intensive and frequent scraping can put a significant load on the targeted website's servers leading to decreased performance or even crashing the site. This affects the user experience of legitimate visitors and can be considered a form of denial of service attack.

23. RBI panel recommendations for internationalization of rupee

Source: The post is based on the article **"RBI panel recommends measures for internationalization of rupee"** published in **Indian Express on 6th July 2023**.

What is the News?

Reserve Bank of India(RBI) Inter-Departmental Group (IDG) has recommended several measures for Internationalization of rupee.

About RBI Inter-Departmental Group(IDG):

Reserve Bank of India(RBI) had set up an Inter-Departmental Group (IDG) under RBI Executive Director Radha Shyam Ratho.

Mandate: To review the position of the rupee as an international currency and to frame a road map for the internationalization of the domestic currency.

What is Internationalization of the rupee?

Internationalization of the rupee is a process that involves increasing use of the local currency in cross-border transactions.

What are the benefits of Internationalization of the rupee according to Inter-Departmental Group (IDG)?

The benefits are: limited exchange rate risk, lower cost of capital due to better access to international financial markets, high seigniorage benefits and reduced requirement of foreign exchange reserves.

Note: Seigniorage is the difference between the value of currency/money and the cost of producing it. It is essentially the profit earned by the government by printing currency.

What are the drawbacks of Internationalization of the rupee according to the RBI Inter-Departmental Group (IDG)?

The RBI group has cautioned that internationalization of rupee may result in increased volatility in the rupee's exchange rate in the initial stages.

This would further have monetary implications as the obligation of a country to supply its currency to meet the global demand may come in conflict with its domestic monetary policies, popularly known as the [Triffin dilemma](#).

What are the RBI panel recommendations for internationalization of rupee?

- Inclusion of the rupee in SDR (Special Drawing Rights) basket. The SDR is an international reserve asset created by the IMF (International Monetary Fund) to supplement the official reserves of its member countries. The value of SDR is based on a basket of five currencies—the U.S. dollar, the euro, the Chinese renminbi, the Japanese yen, and the British pound sterling.
- Adopting a standardized approach for examining the proposals on bilateral and multilateral trade arrangements for invoicing, settlement and payment in Indian Rupees(INR).
- Opening of INR accounts for non-residents both in and outside India should be encouraged.
- Indian payment systems should also be integrated with other countries for cross-border transactions.

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- Use of the existing bilateral and multilateral payment and settlement mechanisms such as ACU (Asian Clearing Union) to internationalize the rupee.
- Inclusion of Indian Government Bonds (IGBs) in global bond indices
- Rationalization of the foreign portfolio investor (FPI) regime to facilitate a more conducive environment for foreign investments into the Indian debt markets (both government and corporate).
- Waiver of the withholding tax for masala bond issuances.
- Expansion of the RTGS (Real Time Gross Settlement) system for settling international transactions.

24. Iran's induction in the Shanghai Cooperation Organisation

Source: The post is based on the article **"Iran's induction in the Shanghai Cooperation Organisation"** published in **The Hindu on 6th July 2023**

What is the News?

Iran has joined the Shanghai Cooperation Organisation (SCO) as its ninth member.

What is Shanghai Cooperation Organisation (SCO)?

[Click Here to read](#)

How has SCO dealt with bilateral issues between countries?

India and Pakistan joined the SCO as observers in 2005 and became full members in 2017. Despite their strained bilateral relations, both countries have actively participated in SCO meetings, including military and anti-terrorism exercises together.

The SCO has also facilitated discussions between India and China on the Line of Actual Control (LAC) border issue.

Why is Iran's induction in SCO significant?

SCO's original goals focused more on stability and security. But the recent focus has shifted towards connectivity in the region.

In this context, Iran's induction into SCO will help India build its connectivity strategy through Iran's Chabahar port, where it operates a terminal and through the International North South Transport Corridor that goes through Iran and Central Asia to Russia. This will also help India circumvent land-based trade through Pakistan.

Additionally, Iran's induction enables India to engage with the Central Asian region without getting entangled in China's Belt and Road Initiative.

Moreover, Iran's historical ties with India and its shared concerns about terrorism from Pakistan and Afghanistan will enhance India's call for action against terror safe havens.

What are the challenges for India after Iran's induction into SCO?

Iran's membership may deepen the perception of the SCO as an 'anti-West' forum. Both Iran and Russia face severe sanctions. The United States has also accused Iran of supplying weapons to Russia.

Further, the expected inclusion of Belarus next year in the SCO will further strengthen the image of SCO as an 'anti-West' forum.

Adding to these concerns. India's growing ties with the Quadrilateral Security Dialogue (Quad) has made the Indian balancing act more difficult.

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25. [Pay half of fine to informer: court's bid to spur animal protection](#)

Source: The post is based on the article **“Pay half of fine to informer: court's bid to spur animal protection”** published in **The Hindu on 6th July 2023**

What is the News?

A Sessions Court in Rajasthan has ordered the payment of half of the fine amount imposed on a convict in a chinkara killing case, to the informer as a prize for helping in the detection of crime against wildlife.

The court said that this would make the society sensitive to wildlife protection.

What is the case about?

A person was arrested after police were tipped off by an informer that the former was seen on a camel cart with the carcass of a chinkara.

The arrested person admitted that he hunted the chinkara with his licensed gun and had burnt its horns and some other parts of its body near the scene of the crime.

Following his conviction by the Magistrate's court, he moved an appeal in the sessions court.

The court upheld his conviction and sentence and directed that 50% of the fine be paid to the informer as a prize. It would encourage the people to report the killing of endangered animals to the authorities.

What is Chinkara or Indian gazelle?



Source: Wikipedia

IUCN Status: Least Concern

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Chinkara or Indian gazelle (*Gazella bennettii*) is a relatively small gazelle.

The range states of the species are India, the Islamic Republic of Iran, Pakistan and possibly Afghanistan.

The chinkara inhabits arid areas, including sand deserts, flat plains and hills, dry scrub and light forest.

They can go for a long time without water, so they are adapted to live in very dry areas.

It is mostly a solitary animal, but sometimes forms small groups of 2 – 4 individuals.

Most of the global population is found in the Thar Desert of western India. It is also the State animal of Rajasthan.

26. Cabinet gives nod to Data Protection Bill

Source: The post is based on the article “**Cabinet gives nod to Data Protection Bill**” published in **The Hindu on 6th July 2023**

What is the News?

The Union Cabinet has approved the Digital Personal Data Protection (DPDP) Bill.

What is the Digital Personal Data Protection (DPDP) Bill?

[Click Here to read](#)

The Bill allows laypersons to complain to a Data Protection Board, consisting of technical experts, constituted by the government. The complaint will be accepted if they have reason to believe that their personal data has been used without their consent (for example, mobile phone numbers or Aadhaar details).

The bill has a clause for offering voluntary undertaking in case an entity wants to admit that a breach has occurred and pay penalty as mitigation measure to avoid court litigation.

The Data Protection Board of India could fine firms which do not protect user data with fines for individual offenses ranging from ₹10,000 to ₹500 crore, which may apply in case of data breaches.

What are the changes made in the bill?

The bill could allow cross-border data flows to all international jurisdictions, except the countries placed in the “negative” or “official blacklist”.

A provision on “deemed consent” in the previous draft could also be reworded to make it stricter for private entities, while allowing government departments to assume consent while processing personal data on grounds of national security and public interest.

What are the concerns related to the bill?

Right to Information activists have raised concerns on an amendment to the RTI Act, 2005 in the DPDP Bill that would prohibit government departments from sharing personal information, arguing government departments may refuse to share information that could hold public officeholders accountable.

What are the data protection laws in other countries?

[Click Here to read](#)

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27. The risks of the Zaporizhzhia Nuclear Power Plant(NPP)

Source: The post is based on the article “**The risks of the Zaporizhzhia Nuclear Power Plant(NPP)**” published in **The Hindu on 6th July 2023**

What is the News?

The Zaporizhzhia Nuclear Power Plant in Ukraine has been a focus of concern since Russian forces took control over it.

Russia and Ukraine have accused each other over shelling near the plant that caused power outages.

A major concern is the working conditions of the 3,000 or so people at the plant, most of whom have refused to sign new employment contracts with their Russian employers.

What is the Zaporizhzhia Nuclear Power Plant?

Nuclear power plants in Ukraine



Source: BBC

Zaporizhzhia Nuclear Power Plant is the largest nuclear power plant in Europe and among the 10 largest in the world.

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The plant is located in south-east Ukraine in Enerhodar on the banks of the Kakhovka reservoir on the Dnieper River.

It is one of the four operating NPPs in the country and has been operating since 1984.

It accounts for about 40% of the total electricity generated by all the Ukrainian NPPs and one-fifth of Ukraine's annual electricity production.

How is Zaporizhzhia NPP different from the Chernobyl power plant?

Zaporizhzhia Nuclear Power Plant is not similar to Chernobyl-type reactors.

Zaporizhzhia Nuclear Power Plant are pressurized water reactors. The reactors are housed in thick steel reinforced concrete containment units which are built to withstand extreme explosions, such as an aircraft crash.

28. In boost to ties, Taiwan to set up office in Mumbai

Source: The post is based on the article **“In boost to ties, Taiwan to set up office in Mumbai”** published in **The Hindu on 6th July 2023**

What is the News?

Taiwan has announced that it would open its third representative office in India in Mumbai, more than a decade after it last expanded its presence in India.

India-Taiwan Relations:

India and Taiwan do not maintain formal diplomatic ties, as India adheres to the One-China policy.

But in 1995, India and Taiwan established India-Taipei Association (ITA) in Taiwan and Taipei Economic and Cultural Center (TECC) in New Delhi as de-facto Indian and Taiwanese embassies.

In 2012, Taiwan established Taipei Economic and Cultural Centres (TECC) in Chennai to conduct business. In the absence of an embassy, these offices represent Taiwan's interests in India.

The opening of these offices by Taiwan in India did not create much of a fallout on India-China relations, despite Chinese sensitivities on Taiwan.

This is because India had conveyed to China that the offices would not be official and there would be no government-to-government engagement.

29. What are flight duty time limitation norms?

Source: The post is based on the article **“Pilot refuses to operate Lucknow-Chennai flight due to fatigue: What are flight duty time limitation norms?”** published in **Indian Express on 6th July 2023**

What is the News?

A recent IndiGo flight from Dehradun to Chennai was delayed by several hours as the pilot complained of fatigue.

The pilot refused to operate the flight, citing flight duty time limitation (FDTL) norms.

What is Pilot Fatigue?

Directorate General of Civil Aviation (DGCA) defines flight fatigue/pilot fatigue, as a physiological and psychological state of tiredness and weariness. It can be caused by prolonged periods of wakefulness and/or insufficient restorative sleep.

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Pilot fatigue is a cause of real concern. It can cause a pilot to make wrong decisions or even fall asleep inside the cockpit, leading to a fatal crash.

What are Flight duty time limitation (FDTL) norms?

The flight duty time limitations (FDTL) are laid down by the Directorate-General of Civil Aviation (DGCA).

It ensures adequate rest timings for pilots and flight attendants and prevent fatigue-related safety issues.

The DGCA mandates that all airlines follow FDTL norms. Norms include rules such as all crew members can fly a maximum of 8 hours in a day, 35 hours in a week, 125 hours in a month and 1,000 hours in a year.

Other rules include that every crew member shall be given rest, which will be pro-rata twice the flight time, subject to a minimum of 10 hrs in any 24 consecutive hours.

What is the responsibility of airlines?

Every airline is required to formulate its own FDTL scheme, which must be compliant with the regulations issued by the DGCA.

The FDTL scheme needs to be approved by the DGCA and must be a part of the airline's operations manual.

The DGCA rules prohibit airlines from asking flight crew to operate a flight if the prescribed time limitations are exceeded.

In addition, carriers are not supposed to ask a crew member to operate a flight if it is known or suspected that the flight crew member is fatigued to the extent that the safety of flight may be adversely affected.

[30. Chandrayaan-3 integrated with launch vehicle LVM3](#)

Source: The post is based on the article “Chandrayaan-3 integrated with launch vehicle LVM3” published in **The Hindu on 6th July 2023**

What is the News?

The Indian Space Research Organisation (ISRO) has announced that it has successfully integrated the Chandrayaan-3 spacecraft with the launch vehicle, Launch Vehicle Mark-III (LVM3), at the Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh.

What is Chandrayaan-3?

[Click Here to read](#)

Why has Chandrayaan-3 been integrated with LVM3?

The Chandrayaan-3, which consists of a lander, rover and propulsion module, can't travel to space on its own.

It needs to be attached — like any satellite — to launch vehicles or rockets, like the LVM3 in this case.

Rockets have powerful propulsion systems that generate the huge amount of energy required to lift heavy objects like satellites into space, overcoming the gravitational pull of the Earth.

What is LVM3?

LVM3 is India's heaviest rocket with a gross lift-off weight of 640 tonnes.

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It is essentially a three-stage launch vehicle, including two solid boosters (S200), the core liquid fuel-based stage (L110), and the cryogenic upper stage (C25).

It can carry up to 8 tonnes of payload to the lower earth orbits (LEO), which is about 200 km from the Earth's surface.

But when it comes to the geostationary transfer orbits (GTO), which lie much further ahead, up to about 35,000 km from the Earth, it can carry only about four tonnes.

LVM3 made its first journey into space in 2014 and also carried the Chandrayaan-2 in 2019. In March, 2023, it placed 36 OneWeb satellites, weighing about 6,000kg in LEO showing its capabilities to deliver multiple satellites into space.

[31. Ambergris worth Rs 4 crore found in dead whale: what is this rare substance, what it is used for](#)

Source: The post is based on the article **“Ambergris worth Rs 4 crore found in dead whale: what is this rare substance, what it is used for”** published in **Indian Express on 6th July 2023.**

What is the News?

A pathologist has recently discovered Ambergris in a dead whale, which could be worth nearly Rs 4 crore.

What is Ambergris?

Ambergris is a waxy substance that originates from the digestive system of protected sperm whales.

It is produced in the gastrointestinal tract of some sperm whales for the passage of hard, sharp objects that are ingested when the whale eats large quantities of marine animals.

What are the uses of ambergris, and why is it so expensive?

Ambergris is a rare substance, which contributes to its high demand and high price in the international market.

Traditionally, it is used to produce perfumes which have notes of musk. In the past cultures, it was used to flavour food, in alcoholic beverages and tobacco.

Is the trade of ambergris legal in India?

There is a ban on the possession and trade of ambergris in countries like the USA, Australia and India. But in several other countries, it is still a tradable commodity.

In the Indian context, sperm whales are a protected species under Schedule 2 of the Wildlife Protection Act. Possession or trade of its by-products, including Ambergris and its byproducts, is illegal under provisions of the Wildlife Protection Act, 1972.

[32. India and Asean top recipients of FDI, says UNCTAD report](#)

Source: The post is based on the article **“India and Asean top recipients of FDI, says UNCTAD report”** published in **Economic Times on 6th July 2023**

What is the News?

The United Nations Conference on Trade and Development (UNCTAD) has published its [World Investment Report 2023](#).

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What are the key findings of the World Investment Report 2023?

Globally: The global FDI fell by 12% in 2022 to \$1.3 trillion mainly due to overlapping global crises: the war in Ukraine, high food and energy prices, and soaring public debt.

- The decline was felt mostly in developed economies where FDI fell by 37% to \$378 billion. But flows to developing countries grew by 4% with a few large emerging countries attracting most of the investment while flows to the least developed countries declined.
- Investments in renewables have nearly tripled since 2015. But most of the money has gone to developed countries.
- Developing countries need renewable energy investments of about \$1.7 trillion each year but attracted only \$544 billion in clean energy FDI in 2022.

India: India was the third largest recipient of foreign direct investment (FDI) in greenfield projects in the world in 2022.

- The FDI flows into India rose 10 percent from \$44.7 billion in 2021 to \$49.3 billion in 2022.
- However, the total FDI inflows to India in 2022 was still lower than what was recorded in 2020, when India received \$64 billion of foreign investments.
- India was also the second-largest recipient of international project finance in the world in 2022. International project finance is when international lenders provide debt or equity to infrastructure projects in various countries.
- Moreover, Indian multinational companies substantially increased their overseas investments in 2022. Indian companies' invested about \$42 billion overseas, a three-fold increase in total investments.

[33. Govt unveils guidelines for green hydrogen production, electrolyser manufacturing](#)

Source: The post is based on the article “Govt unveils guidelines for green hydrogen production, electrolyser manufacturing” published in **The Hindu Business Line** on **6th July 2023**

What is the News?

The Union Ministry of New and Renewable Energy (MNRE) has issued scheme guidelines for implementation of Strategic interventions for green hydrogen transition (SIGHT) programme.

What is Strategic Interventions for Green Hydrogen Transition (SIGHT) programme?

SIGHT is a major financial measure under the National Green Hydrogen Mission.

Objectives: **1)** To maximize production of Green Hydrogen and its derivatives in India **2)** Enhance cost-competitiveness of Green Hydrogen and its derivatives vis a-vis fossil-based alternatives and **3)** Encourage large scale utilization of Green Hydrogen and its derivatives.

Components: The programme has two distinct financial incentive components:

- **Component I:** It targets domestic manufacturing of electrolysers.
- **Component II:** It focuses on green hydrogen production

Implementing Agency: Solar Energy Corporation of India (SECI)

What is the National Green Hydrogen Mission?

[Click Here to read](#)

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34. [Secretary, DARPG launches the third edition of the National e-Governance Service Delivery Assessment \(NeSDA\) portal](#)

Source: The post is based on the article “**Secretary, DARPG launches the third edition of the National e-Governance Service Delivery Assessment (NeSDA) portal**” published in **PIB** on **6th July 2023**

What is the News?

The Department of Administrative Reforms & Public Grievances (DARPG) Secretary has launched the third edition of the National e-Governance Service Delivery Assessment (NeSDA).

What is National e-Governance Service Delivery Assessment (NeSDA)?

The NeSDA framework was launched in 2018 by the Department of Administrative Reforms & Public Grievances (DARPG).

Objective: To measure the depth and effectiveness of existing e-Governance service delivery mechanisms from the citizen’s perspective.

The framework is based on the **Online Service Index (OSI) of UNDESA eGovernment Survey**. It has been customized for the Indian federal structure and the e-Governance landscape of the States and UTs.

DARPG undertakes NeSDA study **biennially**. It has successfully released **2 editions of NeSDA study**: NeSDA 2019 was released in 2020 and second edition – NeSDA 2021 was released in 2022.

NeSDA 2023 Framework: The framework for NeSDA 2023 study has been elaborated under the following three dimensions:

Portals Coverage: All Government Portals assessed during NeSDA are classified into two categories viz., (i) State, UT, Central Ministry Portal and (ii) State, UT, Central Ministry Services Portals.

– NeSDA 2023 framework proposes to evaluate the maturity of e-Government at the City level as well by assessing City Portal i.e., the official portal of respective City/Urban Local Body that provides a single window access to the information and links to the services being provided for the citizens and other stakeholders in the city.

– For City portal assessment, States/UTs may propose one of the 3 most populous cities.

Focus Sectors and Mandatory Services Coverage: The NeSDA framework covers G2C and G2B services across seven sectors: Finance, Labour Employment, Education, Local Governance Utility Services, Social Welfare (including Health, Agriculture, Home Security), Environment (including Fire) and Tourism sectors.

– The framework for NeSDA 2023 proposes an expansion on focus sectors with an addition of Transport and Public Grievance.

Assessment Parameters: To make the NeSDA framework more robust and align with global digital government trends it is proposed to include three additional assessment parameters namely: Open Government Data (OGD), E-Participation and Leveraging Emerging Technologies.

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35. 3-Day International Conference on Green Hydrogen begins in New Delhi

Source: The post is based on the article “**3-Day International Conference on Green Hydrogen begins in New Delhi**” published in **PIB** on **6th July 2023**

What is the News?

The three-day International Conference on Green Hydrogen (ICGH-2023) is being organized at Vigyan Bhawan, New Delhi.

What is the International Conference on Green Hydrogen (ICGH-2023)?

Organized by: Ministry of New and Renewable Energy in partnership with the Ministry of Petroleum and Natural Gas, Council of Scientific and Industrial Research, Office of Principal Scientific Advisor to Government of India and the Confederation of Indian Industry.

Aim: To explore how we can establish a Green Hydrogen ecosystem and foster a systemic approach for meeting the global goals for decarbonization through Green Hydrogen.

What are the key highlights from the conference?

India's energy import dependence: Energy use has doubled in the last 20 years in India and is likely to grow by at least another 25% by 2030.

– India currently imports over 40% of its primary energy requirements, worth over USD 90 billion every year.

– Major sectors like mobility and industrial production are significantly dependent on imported fossil fuels.

– This necessitates a shift towards technologies that enable enhanced share of renewable sources in the energy mix, to enable us to progressively reduce the reliance on fossil fuels.

Non fossil fuel: India is the only major economy to source 40% of our energy from non-fossil fuel sources nine years ahead of the target of 2030.

– Currently, around 42% of power generation capacity of India is based on non-fossil-fuels.

Green Hydrogen: As per the International Energy Agency, the world demand for hydrogen is expected to grow by 600% by the year 2050.

– India is one of the biggest consumers of green hydrogen in the world, with a demand of 6 million tons per annum.

– The Ministry of Petroleum & Natural Gas, and oil and gas PSUs have taken various initiatives for promotion of green hydrogen. Oil India Limited has started a pilot plant in Jorhat, Assam which produces 10 kg of green hydrogen per day.

– Projects have also been commenced for setting up 3.5 million tons of green hydrogen manufacturing capacity already.

– Indian Oil Corporation Limited has entered into an agreement with Tata Motors, for development of hydrogen fuel cells in India.

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[36. Non-compliance of orders of the green court by governments is a serious issue](#)

Source: The post is based on the article “**Non-compliance of orders of the green court by governments is a serious issue**” published in **The Hindu** on **7th July 2023**

What is the News?

The chairperson of National Green Tribunal has given an interview on the performance of NGT.

What is the National Green Tribunal?

[Click Here to read](#)

What are the three main challenges to the environment in India?

The three main challenges to the environment in India are: 1) Waste management 2) Environmental safety and 3) Safety norms in industrial processes.

How did NGT perform in the last five years?

NGT received 15,132 new cases in five years and disposed of 16,042 cases, including pending ones.

It has achieved this due to zero adjournments and has also made procedures simpler. It is also accepting only online filing and has independent verification of facts.

What are the challenges faced by the National Green Tribunal currently?

Non Compliance of NGT orders by governments continues to be a serious issue.

Lack of environmental finesse of its expert members. Usually, the expert members are specialists in one particular field and not on the environment as a whole.

[Click Here to read more](#)

[37. Problem of manual scavenging eliminated, claims Union Social Justice Ministry panel](#)

Source: The post is based on the article “**Problem of manual scavenging eliminated, claims Union Social Justice Ministry panel**” published in **The Hindu** on **5th July 2023**

What is the News?

The Central Monitoring Committee of the Union Social Justice Ministry has concluded that the issue of manual scavenging has been eliminated.

The ministry claimed this despite noting that only 520 of the 766 districts across the country are free of manual scavenging.

This means that manual scavenging continues to be prevalent in nearly 34% of the districts in India even though the practice is banned under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act.

What is Manual Scavenging?

[Click Here to read](#)

Deaths due to Manual Scavenging:

In 2022, 48 people had died due to hazardous cleaning of sewers in 2022. This number was 49 in 2021, 19 in 2020, and 117 in 2019.

However, government has for the last few years insisted that manual scavenging no longer exists in the country and has made a distinction between such instances and deaths due to hazardous cleaning of sewers and septic tanks.

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What are the steps taken against Manual Scavenging?

NAMASTE Scheme

Scheme for rehabilitation of manual scavengers: Under this, the 58,000 identified sewer workers have been given a one-time cash payout of ₹40,000 each.

– In addition, around 22,000 of them have been connected to skills training programmes. Subsidies and loans are also available to them if they want to set up their own business.

38. What are the provisions of the High Seas Treaty?

Source: The post is based on the article “**What are the provisions of the High Seas Treaty?**” published in **The Hindu** on **7th July 2023**

What is the News?

The United Nations has adopted the Marine Biodiversity of Areas Beyond National Jurisdiction (BBNJ) or the High Seas Treaty.

It became the third agreement to be approved under UNCLOS, after the 1994 and 1995 treaties, which established the International Seabed Authority and the Fish Stocks agreement.

What are the objectives of the High Seas Treaty?

To implement international regulations to protect life in oceans beyond national jurisdiction through international cooperation.

To address critical issues such as the increasing sea surface temperatures, overexploitation of marine biodiversity, overfishing, coastal pollution and unsustainable practices beyond national jurisdiction.

What are the key provisions of the High Seas Treaty?

Establishing marine protected areas to protect oceans from human activities through a three-quarterly majority vote which prevents the decision from getting blocked by one or two parties.

Fair sharing of benefits from marine genetic resources: The treaty mandates sharing of scientific information and monetary benefits through installing a “clear house” mechanism.

– Through the mechanism, information on marine protected areas, marine genetic resources and area-based management tools will be open to access for all parties.

Capacity building and marine technology: The Treaty will provide funding for capacity building and implementation to help developing countries implement the Treaty, encourage cooperation, develop marine science and technical capability, as well as promote access to technology on fair terms.

Scientific and Technical Body: The body will be creating standards and guidelines for assessment procedures, and helping countries with less capacity in carrying out assessments.

– This will facilitate the conference of parties to trace future impacts, identify data gaps, and bring out research priorities.

Which countries opposed the treaty?

Many developed countries opposed the treaty as they stand by private entities which are at the forefront of advanced research and development in marine technology (patents relating to marine genetic resources are held by a small group of private companies).

Russia and China were also not in favour of the treaty. Russia withdrew from the last stage of reaching a consensus arguing that the treaty does not balance conservation and sustainability.

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[39. One Health: FAO, UNEP, WHO and WOAHA launch research agenda for antimicrobial resistance](#)

Source: The post is based on the article **“One Health: FAO, UNEP, WHO and WOAHA launch research agenda for antimicrobial resistance”** published in **Down To Earth on 4th July 2023**

What is the News?

The ‘Quadripartite’ — comprising the United Nations (UN) Food and Agriculture Organization (FAO), the UN Environment Programme (UNEP), the World Health Organization (WHO) and the World Organisation for Animal Health (WOAH) has released the **One Health Priority Research Agenda on Antimicrobial Resistance (AMR)**.

What is One Health?

One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, and ecosystems.

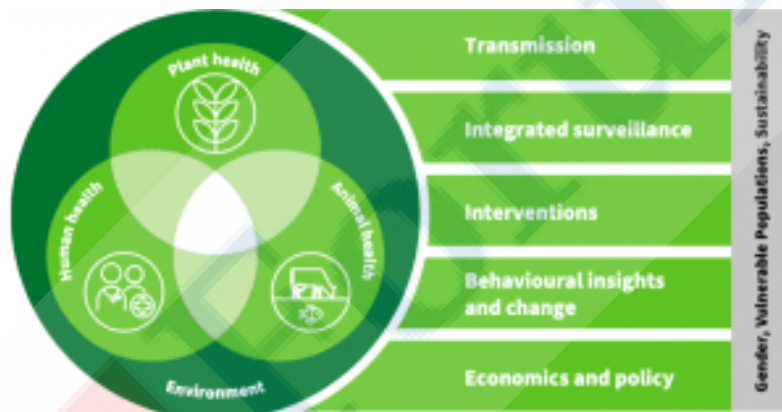
It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent.

The approach mobilizes multiple sectors, disciplines and communities at different levels of society to work together to foster well-being and tackle threats to health and ecosystems while addressing the collective need for healthy food, water, energy, and air, taking action on climate change and contributing to sustainable development.

What is the One Health Priority Research Agenda on Antimicrobial Resistance (AMR)?

The agenda aims to guide a variety of stakeholders in generating new evidence to address antimicrobial resistance, with a focus on low- and middle-income countries.

It focuses on five key pillars:



Source: Down To Earth

- **Transmission:** It focuses on the environment, plant, animal, and human sectors where AMR transmission, circulation and spread occur.
- **Integrated surveillance:** It aims to identify cross-cutting priority research questions in order to improve common technical understanding and information exchange among One Health stakeholders.
- **Interventions:** It focuses on programmes, practises, tools, and activities aimed at preventing, containing, or reducing the incidence, prevalence, and spread of AMR.
- **Behavioral insights and change:** It focuses on research addressing human behavior that affects AMR, including ways to combat it.

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– **Economics and policy:** It takes into account the cost-effectiveness of an AMR investment case, financial sustainability, and long-term financial impact.

Significance of the agenda: It will serve as a guide for countries, research institutes and funding bodies to support One Health AMR research.

– It will also allow policymakers, researchers, and the multidisciplinary scientific community to collaborate across sectors.

[40. High Courts not empowered to issue a direction for invocation of Article 355 of the Constitution, rule judges](#)

Source: The post is based on the article “**High Courts not empowered to issue a direction for invocation of Article 355 of the Constitution, rule judges**” published in **The Hindu** on **5th July 2023**

What is the News?

Madras High Court has held that the High Courts under [Article 226](#) do not have the power to issue a direction to the Centre to invoke Article 355.

What is Article 355?

Article 355 of the Constitution deals with an emergency provision by which the Centre can intervene and protect a state against external aggression or internal disturbance.

It is part of emergency provisions contained in Part XVIII of the Constitution of India, from Article 352 to 360.

What was the case before Madras High Court?

A petition was filed in the Madras High Court seeking orders to invoke Article 355 in Tamil Nadu in the wake of alleged failure to maintain public peace during the search and arrest of the minister.

The petitioner sought an order from the High Court to the secretary to the governor to forward a representation to the President’s office to invoke Article 355 so that the Centre could intervene in the affairs of the state government.

What did the Madras High Court rule?

The High Court dismissed the petition.

It said that the **High Courts does not have the power to issue directions to the Centre to invoke Article 355 of the Constitution** as it is part of the policy decision on the part of the Executive.

Any direction would be in **violation of the theory of separation of power.**

Article 355 appeared to have been inspired both by the **US and the Australian Constitution.**

The underlying principle behind the insertion of Article 355 was to ensure that the Centre would interfere in the administration of provincial affairs by and under a constitutional obligation.

The court also held that the incident of IT officials being mobbed **would not qualify as an internal disturbance** under the purview of Article 355.

It said that the expressions: **1) ‘internal disturbance’** could only refer to a sense of **domestic chaos** (could take the colour of a security threat) and **2) ‘external aggression’** would require a large-scale public disorder (endangering the security and administration of the State).

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[41. National Research Foundation's vision: A chance at genuine innovation](#)

Source: The post is based on the article “**National Research Foundation's vision: A chance at genuine innovation**” published in “**Indian Express**” on 7th July 2023.

News: The article discusses the establishment of the National Research Foundation (NRF) as recommended by the National Education Policy 2020 (NEP-2020) in India.

Read – [India's National Research Foundation \(NRF\): Needs, significance and challenges-Explained, pointwise](#)

The NRF is expected to seed, grow, and promote research and development (R&D) and foster a culture of innovation throughout Indian universities, colleges, institutions, and R&D laboratories.

What are challenges that may still arise after the establishment of NRF?

First, India's R&D spending is low, at only 0.65% of GDP, compared to over 2% in developed and East Asian economies.

Second, the majority of the government R&D funding is through core grants, with the DRDO, DoS, and Department of Atomic Energy (DAE) being the top recipients. While only a small percentage (5.8% in 2016-17) is spent on extramural grants, vital for R&D in universities and institutions of higher learning. The extramural grants from DST-SERB and DBT have been the lifeline for R&D in the universities and institutions of higher learning in the country.

Third, the static extramural grant funding, despite a significant increase in institutes and doctoral students, has hampered quality doctoral training.

Fourth, India does not have a competitive grant system, despite global prevalence of such systems.

Moreover, there was underutilization of funds extramural grant funding in 2021-22 due to bureaucratic issues.

The mention of agriculture is missing from the stated goals, which seems like an oversight.

What should be done?

The success of the NRF will depend on its ability to manage a large number of projects in a timely and fair manner, and to secure funding from non-government sources.

A competitive grant system can expedite research in emerging interdisciplinary areas and encourage collaborative work.

[42. Selective ban of messaging apps may be looked at: TRAI](#)

Source: The post is based on the article “**Selective ban of messaging apps may be looked at: TRAI**” published in **The Hindu** on **8th July 2023**

What is the News?

The Telecom Regulatory Authority of India (TRAI) has opened discussions on regulating over-the-top (OTT) communication service providers such as WhatsApp, Facebook, Telegram and Signal.

TRAI would also discuss the possibility of selectively banning OTT services in places where an Internet shutdown would otherwise have been imposed.

Why does TRAI want regulation for OTT communication services?

Firstly, telecom operators and OTT platforms such as WhatsApp offer similar services. But they are not bound by the same requirements – as a result, there is a need for regulatory parity.

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Secondly, Telecom service providers (TSPs) need a service license for offering voice and SMS services. On the other hand OTT communication service providers offer voice call, and messaging and video call services similar to the services provided by TSPs, without any such licence.

Thirdly, Telecom service providers in India are regulated by several laws including Indian Telegraph Act, 1885, the Wireless Telegraphy Act, 1933 and Telecom Regulatory Authority of India Act, 1997 and have to adhere to requirements such as lawful interception. Such requirements are not applicable on OTT services currently.

Fourthly, OTT services do not financially contribute towards increasing telecom services penetration in the country unlike the operators who have to pay towards the Universal Service Obligation Fund (USOF).

Why is TRAI exploring selective banning of OTT apps?

TRAI has said that shutdown of telecommunications or the Internet can have significant ramifications for a country's economy.

It also disrupts critical services such as education and healthcare. Consequently, such a shutdown affects the life and livelihood of the citizens of the country.

This has been cited as a reason to explore selectively banning OTT apps as opposed to the whole Internet.

What does the draft telecom Bill prescribe for OTT services?

Draft Telecom Bill provides for the inclusion of new-age over-the-top communication services like WhatsApp, Signal and Telegram in the definition of telecommunication services.

As per the draft bill, providers of telecommunication services will be covered under the licensing regime, and will be subjected to similar rules as other telecom operators.

This issue has been under contention for several years now with telecom service providers seeking a level-playing field with OTT apps over communication services such as voice calls, messages, etc where operators had to incur high costs of licenses and spectrum while OTT players rode on their infrastructure to offer free services.

[43. Explainer: What is the Farmers Distress Index?](#)

Source: The post is based on the article **“Explainer: What is the Farmers Distress Index?”** published in **Down To Earth** on **6th July 2023**

What is the News?

Central Research Institute for Dryland Agriculture (CRIDA), an institution under the Indian Council of Agricultural Research (ICAR) has developed an early warning system called ‘farmers distress index’.

What is the Farmers Distress Index?

Aim: To minimize the agrarian distress in the form of crop loss / failure and income shock. This will help in decreasing farmer suicides.

Working of the index: The index methodology involves going through local newspapers, other news platforms and social media platforms for any report on incidence of farmers distress like localised cases of issues with debt repayment, death by suicide, pest attacks, drought, floods, migration, among others.

– Following this, contacts of farmers from the area will be collected to conduct telephonic interviews, which will have 21 standardized questions to gauge early signs of distress.

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- Based on these questions, the degree of distress will be identified. The index will have values from 0-1. A value between 0-0.5 will indicate 'low distress', 0.5-0.7 will indicate 'moderate' distress and above 0.7 will indicate 'severe' distress.
- If the index is severe, it will identify which component among the seven is more severe and contributes maximum to farmers' distress.

Significance of the index: The index will help in anticipating agrarian distress and prevent its spread from a few farmers to the village or block level by pre-warning different stakeholders, including central, state, local and also non-government agencies about the future occurrence of farmers distress in a particular block / district so that they can take timely preventive measures.

[44. Outstanding performance by India in United Nations Economic and Social Commission for Asia Pacific's \(UNESCAP\) Global Survey on Digital and Sustainable Trade Facilitation](#)

Source: The post is based on the article **“Outstanding performance by India in United Nations Economic and Social Commission for Asia Pacific's (UNESCAP) Global Survey on Digital and Sustainable Trade Facilitation”** published in **PIB** on **7th July 2023**

What is the News?

United Nations Economic and Social Commission for Asia Pacific's (UNESCAP) has released the Global Survey on Digital and Sustainable Trade Facilitation 2023.

What is the Global Survey on Digital and Sustainable Trade Facilitation?

UNESCAP has been conducting the Global Survey on Digital and Sustainable Trade Facilitation since 2015.

Aim: To review the progress of trade facilitation reforms in their respective Member States.

Parameters: The survey covers WTO Trade Facilitation Agreement (TFA) along with set of nearly 60 trade facilitation measures categorized into eleven sub-groups, namely: 1) Transparency 2) Formalities 3) Institutional arrangement and cooperation 4) Transit facilitation 5) Paperless trade 6) Cross-border paperless trade 7) Trade facilitation for SMEs 8) Agricultural trade facilitation 9) Women in trade facilitation 10) Trade finance for trade facilitation and 11) Trade facilitation in times of crisis.

The survey is fact-based rather than perception-based. A three-step approach to data collection and validation is generally followed, implemented over a 6-month period every 2 years.

What are the key findings of the survey related to India?

India has positioned itself at the forefront of global trade facilitation efforts with an impressive score of 93.55% in 2023 vis a vis 90.32% in 2021.

India is now the best performing country amongst all the countries of the South Asia region. The overall score of India has been greater than many developed countries including Canada, France, UK, Germany etc.

India has achieved a perfect score of 100% in four key areas: Transparency, Formalities, Institutional Arrangement and Cooperation, and Paperless Trade.

India has witnessed a substantial improvement in the score for “Women in Trade Facilitation” component from 66.7% in 2021 to 77.8% in 2023 thereby indicating commitment to gender inclusivity and the empowerment of women in the trade sector.

This outstanding recognition reflects India's continuous efforts to streamline trade procedures and improve transparency through initiatives such as Turant customs, single window interface for facilitation of trade (SWIFT), pre-arrival data processing, e-Sanchit, and coordinated border

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management.

[45. Ministry of Education releases report on Performance Grading Index 2.0 for States/UTs for the year 2021-22](#)

Source: The post is based on the article “**Ministry of Education releases report on Performance Grading Index 2.0 for States/UTs for the year 2021-22**” published in **PIB** on **7th July 2023**

What is the News?

The Union Ministry of Education has released a report on Performance Grading Index 2.0 for States/UTs for the year 2021-22.

What is the Performance Grading Index?

The Performance Grading Index is prepared by the Department of School Education & Literacy, Ministry of Education. It was first released for the year 2017-18.

It assesses the performance of the school education system at the State/UT level by creating an index.

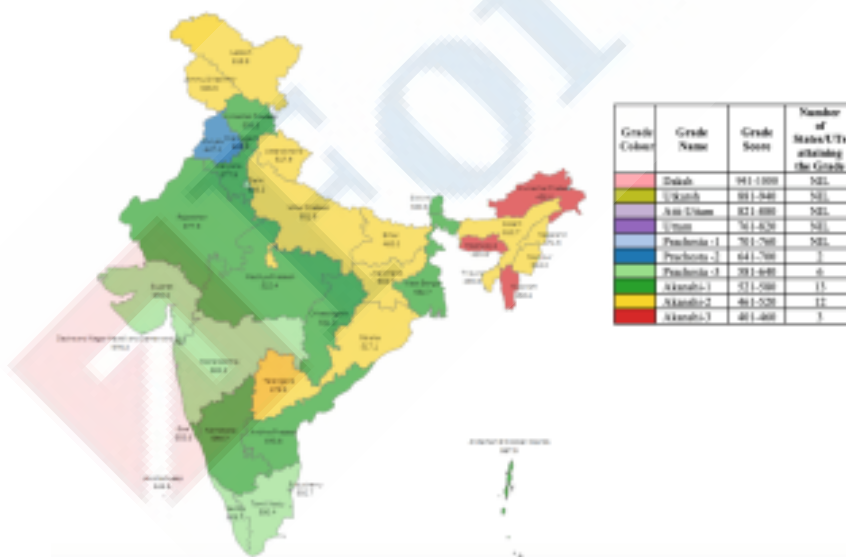
The PGI 2.0 structure comprises total weightage of 1000 points across 73 indicators, which are grouped under 2 Categories viz., Outcomes and Governance & Management.

These categories are further divided into 6 domains, viz., Learning Outcomes (LO), Access (A), Infrastructure & Facilities (IF), Equity (E), Governance Processes (GP) and Teacher Education & Training (TET).

Scores obtained by States/UTs have been classified into 10 grades with the highest achievable Grade is Daksh, which is for State/UT scoring more than 940 points out of a total of 1000 points. The lowest grade is Akanshi-3 which is for a score up to 460.

What are the key findings of Performance Grading Index 2.0 for 2021-22?

Chart 4.1: Grades obtained by States/UTs – 2021-22



Source: PIB

None of the States/UTs has attained the highest Grade i.e Daksh.

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Only 2 States and UTs, namely Punjab and Chandigarh have attained Grade Prachesta -2 (score 641-700).

The three poorest performing States/UTs Akanshi 3 are Arunachal Pradesh, Meghalaya and Mizoram.

The maximum and minimum scores obtained by the States/UTs in 2021-22 are 659.01 and 420.64 respectively. The deviation between the maximum and minimum scores obtained by States/UTs is 23.8% of the maximum points, indicating that states such as Arunachal Pradesh, Meghalaya and Mizoram has to put more effort to reach the top slot. This disparity was 51 % in 2017-18.

46. Microplastics can alter gut microbiome, cause intestinal inflammation: FAO

Source: The post is based on the article “**Microplastics can alter gut microbiome, cause intestinal inflammation: FAO**” published in **Down To Earth** on **5th July 2023**.

What is the News?

The Food and Agriculture Organization (FAO) has found that Microplastics and nanoplastics considerably impact human and animal gut microbiomes as well as the environment.

What are Microplastics and Nanoplastics?

Microplastics (0.1 to 5 000 μm) and nanoplastics (0.001 to 0.1 μm) are tiny plastic particles that have potential effects on the environment, animals and human health.

Micro- and nanoplastics are generated from both primary and secondary sources.

Primary sources are those that deliberately created micro- and nanoplastics for consumer and industrial uses, such as exfoliants in cleansers, cosmetics, as drug delivery particles in medicines, and industrial air blasting.

Macroplastic products that disintegrate into micron-sized and smaller particles are the secondary source of micro- and nanoplastics. They occur both terrestrially and in the aquatic environment.

How do microplastics and nanoplastics enter the human body?

There are three key routes for microplastics and nanoplastics to end up in the human body:

Inhalation: Inhaled airborne microplastics originate from urban dust, and include synthetic textiles and rubber tyres.

Ingestion: Microplastics will be ingested as they are prevalent in the food chain and water supplies.

Skin contact: Skin membrane was too fine for microplastics or nanoplastics to pass through. But it is possible for them to enter through wounds, sweat glands or hair follicles.

How do microplastics and nanoplastics impact human and animal gut?

Microplastics and nanoplastics considerably impact human and animal gut microbiomes as well as the environment.

Researchers have studied the effect of microplastics on the gastrointestinal tract and gut microbiota.

It found that injection of these plastics has led to changes in gene markers, biochemical markers, mucus layer, gut permeability, oxidative stress, immune response and liver function.

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[47. What is causing the mysterious 'gravity hole' in the Indian Ocean?](#)

Source: The post is based on the article “**What is causing the mysterious 'gravity hole' in the Indian Ocean?**” published in **Indian Express** on **6th July 2023**

What is the News?

Scientists have finally found the reason behind the huge gravity hole in the middle of the Indian Ocean.

What is a Gravity Hole?

A gravity hole, also known as a gravitational anomaly, refers to a specific area where the force of gravity is lower than the average on Earth.

Gravity holes happen as the Earth gravitational field is not uniform due to variations in density and mass distribution.

Gravity Hole in Indian Ocean:

The Indian Ocean is home to one of the giant gravity hole known as the Indian Ocean Geoid Low (IOGL).

It was discovered in 1948 during a ship-based gravity survey by Dutch geophysicist Felix Andries Vening Meinesz.

It is found in a large section of over three million sq. km in the Indian Ocean seafloor, located around 1,200 km southwest of India's southern tip.

It is estimated to have formed approximately 20 million years ago.

What is the reason behind the Gravity Hole in the Indian Ocean?

The researchers discovered that the possible reason for the gravity hole in the Indian Ocean is the plumes of magma.

This phenomena might have originated 120 million years ago when the supercontinent Gondwana land separated.

As the Indian plate separated from the African plate, it smashed into the European plate and the ocean called Tethys was squeezed between the continental plates.

Some parts of these plates are still melting back into the deep Earth's interior and generating low-intensity magma and creating a gravity hole.

[48. Govt. to share PM Gati Shakti data](#)

Source: The post is based on the article “**Govt. to share PM Gati Shakti data**” published in **The Hindu** on **8th July 2023**

What is the News?

Government is working out a mechanism to share data with industry and potential investors about multi-modal connectivity as well as other physical and social infrastructure captured on the PM Gati Shakti platform.

What is PM Gati Shakti?

[Click Here to read](#)

What is the institutional framework of PM Gati Shakti?

The institutional framework for rolling out, implementation, monitoring and support mechanism is designed to have a Three-tier system:

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Empowered Group of Secretaries (EGOs): It will be headed by Cabinet Secretary and will consist of Secretaries of 18 Ministries as members and Head of Logistics Division as Member Convenor.

– The EGOS has been mandated to review and monitor implementation of the PM Gati Shakti to ensure logistics efficiency.

Network Planning Group (NPG): It is composed of representatives from various connectivity infrastructure ministries and departments.

These representatives include the heads of the network planning division, and their purpose is to ensure unified planning and integration of the proposals.

All logistics and connectivity infrastructure projects requiring investments of over Rs 500 crore are directed through the NPG.

Technical Support Unit (TSU): It is approved for providing the required competencies for the complexities involved in overall integration of networks, enhancing optimization to avoid duplication of works for holistic development of any region as well as reducing logistics costs through micro-plan detailing.

Network Planning Group(NPG) has approved a tot

What is the progress under PM Gati Shakti?

al of 85 major infrastructure projects worth Rs 5.4 lakh crore from various ministries under the PM Gati Shakti initiative.

Among these approved projects, there are 34 from railways, 31 from roads and transport, one from new and renewable energy, four from oil and gas and eight from the Housing and Urban Affairs ministry.

49. Iceland is the world's most peaceful country; check where India stands

Source: The post is based on the article “Iceland is the world’s most peaceful country; check where India stands” published in **Indian Express** on **7th July 2023**

What is the News?

The 2023 Global Peace Index(GPI) has been released.

What is the Global Peace Index(GPI)?

Released by: Institute for Economics and Peace (IEP)

Aim: To present the most comprehensive data-driven analysis to date on trends in peace, its economic value, and how to develop peaceful societies.

Countries covered: The index covers 163 countries comprising 99.7 percent of the world’s population.

Parameters: It measures the state of peace across three domains: 1) Societal safety and security 2) Ongoing domestic and international conflict and 3) Militarisation.

What are the key findings of the 2023 Global Peace Index(GPI)?

Globally: The average level of global peacefulness has deteriorated by 0.42%.

– Iceland is the most peaceful country in the world – a title it has held since 2008.

– Afghanistan is the least peaceful country in the world for the eighth consecutive year.

India: India has occupied the 126th spot in the rankings, two higher than its previous position.

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- India has experienced an improvement of 3.5 per cent in overall peacefulness over the past year, owing to improvements in violent crime, neighboring countries' relations and political instability.
- Further, the reduction in geopolitical tensions with China owing to the decrease in border incidents as well as less social unrest has led to an improvement in the political instability in India.

50. [Ministry of Education releases combined report on Performance Grading Index for Districts \(PGI-D\) for the year 2020-21 & 2021-22](#)

Source: The post is based on the article “**Ministry of Education releases combined report on Performance Grading Index for Districts (PGI-D) for the year 2020-21 & 2021-22**” published in **PIB** on **9th July 2023**

What is the News?

The Department of School Education and Literacy (DoSE&L), Ministry of Education has released the Performance Grading Index for Districts (PGI-D) combined report for 2020-21 and 2021-22.

What is the Performance Grading Index for Districts (PGI-D)?

Aim: To assess the performance of the school education system at the District level by creating an index for comprehensive analysis.

Methodology: PGI-D structure comprises of total weight age of 600 points across 83 indicators, which are grouped under 6 categories viz., Outcomes, Effective Classroom Transaction, Infrastructure Facilities & Student's Entitlements, School Safety & Child Protection, Digital Learning and Governance Process.

- These categories are further divided into 12 domains such as Learning Outcomes and Quality (LO), Access Outcomes (AO), Teacher Availability, Learning Management (LM), Infrastructure, Facilities, school Safety and Child Protection (SS&CP), Digital Learning (DL) among others.

Categories: PGI-D has 10 grades under which districts are categorized with Daksh being the highest grade (above 90%) followed by Utkarsh (81%-90%); Ati-Uttam (71%-80%); Uttam (61%-70%); Prachesta-1 (51%-60%); Prachesta-2 (41%-50%); Prachesta-3 (31%-40%); Akanshi-1 (21% to 30%); and Akanshi-2 (11% to 20%).

- The lowest grade is Akanshi-3, for districts that score less than 10%.

Significance: PGI-D is expected to help the state education departments to identify gaps at the district level and improve their performance in a decentralized manner.

What are the key findings of PGI-D 2020-21 and 2021-22?

Learning outcomes in districts

None of the districts attained the top two grades according to the Performance Grading Index for Districts (PGI-D) combined report for 2020-21 & 2021-22. The table summarises the scores achieved by districts in the two years



Score range (%)	Number of districts in 2020-21	Number of districts in 2021-22
>90	0	0
81 to 90	0	0
71 to 80	124	51
61 to 70	277	271
51 to 60	229	230
41 to 50	86	117
31 to 40	24	18
21 to 30	0	1
11 to 20	2	0
upto 10	0	0

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Source: The Hindu

There are no districts in the country figuring in the top two grades — “Daksh” and “Utkarsh” in the 2020-21 and 2021-22 index.

121 districts were graded as Ati-Uttam for 2020-21. This number fell by more than half in 2021-22 with just 51 districts making the grade.

Among the best-performing districts in 2020-21, the maximum are from Rajasthan (26) followed by Gujarat (22) and Punjab (19). All nine districts of Delhi have figured in the “Ati Uttam” category.

In the digital learning domain during 2021-22, the majority of districts are still in the bottom three grades indicating the need for boosting the digital learning aspect.

51. Objections overruled, Forest Bill goes to House unchanged

Source: The post is based on the article “**Objections overruled, Forest Bill goes to House unchanged**” published in **Indian Express** on **10th July 2023**

What is the News?

A Parliamentary committee set up to examine the proposed amendments to the Forest (Conservation) Act, 1980 has endorsed the amended Bill in its entirety.

What is the Forest (Conservation) Amendment Bill, 2023?

The Forest (Conservation) Amendment Bill, 2023, is a proposed legislation aimed at amending the Forest (Conservation) Act, 1980, with the objective of promoting sustainable development while conserving India’s forests and biodiversity.

What are the key provisions of the Forest (Conservation) Amendment Bill, 2023?

Land under the purview of the Act: The Bill provides that two types of land will be under the purview of the Act: (i) land declared/notified as a forest under the Indian Forest Act, 1927 or under any other law, or (ii) land not covered in the first category but notified as a forest on or after October 25, 1980 in a government record.

Exempted categories of land: The Bill exempts certain types of forest land from the provisions of the Act such as:

- Forest land along a rail line or a public road maintained by the government providing access to a habitation, or to a rail, and roadside amenities up to a maximum size of 0.10 hectare.
- Forest land situated within 100 km from international borders, Line of Control, or Line of Actual Control, for construction of a strategic linear project of national importance and concerning national security
- Forest land up to 10 hectares, for constructing security-related infrastructure
- Forest land proposed to be used for constructing defense related projects, camps for paramilitary forces, or public utility projects up to five hectares in a left-wing extremism affected area.

Assignment/leasing of forest land: Under the Act, a state government requires prior approval of the central government to assign forest land to any entity not owned or controlled by the government.

- In the Bill, this condition is extended to all entities, including those owned and controlled by the government.

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Permitted activities in forest land: The Act specifies certain activities that will be excluded from non-forest purposes, meaning that restrictions on the use of forest land for non-forest purposes will not apply.

– These activities include works related to the conservation, management, and development of forest and wildlife such as establishing check posts, fire lines, fencing, and wireless communication.

– The Bill adds more activities to this list such as: (i) zoos and safaris under the Wild Life (Protection) Act, 1972 (ii) ecotourism facilities, (iii) silvicultural operations and (iv) any other purpose specified by the central government.

Power to issue directions: The Bill adds that the central government may issue directions for the implementation of the Act to any authority/organization under or recognised by the centre, state, or union territory (UT).

What are the key issues with the Forest (Conservation) Amendment Bill, 2023?

[Click Here to read](#)

[52. Data Protection Bill approved by Cabinet: Content, concerns](#)

Source: The post is based on the article “**Data Protection Bill approved by Cabinet: Content, concerns**” published in **Indian Express** on **6th July 2023**

What is the News?

The Digital Personal Data Protection Bill, 2022 is expected to be tabled in the upcoming Parliament’s Monsoon Session.

What are the key provisions of the Digital Personal Data Protection Bill, 2022?

Applicability: The Bill will apply to processing of digital personal data within India and to data processing outside the country if it is done for offering goods or services, or for profiling individuals in India.

Collection of Personal Data: The bill requires entities that collect personal data — called data fiduciaries — to maintain the accuracy of data, keep data secure, and delete data once their purpose has been met.

Data Breach: The bill is expected to allow “voluntary undertaking” — meaning that entities violating its provisions can bring it up with the data protection board which can decide to bar proceedings against the entity by accepting settlement fees.

– Repeat offences of the same nature could attract higher financial penalties, the official said. The highest penalty — to be levied for failing to prevent a data breach — has been prescribed at Rs 250 crore per instance.

[Click Here to read more](#)

What are the key changes that are made in the bill now?

[Click Here to read](#)

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What are the key concerns with the bill?

Firstly, the Bill has prescribed that the central government can exempt “any instrumentality of the state” from adhering to the provisions of the bill on account of national security, relations with foreign governments, and maintenance of public order among other things.

Secondly, the central government will have complete control in appointing members of the data protection board — an adjudicatory body that will deal with privacy-related grievances and disputes between two parties — is learnt to have been retained as well.

Thirdly, there is also concern that the law could dilute the Right to Information (RTI) Act, as personal data of government functionaries is likely to be protected under it, making it difficult to be shared with an RTI applicant.

What are the data protection laws in other countries?

[Click Here to read](#)

53. [Coming, women-only courts for alternative dispute resolution](#)

Source: The post is based on the article “**Coming, women-only courts for alternative dispute resolution**” published in **The Hindu** on **8th July 2023**

What is the News?

The Central Government is launching a unique initiative of setting up women-only courts called Nari Adalats.

What are Nari Adalats?

Nari Adalats are being set up at the village level as an alternate dispute resolution forum for resolving issues like domestic violence, property rights and countering the patriarchal system.

It will also raise awareness about social schemes under the government while collecting valuable feedback to enhance the effectiveness of these initiatives.

It will be launched on a pilot basis in 50 villages each in Assam and J&K and would be extended to the rest of the country over the next six months.

Ministries involved: This initiative is being implemented by the **Ministry of Women and Child Development** under the Sambal sub-scheme of **Mission Shakti**.

– The implementation will be done in collaboration with the Ministry of Panchayati Raj, the Ministry of Rural Development and Common Service Centers operated by the Ministry of Electronics & Information Technology (MeitY).

The scheme takes inspiration from the Parivarik Mahila Lok Adalats [People’s Court of Women] which were run by the **National Commission for Women (NCW) till 2014-15**.

Composition of Nari Adalats:

The Nari Adalat of each village would have 7-9 members/Nyaya Sakhis [legal friends]: Half of which would be the elected members of the gram panchayat and the other half are women with social standing like teachers, doctors and social workers – who would be nominated by the villagers.

The head of Nari Adalat called the Mukhya Nyaya Sakhi [chief legal friend] will be chosen among the Nyaya Sakhis, generally for a six-month term.

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The Nari Adalat will not hold any legal status as its primary focus will be on reconciliation, grievance redressal and creating awareness of rights and entitlements.

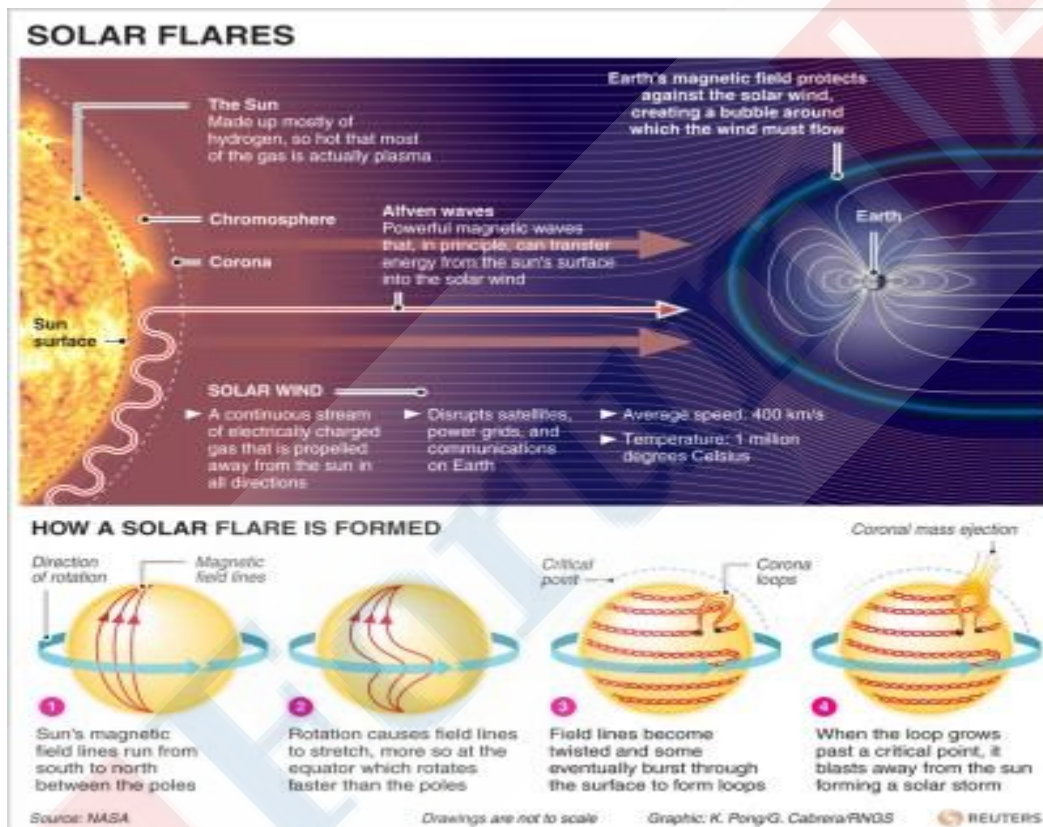
54. [Understanding solar flares: How explosions on Sun's surface can lead to radio blackouts](#)

Source: The post is based on the article **“Understanding solar flares: How explosions on Sun's surface can lead to radio blackouts”** published in **Down To Earth** on **6th July 2023**

What is the News?

The Sun emitted an X-class solar flare disrupting radio communications over parts of the United States and the Pacific Ocean.

What are Solar Flares?



Source: Reuters

A solar flare is a tremendous explosion on the Sun that happens when energy stored in 'twisted' magnetic fields (usually above sunspots) is suddenly released.

They can heat a substance to several millions of degrees in a matter of minutes, producing a burst of radiation that spans the electromagnetic spectrum, from radio waves to x-rays and gamma rays.

Impact of Solar Flares: Solar Flares can affect radio communications, power grids and navigation signals and endanger astronauts and spacecraft.

Categories: Solar flares can be divided into various categories based on their brightness in X-ray wavelengths.

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- **X-class flares** are large, significant events that have the power to cause global radio blackouts and persistent radiation storms in the upper atmosphere.
- **Medium-sized M-class flares** typically result in brief radio blackouts that affect the Earth's polar regions. Sometimes an M-class flare is followed by small radiation storms.
- **C-class flares** are slight and have little effect on the Earth.

55. [GSTN launches geocoding in all states and UTs](#)

Source: The post is based on the article “**GSTN launches geocoding in all states and UTs**” published in **Indian Express** on **8th July 2023**

What is the News?

The GST Network (GSTN) has introduced geocoding functionality in all states and union territories of India.

What is Geocoding?

Geocoding converts an address or description of a location into geographic coordinates.

It has been introduced to ensure the accuracy of address details in GSTN records and streamline the address location and verification process.

This is important because the accuracy of the address details is crucial in determining the applicable GST rates, place of supply rules, and other compliance requirements.

The GST Network has already geocoded 1.8 crore principal places of businesses.

Applicability: This functionality is currently available for various types of taxpayers, including normal taxpayers, composition taxpayers, SEZ units, SEZ developers, Input Service Distributors (ISDs) and casual taxpayers who are active, cancelled or suspended.

What is the GST Network (GSTN)?

56. [At G20 meet, a Guinness effort to shine light on Karnataka's Lambani craft](#)

Source: The post is based on the article “**At G20 meet, a Guinness effort to shine light on Karnataka's Lambani craft**” published in **Indian Express** on **11th July 2023**.

What is the News?

At the third G20 culture working group (CWG) meeting in Hampi, a Guinness world record was created for the 'largest display of Lambani items'.

Over 450 Lambani women artisans and cultural practitioners associated with Sandur Kushala Kala Kendra Kendra (SKKK) came together to display Lambani items.

What is Lambani embroidery?

Lambani embroidery is a vibrant and intricate form of textile embellishment characterized by colorful threads, mirror work, and a rich array of stitch patterns.

Practised in: It is practised in several villages of Karnataka such as Sandur, Keri Tanda, Mariyammanahalli, Kadirampur, Sitaram Tanda, Bijapur, and Kamalapur.

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Community involved: This embroidery is predominantly done by the skilled women of the Lambani community. It serves them as a vital source of livelihood and sustenance.

Features: Lambani embroidery involves stitching together small pieces of discarded fabric to create a beautiful fabric.

Significance: The embroidery traditions of the Lambanis are shared in terms of technique and aesthetics with textile traditions across Eastern Europe, West, and Central Asia. This signifies the movement of the nomadic communities across such regions historically, forming a shared artistic culture.

What is Sandur Kushala Kala Kendra Kendra (SKKK)?

Sandur Kushal Kala Kendra (SKKK) is a registered society established in 1988.

Aim: To revive traditional crafts and enhance the livelihoods of craftswomen by nurturing their skills, promoting their products, and thus ensuring a steady income.

Contribution to Lambani craft: SKKK has gained national and international recognition for the Lambani craft earning the prestigious **UNESCO Seal of Excellence for Handicrafts** in South Asia in 2004 and 2012.

– It has also obtained the **GI (Geographical Indication) tag** for the craft ‘**Sandur Lambani hand embroidery**’ in the year 2008.

57. [Import of urea may ease by 2025, alternative forms will replace it, says Minister](#)

Source: The post is based on the article “**Import of urea may ease by 2025, alternative forms will replace it, says Minister**” published in **The Hindu** on **11th July 2023**

What is the News?

The Union Cabinet has approved a Rs 3.70 lakh crore special package of innovative schemes for farmers.

What are the major components of the special package announced for farmers?

There are four components in this package:

First component: Ensuring a subsidy for urea for the next three years. A sum of Rs 3,68,676.7 crore has been committed for urea subsidy from 2022-23 to 2024-25.

Second component: Prime Minister’s Programme for Restoration, Awareness Generation, Nourishment, and Amelioration of Mother Earth (PM-PRANAM) scheme.

Third component: Market Development Assistance (MDA) of ₹1,500 per metric tonne to support marketing of organic fertilizers, produced as a by-product from bio-gas plants/compressed bio-gas (CBG) plants set up under GOBARdhan scheme.

Fourth component: Introduce sulphur coated urea as Urea Gold. This will address sulphur deficiency for the soil in the country and improve our crop productivity.

What was the need for such a special package?

The package had to be brought in as the use of fertilizers has become unbalanced in the country.

The nitrogen, phosphorus and potassium ratio should have been 4:2:1. Instead, it is 8:3:1. Due to this, the balance of the soil has been damaged and production has become saturated.

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According to a study, overuse of fertilizers has resulted in a 16% decrease in production in Punjab despite a 10% increase in the use of fertilizers in the State during the same period. This is leading to the deterioration of soil health over a period of time

Hence, it is clear that balanced use of fertilizers is needed for steady production, food security, and for helping farmers too. That's why, this package has been announced.

What are the steps being taken to reduce the use of chemical fertilizers?

India is not planning to stop the use of chemical fertilizers completely but will be adopting alternate fertilizers.

For example, instead of urea, we have launched neem-coated urea, sulphur-coated urea, and nano urea, which will reduce the consumption of chemical fertilizers without impacting production.

The country is moving towards natural farming and organic farming step by step.

These steps will help India reduce its import dependency on urea by 2025.

58. Dilution of Article 370 led to unprecedented era of peace in J&K, Centre informs SC

Source: The post is based on the article **“Dilution of Article 370 led to unprecedented era of peace in J&K, Centre informs SC”** published in **The Hindu** on **11th July 2023**

What is the News?

The Centre has filed an affidavit in the Supreme Court defending the abrogation of Article 370 of the Constitution.

What is the case before the Supreme Court?

A five judge Constitution bench has been constituted to hear a number of petitions challenging a Presidential Order from 2019 which abrogated Article 370.

Under Article 370, special rights and privileges have been granted to the people of Jammu and Kashmir since 1954 in accordance with the Instrument of Accession.

Subsequently, the Jammu and Kashmir (Reorganization) Act of 2019 came into effect bifurcating the state into the Union Territories of Jammu and Kashmir and Ladakh.

What is the Central Government stand on the abrogation of Article 370?

Centre has defended the abrogation of Article 370 of the Constitution. It has said that this decision has brought “unprecedented stability and progress” to the region. For instance,

- Stone-pelting incidents, which reached as high as 1,767 in 2018, have now ceased completely in 2023.
- The anti-terror actions have led to the dismantling of the terrorist ecosystem, resulting in a significant drop in terrorist recruitment from 199 in 2018 to 12 in 2023.
- There has been a significant increase in tourist visits to the valley after the decision. As of December 2022, 1.88 crore tourists have visited.
- Reservation had been extended to persons residing in areas adjoining the Actual Line of Control, it noted. Seats had been reserved for Scheduled Tribes persons and the Pahari speaking people.

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- Duly-elected three-tier panchayati raj system could be established for the first time in the history of Jammu and Kashmir after 2019.
- Crucial Central laws, including right to free education for children and land acquisition compensation statutes, were now applicable in Jammu and Kashmir.
- The annual budget of Jammu and Kashmir had grown from ₹80,423 crore in 2019-20 to ₹1,18,500 crore in 2023-24.

59. Rafales, Scorpènes and jet engine development on the agenda of PM's France trip

Source: The post is based on the article **“Rafales, Scorpènes and jet engine development on the agenda of PM's France trip”** published in **The Hindu** on **11th July 2023**

What is the News?

The Indian Prime Minister will be visiting France as Chief Guest at the Bastille Day parade.

What will be the key defence deals that are expected to be signed between India and France?

Rafale M Aircraft: India is planning to buy 26 Rafale M Aircrafts from France. They are intended for deployment on the Indian Navy's aircraft carriers INS Vikrant and INS Vikramaditya, which currently employ the MiG-29.

Three Scorpène-class submarines: Scorpène are a class of diesel-electric attack submarines jointly developed by the French Naval Group and the Spanish company Navantia under Project 75. They are being built at Mazagon Dockyards Limited in Mumbai.

Five of Scorpène submarines have been commissioned and the sixth one is expected to be commissioned early next year.

However, the ageing submarine fleet and delay in the procurement of new submarines under P-75I meant the Navy has to procure three follow-on submarines to arrest the depleting fleet.

Hence, that's why the Indian Navy is now planning to buy Three additional Scorpène class submarines under the repeat clause where they would be built in the Mazagon Dockyards Limited in Mumbai.

Aircraft engine: India is planning to sign a pact with France for the co-development of fighter jets to power India's futuristic Advanced Medium Combat Aircraft (AMCA) fighter jet.

The AMCA will be the cornerstone of the Indian Air Force's manned tactical fleet within the next decade.

60. Solomon Islands and China sign deals on police, economy, tech

Source: The post is based on the article **“Solomon Islands and China sign deals on police, economy, tech”** published in **The Hindu** on **11th July 2023**

What is the News?

China and Solomon Islands have jointly announced the official establishment of a comprehensive strategic partnership. As part of this, the two countries signed a deal on police cooperation.

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Where is Solomon Island?

The Solomons are an archipelago of hundreds of small islands in the southern part of the Pacific Ocean. It is located approximately 2,000 km from Australia.

There are six big islands – the largest, Guadalcanal, is home to the capital Honiara.

About China-Solomon Island relations:

Solomon Islands and China (PRC) established official diplomatic relations in 2019. Prior to this, Solomon Islands had diplomatic relations with Taiwan.

In 2022, China's government signed a [security deal](#) with the Solomon Islands.

Why is the US concerned with the China-Solomon Island relations?

The Solomon Islands are strategically located in the Pacific, and the United States and its regional allies, such as Australia and New Zealand, are concerned that the China-Solomon Islands security pact allows Chinese naval vessels to replenish there.

That could open the door to a Chinese naval base, which would significantly extend China's military reach in the South Pacific.

What are the steps taken by the US to address Chinese presence in the Pacific Island countries?

The US has responded by announcing plans to reopen an American Embassy in the Solomon Islands.

The US convened a summit of Pacific Island leaders in September, 2022 to unveil a strategy that included cooperation in climate change, maritime security and preventing overfishing.

US has promised \$810 million in new aid for Pacific Island nations over the next decade, including \$130 million to address the effects of climate change

[61. Warming Bay: An ongoing heatwave in India's eastern sea is causing extreme rain in its northwest, say experts](#)

Source: The post is based on the article **“Warming Bay: An ongoing heatwave in India's eastern sea is causing extreme rain in its northwest, say experts”** published in **Down To Earth** on **8th July 2023**

What is the News?

The northern Bay of Bengal has been experiencing an intense marine heatwave. This has led to India's usually arid northwest receiving extreme rainfall.

What is causing heavy rainfall in Northwest India?

During the monsoon, the northern Bay of Bengal tends to be warm.

This region needs to be warm as it plays an important role in the southwest monsoon's trajectory as it enables the monsoon winds blowing from the southwest to cross over into the Bay of Bengal and bring moisture into the Indian subcontinent.

However, the northern Bay of Bengal currently has been experiencing an intense **marine heatwave**. Due to this, it is warmer than usual and may be contributing to the extreme rainfall in northwest India.

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What are Marine Heatwaves?

Marine heatwaves(MHW) are periods of extremely high temperatures in the ocean (above the 90th percentile).

Such heat waves are caused by an increase in the heat content of oceans, especially in the upper layers. Worldwide, they are one of the major results of human-induced global warming.

During an MHW, the average temperatures of the ocean surface (up to a depth of 300 feet) goes 5-7 degrees Celsius above normal.

Impact: These events cause habitat destruction due to coral bleaching, seagrass destruction, and loss of kelp forests, affecting the fisheries sector adversely.

– An underwater survey showed that 85% of the corals in the Gulf of Mannar near the Tamil Nadu coast got bleached after the marine heatwave in May 2020.

62. [RBI presses ahead with VRRR to suck out excess liquidity from banking system](#)

Source: The post is based on the article “**RBI presses ahead with VRRR to suck out excess liquidity from banking system**” published in **The Hindu Businessline** on **7th July 2023**

What is the News?

The Reserve Bank of India (RBI) has said that it will conduct a three-day variable rate reverse repo (VRRR) auction for Rs 2 lakh crore.

What is Variable rate reverse repo(VRRR)?

The Reserve Bank of India(RBI) uses various ways to increase or decrease liquidity in the banking system.

Repo rate is the rate at which the central bank gives loans to commercial banks against government securities.

Reverse repo rate is the interest that RBI pays to banks for the funds.Variable rate reverse repo(VRRR) is a sub-type of reverse repo.

VRRR is usually undertaken to reduce surplus liquidity by withdrawing existing cash in the system.

RBI has been conducting VRRR everyday since June 30 to ensure that the overnight [call money rate](#) remains close to the target rate of 6.50 per cent.

63. [El Nino, India, and the risk of food shortage](#)

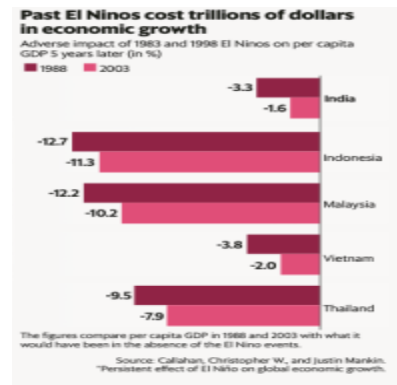
Source: The post is based on the article “**El Nino, India, and the risk of food shortage**” published in **Livemint** on **11th July 2023**

What is the News?

The UN World Meteorological Organisation (WMO) has confirmed it: El Niño conditions have arrived and are expected to become moderate to strong as they develop over the coming year.

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What will be the impact of El Nino on India?



Source: Livemint

Impact on Trade Pattern of India: El Nino generally leads to drier conditions in Southeast Asia and Australia, which puts at risk critical crops from countries in these regions, some of which are key trading partners of India.

Australia, the second-largest wheat exporter, is officially expected to see a decline in wheat production. Similarly, palm oil production is likely to suffer in Indonesia and Malaysia.

This will have an impact on India's trade patterns. For instance, India imports 56% of its edible oil needs, with huge reliance on imports from Indonesia and Malaysia, where El Nino could hurt palm oil production.

India could then opt for alternative sources like soya bean oil from Brazil as it is expected to receive good rainfall and get a bumper soya bean crop.

Similarly, Paddy, a major crop produced by Indonesia and Vietnam could also witness a decline in production. India being the second largest rice producer in the world can help these regions meet their deficit if it first procures enough to meet domestic demand.

Impact on economic growth of India: El Nino has been known to harm economic growth, costing tens of billions of dollars in direct impacts.

The World Meteorological Organization has said there is a 90% chance that El Nino will continue during the second half of 2023. It also said countries should prepare and limit the impact on their economies.

The Reserve Bank of India has expressed concern over the rising international prices of key food items like rice and sugar and said the adverse climate events have the potential to quickly change the direction of inflation trajectory. It has projected a gross domestic product (GDP) growth of 6.5% for FY24.

However, the International Monetary Fund has lowered its estimate of India's GDP growth in 2023-24 to 5.9%.

64. [The unmaking of Vedanta-Foxconn's chip dream: What went wrong?](#)

Source: The post is based on the article **"The unmaking of Vedanta-Foxconn's chip dream: What went wrong?"** published in **Indian Express** on **11th July 2023**

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What is the News?

Taiwanese electronics manufacturer Foxconn has announced that it has withdrawn from a joint venture with Vedanta Ltd which was set up to produce semiconductors in India.

Why is chipmaking crucial for India?

Prime Minister has made chip manufacturing a top priority for India's economic strategy. This is because:

Firstly, Chips are an integral part of pretty much all electronic products so making them in India will massively improve the country's net value addition to the overall electronics manufacturing process.

Secondly, building semiconductors in India will eventually help India reduce its imports. The demand for semiconductors in India will reportedly reach around USD 100 billion by 2025, up from the current demand of USD 24 billion.

Thirdly, semiconductor manufacturing also has strategic advantages, as countries don't want to depend on their imports for essential infrastructure like defence and power.

Fourthly, China is currently one of the major destinations for chips manufacturing. As more companies are trying to diversify their bases from China, India has an opportunity to emerge as a reliable destination.

– **Note:** The United States of America has also passed the [CHIPS Act](#) in 2022 providing subsidies of around \$280 billion for manufacturing chips in the country. It has also imposed additional restrictions and sanctions on the Chinese semiconductor industry.

[65. Poll bonds chief source of donations for parties: report](#)

Source: The post is based on the article **“Poll bonds chief source of donations for parties: report”** published in **The Hindu** on **12th July 2023**

What is the News?

Association of Democratic Reforms(ADR) has released a report titled “Analysis of Donations to Registered Political Parties from FY 2016-17 and FY 2021-22.

What are the key findings of the report?

Donations to Political Parties: The total donations declared by the 7 National Parties from Electoral Bonds, corporate sector and other donations between FY 2016-17 and 2021-22 were Rs 13190 crores (80.247%).

– For National parties, there was a 743% increase in donations from electoral bonds between FY 2017-18 and FY 2021-22 while for corporate donations this increase is only 48%.

– Electoral Bonds are the most preferred mode of donations for making contributions to National and Regional parties followed by direct corporate donations.

– The total donations declared by BJP is more than three times the total donations declared by all other National parties.

Electoral Bonds: During the six-year period, more than 52% of BIP's total donations came from Electoral Bonds worth ₹5,271.97 crore.

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– The Congress declared the second highest donations from bonds of ₹952.29 crore (61.54% of its total donations) followed by the Trinamool Congress that got ₹767.88 crore (93.27%).

– Among the regional parties, the BJD received 89.81% of its total donation from bonds worth ₹622 crore, while the DMK got ₹431.5 crore (90.7%) and the TRS got ₹383.65 crore (80.45%).

Direct Corporate Donations: The direct corporate donations declared by 7 National parties are more than five times the corporate donations declared by 31 Regional Parties during the six-year period.

– The corporate donations declared by BJP are at least three-four times more than the total corporate donations of all other National Parties. In FY 2017-18, it was more than eighteen times that of all other National parties.

– For the six-year period, BSP has consistently declared no corporate donations while CPI has declared receiving zero corporate donations from FY 2018-19 to FY 2021-22.

[66. What is the legal row between farmers and PepsiCo?](#)

Source: The post is based on the article “**What is the legal row between farmers and PepsiCo?**” published in **The Hindu** on **12th July 2023**

What is the News?

The Delhi High Court has held that there was “no merit” in the appeal filed by PepsiCo over the patent rights for its ‘unique potato’ variety.

What is the case about?

The [Protection of Plant Varieties and Farmers Rights’ Authority \(PPVFRA\)](#) had revoked PepsiCo’s registration with respect to its potato plant variety, ‘FL 2027’ (used in Lay’s chips).

The rights were revoked on the grounds provided under Section 34 (grounds for revocation of registration) of the Protection of Plant Varieties and Farmers Rights Act, 2001 (PPV&FR).

Against this judgment, Pepsico went to Delhi High Court.

What is FL 2027?

FL 2027 is a potato variety with high dry matter and low sugar content better suited for making chips.

This variety was developed in 1996 by Robert W Hoopes, a US breeder employed with Frito-Lay Agricultural Research, a division of PepsiCo Inc.

PepsiCo India was granted a certificate of registration for FL 2027 as an “extant variety” on February 1, 2016.

The validity period – during which nobody else could commercially produce, sell, market, distribute, import or export it without the breeder’s authorisation – was six years from the date of registration and extendable up to 15 years.

What is Protection of Plant Varieties and Farmers Rights Act, 2001(PPV&FR)?

[Click Here to read](#)

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What is Section 34 of the PPV&FR Act?

According to Section 34 of the PPV&FR Act, the protection granted to a breeder may be revoked by the authority on the following grounds: **1)** grant of a registration certificate is based on incorrect information furnished by the applicant **2)** registration certificate was granted to an ineligible person **3)** when the breeder does not provide the registrar with the required documents **4)** failure to provide an alternative denomination for variety registration in case the earlier variety provided is not permissible for registration **5)** failure of the breeder to provide the required seeds for compulsory license **6)** failure to comply with the acts, rules, regulations and directions issued by the Authority and **7)** if the grant of the registration certificate is against public interest.

Why did the PPVFRA revoked Pepsico's patent right over FL 2027?

PepsiCo had sought the registration of FL 2027 variety as a “new variant” instead of an “extant variant” in its application in 2012 despite furnishing the date of its commercialisation in India to be 2009.

However, to be registered as a “new variant” an additional requirement of ‘novelty’ in addition to ‘distinctiveness’, ‘uniformity’ and ‘stability’ must be satisfied one year before the date of filing of the application for registration.

The court held that FL 2027 could not fulfill the criteria of novelty and was only eligible for registration under “extant variety”.

Will this ruling impact investor confidence in India's IP regime for protection of plant varieties and breeder's rights?

Probably not. The High Court has merely faulted PepsiCo for wrongly applying for registration of FL 2027 under the category of “new variety” and giving an incorrect date for its first commercialisation.

67. Supreme Court asks ED chief to quit; but upholds amendments

Source: The post is based on the article “**Supreme Court asks ED chief to quit; but upholds amendments**” published in **The Hindu** on **12th July 2023**

What is the News?

The Supreme Court has said that the third extension to the present Enforcement Directorate (ED) chief was illegal and in violation of its judgment in 2021.

However, the court permitted him to continue in office until July 31 to allow for a smooth transfer.

What was the case before the Supreme Court?

The present ED Chief was first appointed as the ED Director in 2018, for a fixed period of two years.

Days before his tenure was to end, the President modified the previous order retrospectively and changed Mishra's tenure to three years.

In November 2021, the Supreme Court upheld the extension granted to ED Chief beyond two years.

In December 2021, the Parliament passed two bills: The [Central Vigilance Commission \(Amendment\) Bill, 2021](#) and [Delhi Special Police Establishment \(Amendment\) Bill, 2021](#).

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These bills provide that the tenure of ED and CBI chiefs could be extended by up to three years after the mandated term of two years.

Hence, under the amended law, he got an extension from November 2021 to November 2022. Further, he got the third extension by a notification till November 2023.

This extension and the amendments to the CVC and DSPE Act were challenged before the Supreme Court.

What was the ruling of the Supreme Court?



Source: Hindustan Times

On ED Tenure extension: The Supreme Court has said that the consecutive service extensions granted to Mishra in 2021 and 2022 as illegal. The court ordered the present ED Chief to resign by July 31, allowing for a smooth transition of responsibilities to his successor.

On amendments to the CVC and DSPE Act: The Supreme Court upheld as constitutional the amendments made to the Central Vigilance Commission Act, 2003 and The Delhi Special Police Establishment Act, 1946.

The court referred to the need to exercise self-imposed limits while undertaking judicial review of legislative or executive actions.

It said that the legislative enactment can be struck down only on two grounds: **1)** Firstly, that the appropriate legislature does not have the competence to make the law and **2)** secondly, that it takes away or abridges any of the Fundamental Rights enumerated in Part III of the Constitution or any other constitutional provisions.

[68. 415 million Indians came out of multidimensional poverty in 15 years, says UNDP study](#)

Source: The post is based on the article **“415 million Indians came out of multidimensional poverty in 15 years, says UNDP study”** published in **The Hindu** on **12th July 2023**

What is the News?

The Global Multidimensional Poverty Index(MPI) 2023 has been released.

What is the Global Multidimensional Poverty Index (MPI)?

Global MPI is a key international resource that measures acute multidimensional poverty across more than 100 developing countries.

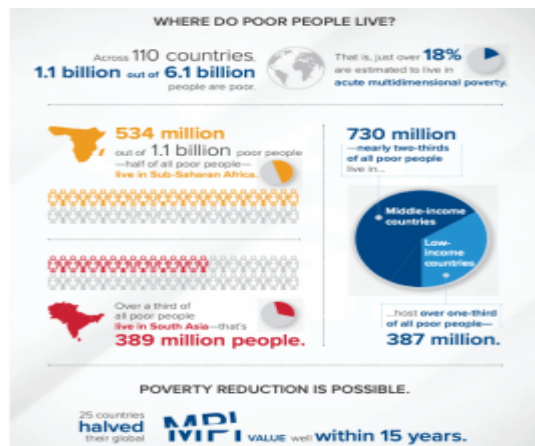
It was first launched in 2010 by the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative (OPHI).

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The Global MPI advances SDG 1 – ending poverty in all its forms everywhere. It also measures interconnected deprivations across indicators related to SDGs 1, 2, 3, 4, 6, 7 and 11.

[Click Here to read more](#)

What are the key findings of the report?



Source: UNDP

Globally: 25 countries including India have successfully halved their global MPI values within 15 years, indicating that substantial progress is attainable.

- Around 1.1 billion out of 6.1 billion people (just over 18%) live in acute multidimensional poverty across 110 countries.
- Sub-Saharan Africa (534 million) and South Asia (389 million) are home to approximately five out of every six poor people.
- Nearly two-thirds of all poor people (730 million people) live in middle-income countries, making action in these countries vital for reducing global poverty.
- Children under 18 years old account for half of MPI-poor people (566 million). The poverty rate among children is 27.7%, while among adults it is 13.4%.
- Poverty predominantly affects rural areas, with 84% of all poor people living in rural areas.

India: Around 415 million people exited poverty within a span of just 15 years between 2005 to 2021 in India.

The number of people in multidimensional poverty in India decreased from approximately 645 million in 2005-06 to about 370 million in 2015-16 and further to 230 million in 2019-21. Hence, the incidence of poverty fell from 55.1% to 16.4% during the period.

Deprivation in all indicators declined in India.

The poorest states and disadvantaged groups, including children and individuals from marginalized castes, experienced the fastest progress in reducing poverty.

People who are multidimensionally poor and deprived under the nutrition indicator in India declined from 44.3% in 2005/2006 to 11.8% in 2019/2021 and child mortality fell from 4.5% to 1.5%.

Factly Compilation for the Month of July 2023

[69. Japan India Maritime Exercise-2023 concludes](#)

Source: The post is based on the article “**Japan India Maritime Exercise-2023 concludes**” published in **PIB** on **11th July 2023**

What is the News?

The 7th edition of Japan India Maritime Exercise 2023 (JIMEX 23) has been concluded in the Bay of Bengal.

What is Japan India Maritime Exercise(JIMEX)?

JIMEX is an annual maritime exercise between India and Japan.

Aim: To consolidate the high degree of interoperability that exists between maritime forces of the two countries, through complex exercises in the surface, sub-surface and air domains.

JIMEX 2023 witnessed complex exercises undertaken jointly by the two navies. Both sides engaged in advanced level exercises in all three domains of maritime warfare: surface, sub surface and air.

JIMEX 23 saw the participation of 1) INS Delhi – India’s first indigenously built Guided Missile Destroyer 2) INS Kamorta – an indigenously designed and built Anti-Submarine Warfare Corvette 3) P8I, maritime patrol aircraft and 4) Dornier, ship-borne helicopters and fighter aircraft.

What are the other exercises between India and Japan?

Exercise DHARMA GUARDIAN: It is an annual joint military exercise between India and Japan from 2018.

SHINYUU Maitri: It is a joint exercise between the Indian Air Force and the Japanese Air Self Defence Force (JASDF).

[70. Recommendations of 50th meeting of GST Council](#)

Source: The post is based on the article “**Recommendations of 50th meeting of GST Council**” published in **PIB** on **11th July 2023**

What is the News?

The 50th meeting of the Goods and Services Tax(GST) Council was held under the chairmanship of the Union Finance Minister.

What is the Goods and Services Tax(GST) Council?

[Click Here to read](#)

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What are the decisions taken by the GST Council?

AT THE MEETING

Conundrum resolved

▶ A key issue before the GoM was whether to impose a 28% GST on the face value of bets, or gross gaming revenue, or just on platform fees

Exempted from GST

▶ Cancer-fighting drugs, medicines for rare diseases

▶ Satellite launch services by private operators

Tax eased

▶ GST rate on food served in cinema halls to be 5%. Earlier, the rate was 18%

▶ Tax on uncooked and unfried snack pellets and fish soluble paste down from 18% to 5%; tax on imitation zari thread down from 12% to 5%

Progress awaited

▶ Retail sale price-based cess on some tobacco items

Setting the ball rolling

▶ GST tribunal to be operational in phases. It will expand from initial Benches in state capitals. A framework is likely by August

SUV defined

▶ The definition of an Sports Utility Vehicle tweaked for attracting a cess over and above the GST rate

Source: Business Standard

GST on Online Gaming: The GST Council has approved the imposition of a uniform 28% tax on full “face value” of bets involving online gaming, casinos and horse racing. This will bring them on a par with betting and gambling.

– Currently, most online gaming platforms pay an 18 per cent tax on the commission collected for each game.

Tax on food and beverages in Cinema Halls: The GST on restaurants inside Cineplex will attract 5% GST against 18% earlier.

– Currently, movie tickets below Rs 100 were taxed at 12%, while those above the threshold attracted 18% GST.

Exempted GST on cancer drugs: GST Council has decided to exempt GST on import of cancer drug Dinutuximab, and Food for Special Medical Purposes (FSMP) used in the treatment of rare diseases. Currently, the drug attracts a 12% integrated GST.

Tribunals: The council has recommended setting up of a mechanism for appellate tribunals. Demands for state-wise benches were presented by various states, and the Council approved setting up of as many as 40 benches in phases.

71. [Kui language inclusion in 8th schedule gets approval of Odisha govt](#)

Source: The post is based on the article “**Kui language inclusion in 8th schedule gets approval of Odisha govt**” published in **New Indian Express** on **11th July 2023**

What is the News?

The Odisha Cabinet has approved a proposal to recommend the inclusion of the Kui language in the [Eighth schedule of the Constitution of India](#).

Factly Compilation for the Month of July 2023

What is Kui Language?

Kui is a South-Eastern Dravidian language spoken by the [Khonds](#) (also spelt Kondha and Kandha) community.

It is primarily spoken in the state of Odisha. It is traditionally written using the Odia script.

It is closely related to other languages in the Dravidian family such as Gondi and Kuvi.

It was also referred to as the Kuinga language during the historical period.

What are the benefits of inclusion of Kui Language in 8th Schedule?

It will help in the preservation, promotion, and propagation of the Kui language and culture;

Activities such as publication, creation of content and recognition will get momentum;

Create an eco-system to facilitate research & Studies anchored around the preservation, promotion and propagation of Kui Language.

72. [Massive shelf cloud appears in Haridwar amid heavy rains](#)

Source: The post is based on the article “**Massive shelf cloud appears in Haridwar amid heavy rains**” published in **Livemint** on **11th July 2023**

What is the News?

A terrifying shelf cloud has recently appeared in Uttarakhand’s Haridwar amid heavy rains.

What are Shelf Clouds?



Source: Moneycontrol

Shelf clouds are a type of arcus cloud, characterized by their impressive and intimidating appearance.

These unique cloud formations often resemble a large, horizontal wedge or shelf extending from the base of a thunderstorm or cumulonimbus cloud.

These clouds are typically formed on the leading edge of a storm.

Formations of Shelf Clouds:

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The formation of shelf clouds occurs when a mass of cold and dense air is forcefully driven by the wind into a warmer air mass.

This phenomenon takes place during the downdraft of a thunderstorm, where the cold air rapidly descends and disperses, creating a strong gust front.

Distinctive Features of Shelf Cloud:

Shelf clouds exhibit several distinct features that contribute to their dramatic appearance. The underside of the shelf cloud is often dark and menacing, featuring turbulent and rapidly rising air.

This area is characterized by a swirling mass of clouds, indicating the intense updrafts and strong winds associated with the thunderstorm.

The leading edge of the cloud is typically smooth and well-defined, appearing as a rolling arc or shelf. This edge may have a greenish or bluish tint due to the scattering of sunlight caused by water droplets within the cloud.

Significance and implications of Shelf Clouds:

As shelf clouds are usually associated with thunderstorms, their presence serves as a visual warning sign of impending severe weather. However, they are typically harmless.

73. Chandrayaan-3 launch: What are the different kinds of moon missions?

Source: The post is based on the article “**Chandrayaan-3 launch: What are the different kinds of moon missions?**” published in **Indian Express** on **12th July 2023**

What is the News?

The Chandrayaan-3 mission is India’s third lunar mission and second attempt to make a soft landing on the surface of the Moon.

It is one of the several space missions lined up to go to the Moon including Russia’s Luna 25 mission and NASA’s Artemis II.

What are the different kinds of moon missions that have been launched so far?

Flybys: These are the missions in which the spacecraft passed near the Moon but did not get into an orbit around it. These were either designed to study the Moon from a distance or were on their way to some other planetary body or deep space exploration and happened to pass by the celestial body.

– Some early examples of flyby missions were Pioneer 3 and 4 by the United States and Luna 3 of the then USSR.

Orbiters: These were spacecraft that were designed to get into a lunar orbit and carry out prolonged studies of the Moon’s surface and atmosphere.

– India’s Chandrayaan-1 was an Orbiter, as were 46 other Moon missions from various countries. Orbiter missions are the most common way to study a planetary body. Chandrayaan-2 mission also consisted of an orbiter, which is still operational and orbiting the Moon at an altitude of around 100 km.

Impact Mission: These are an extension of Orbiter missions. While the main spacecraft keeps going around the Moon, one or more instruments on board make an uncontrolled landing on the

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lunar surface. They get destroyed after the impact, but still send some useful information about the Moon while on their way.

– One of the instruments on Chandrayaan-1, called Moon Impact Probe, or MIP, was also made to crash land on the Moon's surface in a similar way. ISRO claimed that the data sent by the MIP had presented additional evidence of the presence of water on the Moon.

Landers: These missions involve the soft landing of the spacecraft on the Moon. These are more complicated than the Orbiter missions. In fact, the first 11 attempted lander missions had all ended in failure.

– The first landing on the moon was accomplished on January 31, 1966, by the Luna 9 spacecraft of the then USSR. It also relayed the first picture from the Moon's surface.

Rovers: Rovers are special wheeled payloads on the lander that can detach themselves from the spacecraft and move around on the moon's surface, collecting very useful information that instruments within the lander would not be able to obtain. The rover onboard Vikram lander in the Chandrayaan-2 mission was called Pragyaan.

Human missions: These involve the landing of astronauts on the moon's surface. So far only NASA of the United States has been able to land human beings on the moon.

[74. Union Minister inaugurates 'SAGAR SAMPARK' Differential Global Navigation Satellite System to Strengthen Maritime sector](#)

Source: The post is based on the article **“Union Minister inaugurates ‘SAGAR SAMPARK’ Differential Global Navigation Satellite System to Strengthen Maritime sector”** published in **PIB** on **12th July 2023**

What is the News?

The Union Minister of Ports, Shipping and Waterways has inaugurated the indigenous Differential Global Navigation Satellite System (DGNSS) called 'SAGAR SAMPARK'.

What is Sagar Sampark?

Sagar Sampark is a terrestrial based enhancement system that corrects the errors and inaccuracies in the Global Navigation Satellite System (GNSS) and provides more accurate positioning information.

Features: Sagar Sampark is able to transmit corrections for both GPS and Global Navigation Satellite System (GLONASS).

– It improves the accuracy of GPS positioning by reducing errors caused by atmospheric inferences, satellite clock drift and other factors.

– The error correction accuracy has been improved from 5 to 10 meters to less than 5 meters for 100 Nautical Miles from Indian coastlines.

Significance: Sagar Sampark will help mariners in safe navigation and will reduce the risk of collisions, groundings, and accidents in the port and harbour areas. This will lead to the safe & efficient movement of vessels.

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75. PAU develops new wheat variety to keep diabetes, obesity in check

Source: The post is based on the article “**PAU develops new wheat variety to keep diabetes, obesity in check**” published in **Indian Express on 11th July 2023**

What is the News?

The Punjab Agricultural University (PAU) has developed a new variety of wheat called PBW RS1.

What is PBW RS1?

PBW RS1 is a new variety of wheat.

Developed by: Punjab Agricultural University (PAU)

Benefits: PBW RS1 has high amylose content and is resistant to starch. This ensures that glucose is released more slowly into the bloodstream. This can help in bringing down the prevalence of diet-related diseases including obesity and diabetes (especially type 2).

- Chapatis and biscuits from its flour taste just like normal wheat.
- It is also resistant to yellow rust and moderately resistant to brown rust fungal diseases.

Drawbacks: It has lower productivity compared to other wheat varieties of Punjab.

76. Fifth of suspected money mule cases involve under-21s'

Source: The post is based on the article “**Fifth of suspected money mule cases involve under-21s**” published in **Independent on 11th July 2023**

What is the News?

According to a report, young people under the age of 21 account for around one in five cases where money muling activity is suspected.

What is Money Muling?

Money muling is a type of money laundering.

A money mule is a person who receives money from a third party in their bank account and transfers it to another one or takes it out in cash and gives it to someone else, obtaining a commission for it.

Even if money mules are not directly involved in the crimes that generate the money (cybercrime, payment and on-line fraud, drugs, human trafficking, etc.), they are accomplices as they launder the proceeds of such crimes.

Simply put, money mules help criminal syndicates to remain anonymous while moving funds around the world.

77. Cabinet okays commercial mining of lithium, titanium

Source: The post is based on the article “**Cabinet okays commercial mining of lithium, titanium**” published in **Livemint on 12th July 2023**

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What is the News?

The Union Cabinet has approved amendments to the Mines and Minerals (Development and Regulation) Act, 1957 to allow the commercial mining of six critical minerals.

Which are the six critical minerals where commercial mining will be allowed now?

The six critical minerals are: lithium, beryllium, niobium, tantalum, titanium and zirconium.

Till now, commercial mining of these critical minerals by private companies was prohibited. Only government agencies were allowed in exploration and mining operations.

The amendment proposed to insert the provision of an exploration license in the law which will be granted through auction for undertaking reconnaissance and prospecting operations.

Companies will be allowed to suggest areas they want to explore, and eventually mine. This is a deviation from the usual practice where blocks or mines are defined by the government to be taken up for auction.

What are the uses of these critical minerals?

1) Lithium is a key component for electric vehicles, batteries and other energy storage solutions. 2) Beryllium is used in aerospace, defence, IT, telecommunications and so on 3) Titanium is used in mobile phones, bicycles and prosthetics 4) Niobium is used in jet engines and rockets 5) Tantalum is used in electrolytic capacitors and corrosion resistant chemicals and 6) Zirconium is used primarily in fabrication and as an alloying agent.

What is the significance of this decision?

The changes are likely to incentivise private sector participation in all spheres of mineral exploration, with a focus on precious and critical ones.

This will also help reduce India's import dependence on critical minerals such as lithium.

78. What is the National Research Foundation?

Source: The post is based on the article "What is the National Research Foundation?" published in **The Hindu** on **12th July 2023**

What is the News?

The Union Cabinet has approved the introduction of the National Research Foundation (NRF) Bill in Parliament.

What is the National Research Foundation (NRF)?

The National Research Foundation (NRF) was one of the key recommendations of the National Education Policy 2020.

Objective: To act as a coordinating agency between researchers, various government bodies and industry, thus bringing industry into the mainstream of research.

– To provide research grants to individuals.

– To facilitate research in India's universities, especially State universities, by funding research infrastructure and researchers.

The Science and Engineering Research Board (SERB) created by an act of Parliament in 2008, will stand repealed and subsumed into the NRF.

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Funding of NRF: The NRF will operate with a budget of ₹50,000 crore for five years, of which 28% will be the government's share, and the remaining 72% will come from the private sector.

[Click Here to read more](#)

What are the steps that should be taken to help NRF facilitate the “ease of doing science”?

First, the time between applying for a research grant and receiving the money must be minimal, preferably within six months.

– The NRF draft mentions that the peer-review process will be completed within six months but releasing funds may take time.

Second, all the paperwork must be digitally processed without sending stacks of papers in hard copies to the NRF.

Third, all finance-related queries, paperwork, approval and acceptance need to be between the NRF and the finance department of the university/research institution keeping the scientist free to focus on research.

Fourth, the NRF needs explicit spending guidelines away from the General Financial Rules (GFR) and the government's e-Marketplace (GeM) usage.

Fifthly, participation of the private industry in the NRF is an important and welcome step. But it is unclear how the government will raise ₹36,000 crore from the industry. Hence, a more detailed plan and establishing mechanisms akin to escrow accounts will reassure the scientific community.

Finally, the release of money needs to be timely. The NRF draft mentions timely disbursement of funds but a mechanism needs to be in place to facilitate and implement this.

[79. In UNHRC vote, India stands against desecration of Koran](#)

Source: The post is based on the article “**In UNHRC vote, India stands against desecration of Koran**” published in **The Hindu** on **12th July 2023**

What is the News?

The UN Human Rights Council (UNHRC) has voted to condemn recent Koran burning incidents.

About UNHRC resolution condemning burning of Quran:

The United Nations Human Rights Council has approved a resolution that condemns and strongly rejects acts of desecration of the Quran.

This resolution has been adopted in the wake of the burning of a Quran in Sweden.

The resolution was introduced by Pakistan on behalf of the 57-nation Organisation of Islamic Cooperation (OIC).

The resolution calls for the U.N. rights chief to publish a report on religious hatred and for states to review their laws and plug gaps that may impede the prevention and prosecution of acts and advocacy of religious hatred.

Which countries supported and opposed the resolution?

India was among the 28 countries who voted in favour of the resolution.

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– India stated that there was an increase in “phobias” against all religions. Hence, there is a need for the international community to recognize the instances of intolerance, prejudice, phobia, and violence against followers of all religions and work together to eliminate them.

China which is always under the scanner for its alleged treatment of the Uighurs Muslims supported the resolution

The resolution was **strongly opposed by the United States and the European Union**, who said that it conflicts with their view on human rights and freedom of expression.

80. [Atal Vayo Abhyuday Yojana: Empowering the Elderly for a Dignified Life](#)

Source: The post is based on the article “**Atal Vayo Abhyuday Yojana: Empowering the Elderly for a Dignified Life**” published in **PIB** on **12th July 2023**

What is the News?

The Ministry of Social Justice & Empowerment is implementing the Atal Vayo Abhyuday Yojana to empower senior citizens in India.

What is Atal Vayo Abhyuday Yojana?

Nodal Ministry: Ministry of Social Justice & Empowerment

Renamed version of: National Action Plan for Senior Citizen (NAPSrC) had been revamped, renamed as Atal Vayo Abhyuday Yojana(AVYAY) and subsumed in 2021.

Type: Central Sector Scheme

Aim: To improve the quality of life of the Senior Citizens by providing basic amenities like shelter, food, medical care and entertainment opportunities and by encouraging productive and active aging through providing support.

Sub Schemes/Components:

- **Integrated Programme for Senior Citizens (IPSrC):** Under this, financial assistance is provided to eligible organizations for running and maintenance of Senior Citizen Homes/ Continuous Care Homes to improve the quality of life of the senior citizens.
- **State Action Plan for Senior Citizens (SAPSrC):** Each State/UT is expected to plan and strategize taking into account their local considerations and frame their own State Action Plans for the welfare of their senior citizens.
- [Rashtriya Vayoshri Yojana\(RVY\)](#)
- [Senior Able Citizens for Re-employment in Dignity\(SACRED\)](#)
- **Action Groups Aimed at Social Reconstruction (AGRASR):** Senior Citizens are encouraged to form Self-Help Groups (SHGs), which will provide them with a platform to share the time constructively with each other. To attain financial assistance under the scheme SHGs will function as AGRASR Groups.
- [Senior-care Aging Growth Engine \(SAGE\)-Silver economy for Senior Citizens](#)
- [Elderline – National Helpline for Senior Citizens](#)
- **Channelizing the CSR fund for elderly care:** It was launched with an objective to channelize the CSR funds in an appropriate manner for elderly care projects.Under Schedule VII of Section

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135 of the Companies Act, setting up old age homes, day care centers and such facilities for Senior Citizens is an approved item for CSR funding.

– **Training and capacity building for senior citizens.**

81. [Adani-Hindenburg case: Lack of requirement to disclose 'last natural person above every person' owning economic interest in FPIs is the challenge, SEBI to SC](#)

Source: The post is based on the article **“Adani-Hindenburg case: Lack of requirement to disclose ‘last natural person above every person’ owning economic interest in FPIs is the challenge, SEBI to SC”** published in **The Hindu** on **12th July 2023**

What is the News?

The Securities and Exchange Board of India (SEBI) has clarified in the Supreme Court that the challenges it faced in the Hindenburg-Adani allegations case were from the lack of a requirement to disclose the 'last natural person above every person' owning an economic interest in the FPIs.

What was the issue before the Supreme Court?

The Supreme Court had appointed a six-member committee headed by Justice Sapre to suggest measures to protect investors against the kind of market volatility seen after the Hindenburg report against the Adani Group.

The committee has said that the changes made by SEBI in Foreign Portfolio Investors (FPI) Regulations in 2019 made it difficult to identify beneficiaries of offshore funds which allegedly invested in the companies of the Adani Group.

However, SEBI has clarified in Supreme Court that the challenges it faced during the Hindenburg-Adani allegations case were not a result of the changes made in 2019 FPI regulations but due to lack of a requirement to disclose the **'last natural person above every person'** owning an economic interest in the FPIs.

What is the Last Natural Person above every person?

It refers to the requirement to identify and disclose the ultimate individual who has control or ownership over a financial investment such as Foreign Portfolio Investor (FPI).

It means revealing the final person in the ownership chain who holds an economic interest in the FPI ensuring transparency and accountability in the investment structure.

What are the challenges in finding the Last Natural Person above every person?

SEBI said that the core problem lay in the fact that there had never been any requirement to disclose the last natural person above every person owning any economic interest in the FPI.

Even the Prevention of Money Laundering Act(PMLA) required Beneficial Owners(BO) identification only on the basis of control or ownership.

Moreover, the Financial Action Task Force had also identified ambiguity over the last natural person owning any economic interest in an FPI ” as a global challenge.

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82. [Tele Law : Reaching the Unreached](#)

Source: The post is based on the article “**Tele Law : Reaching the Unreached**” published in **PIB** on **13th July 2023**

What is the News?

The Tele Law program has revolutionized access to pre-litigation advice and empowered over 46 lakh beneficiaries nationwide with free legal advice.

What is the Tele Law Initiative?

The Tele Law Initiative was launched by the Department of Justice in 2017.

Purpose: It is an e-interface mechanism to seek legal advice and consultation at a pre-litigation stage with the aim of ‘Reaching the Unreached’.

Under this initiative, smart technology of video conferencing, telephone /instant calling facilities available at the vast network of Common Service Centres at the Panchayat level are used to connect the indigent, down-trodden, vulnerable, unreached groups and communities with the Panel Lawyers for seeking timely and valuable legal advice.

– In addition, the service can also be accessed through the Tele Law Mobile App (available on Android and iOS).

Cost: Tele Law is provided free of cost to those persons entitled to free legal aid under Section 12 of the Legal Services Authorities (LSA) Act, 1987, and at a nominal fee of Rs. 30/- per consultation for “others”.

Real time data: A dedicated Tele Law dashboard has been developed to capture real-time data on the nature of cases registered & advice enabled.

Significance: Tele Law initiative has made legal consultation both easily accessible and highly affordable for the common citizens.

83. [Sangam literature for the layman](#)

Source: The post is based on the article “**Sangam literature for the layman**” published in **The Hindu** on **11th July 2023**

What is the News?

Tamil Nadu Text Book and Education Services Corporation has released **Patthuppattu**, a collection of ten idylls, one of the earliest Sangam poetry collections.

Note: An idyll is a short poem descriptive of some picturesque scene or incident, mainly associated with pastoral life.

What is the Sangam Age?

The Sangam Age constitutes an important chapter in the history of South India.

According to Tamil legends, there existed three Sangams (Academy of Tamil poets) in ancient Tamil Nadu popularly called **Muchchangam**. These Sangams flourished under the royal patronage of the Pandyas.

The first Sangam, held at Then Madurai, was attended by gods and legendary sages but no literary work of this Sangam was available.

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The second Sangam was held at Kapadapuram but all the literary works had perished except **Tolkappiyam**.

The third Sangam at Madurai was founded by Mudathirumaran. It was attended by a large number of poets who produced voluminous literature but only a few had survived. These Tamil literary works remain useful sources to reconstruct the history of the Sangam Age.

Sangam Literature:

The collection of Sangam literature includes **Tolkappiyam**, **Ettutogai**, **Pattuppattu**, **Pathinenkilkanakku** and the two epics – **Silappathigaram** and **Manimegalai**.

Tolkappiyam authored by **Tolkappiyar** is the earliest of Tamil literature. It is a work on Tamil grammar but it provides information on the political and socioeconomic conditions of the Sangam period.

The **Ettutogai** or Eight Anthologies consist of eight works. The **Pattuppattu** or Ten Idylls consist of ten works. Both **Ettutogai** and **Pattuppattu** were divided into two main groups – **Aham** (love) and **Puram** (valour).

Pathinenkilkanakku contains eighteen works mostly dealing with ethics and morals. The most important among them is **Tirukkural** authored by **Thiruvalluvar**.

Silappathigaram written by **Elango Adigal** and **Manimegalai** by **Sittalai Sattanar** also provides valuable information on the Sangam polity and society.

[84. Proposed National Research Foundation looks to tap CSR to address funding concerns](#)

Source: The post is based on the article “**Proposed National Research Foundation looks to tap CSR to address funding concerns**” published in **The Hindu** on **14th July 2023**

What is the News?

The National Research Foundation (NRF) has been approved by the Cabinet. But there are concerns over its autonomy and its funding structure.

What is the National Research Foundation (NRF)?

[Click Here to read](#)

What are the concerns related to the National Research Foundation (NRF)?

Funding: NRF will operate with a budget of ₹50,000 crore for five years, of which 28% will be the government's share and the remaining 72% (36,000 crore) will come from the private sector.

– But the statistics from the Ministry of Science and Technology suggest that only 36% of India's research expenditure of roughly ₹1.2 lakh crore came from the private sector in 2019-20.

– This is one of the reasons why India's expenditure on research and development is still around 0.6% of the Gross Domestic Product, below the 1-2% which was characteristic of countries with a stronger science and technology infrastructure and the global average of 1.8%.

– Hence, the measures being planned is to have private companies and public sector entities contribute from their 'corporate social responsibility (CSR)' corpus to the NRF.

Autonomy: NRF has been envisioned as an autonomous body. The money given to it wouldn't be controlled by the general financial rules (laid down by the Ministry of Finance) and the CEO as well the board would have autonomy in directing research funds.

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- But the proposed structure has both the Science Minister and Education Minister as vice-presidents. The Science Ministry will administratively control it.
- Hence, the clauses on autonomy must be clearly spelt out or else it will end up like multiple attempts in the past.

85. Sediments decode climate and environmental changes on Kaas Plateau around 8664 years BP

Source: The post is based on the article **“Sediments decode climate and environmental changes on Kaas Plateau around 8664 years BP”** published in **PIB** on **13th July 2023**

What is the News?

A study of the sediments from a seasonal lake in the Kaas Plateau has indicated a major shift in the Indian Summer Monsoons towards dry and stressed conditions with low rainfall during the Early-Mid-Holocene, around 8664 years BP.

Note: Holocene is the name given to the last 11,700 years of the Earth’s history — the time since the end of the last major glacial epoch, or “ice age.”

What is Kaas Plateau?

Kaas plateau also known as valley of flowers is located on the Western Ghats in Maharashtra.

Its name is derived from the Kaasa tree, botanically known as *Elaeocarpus glandulosus* (rudraksha family).

It is located on a lake that dates back to the Early-Mid-Holocene period, which means it is an ancient lake that has been preserved over a long time.

It was included in the UNESCO World Natural Heritage Site in 2012 for being a biodiversity rich zone.

The plateau is known for various types of seasonal wild flowers and species of endemic butterflies.

The plateau boasts of more than 850 species of flowers, which include orchids, shrubs and carnivorous plants, making it a popular tourism destination.

What was the study conducted by researchers at Kaas Plateau?

Researchers studied the ancient lake to understand and decipher the past climate of the Kaas Plateau.

The study has found that there was a major shift in the Indian Summer Monsoons towards dry and stressed conditions with low rainfall during the Early-Mid-Holocene, around 8664 years BP.

Around the late Halocene (around 2827 years BP), there was a decrease in rainfall and a weakened southwest Monsoon.

However, during the recent past (around the last 1000 years), pollen, as well as the presence of a high number of planktonic and pollution-tolerant diatom taxa indicated lake eutrophication, possibly due to human impact and cattle/livestock farming in the catchment.

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86. [Scientists say the 'Anthropocene epoch' began in the 1950s: What it means, significance](#)

Source: The post is based on the article **“Scientists say the ‘Anthropocene epoch’ began in the 1950s: What it means, significance”** published in **Indian Express** on **13th July 2023**

What is the News?

According to the Anthropocene Working Group (AWG), sediments at Crawford Lake in Canada's Ontario have provided evidence of the beginning of the Anthropocene epoch.

What is the Anthropocene epoch?

Anthropocene is a proposed epoch that denotes the present geological time interval, in which the Earth's ecosystem has gone through radical changes due to human impact.

The word Anthropocene is derived from the Greek words anthropo, for “man,” and cene for “new”.

The term was coined and made popular by biologist Eugene Storer and chemist Paul Crutzen in 2000.

There are numerous phenomena associated with this proposed epoch such as global warming, sea-level rise, ocean acidification, mass-scale soil erosion, the advent of deadly heat waves, deterioration of the biosphere and other detrimental changes in the environment.

What is the Anthropocene Working Group (AWG)?

Anthropocene Working Group (AWG) is an interdisciplinary research group dedicated to the study of the Anthropocene as a geological time unit.

It was established in 2009 as part of the Subcommittee on Quaternary Stratigraphy (SQS), a constituent body of the International Commission on Stratigraphy (ICS).

What did the Anthropocene Working Group (AWG) find out?

AWG has studied the sediments at Crawford Lake in Canada's Ontario. They have revealed that the Anthropocene epoch started sometime between 1950 and 1954.

However, scientists still debate whether the Anthropocene is different from the Holocene.

Moreover, the term Anthropocene has also not been formally adopted by the International Union of Geological Sciences (IUGS), the international organization that names and defines epochs.

The primary question that the IUGS needs to answer before declaring the Anthropocene an epoch is if humans have changed the Earth system to the point that it is reflected in the rock strata.

What is the Geological Time Scale?

The geologic time scale is the calendar for events in Earth's history.

It is divided into five broad categories: eons, eras, periods, epochs and ages. While eon is the broadest category of geological time, age is the smallest category.

Each of these categories is further divided into sub-categories. For instance, Earth's history is characterized by four eons, including Hadean (oldest), Archean, Proterozoic, and Phanerozoic (youngest).

Currently, we are officially in the Phanerozoic eon, Cenozoic era, Quaternary period, Holocene epoch and the Meghalayan age.

87. The first GSI survey of the Siachen

Source: The post is based on the article **“The first GSI survey of the Siachen”** published in **The Hindu** on **14th July 2023**

What is the News?

In 1958, V. K. Raina, a top Indian geologist, led the first Geological Survey of India expedition to the Siachen glacier.

This event is of historical and geostrategic significance as it puts to rest all myths to the effect that Pakistan was in control of the glacier since the beginning.

What is the Siachen glacier?



Siachen glacier is located in the Eastern Karakoram range in the Himalayas.

At 78 km long, Siachen Glacier is the longest glacier in the Karakoram and second longest in the world's non-polar areas. It is also the world's highest battlefield.

The glacier lies just northeast of Point NJ9842 where the Line of Control between India and Pakistan ends.

The Siachen has been an important bone of contention between India and Pakistan since 1984 when the Indian Army launched Operation Meghdoot to take control of the entire Siachen glacier.

The glacier's melting waters are the main source of the Nubra River in the Indian region of Ladakh which drains into the Shyok River. The Shyok in turn joins the Indus River which flows through Pakistan.

Siachen Glacier also boasts of the world's highest helipad built by India at Point Sonam, 21,000 ft (6,400 m) above the sea level, to supply its troops. India also installed the world's highest telephone booth on the glacier.

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88. [Low-energy-consuming switchable smart windows developed based on novel architecture for confining liquid crystals](#)

Source: The post is based on the article “**Low-energy-consuming switchable smart windows developed based on novel architecture for confining liquid crystals**” published in **PIB** on **13th July 2023**

What is the News?

Researchers have developed a novel technique for confining liquid crystals in an architecture known as hierarchical double networks of polymers.

This technique can provide next-generation solutions for low-energy consumption on-demand switchable smart windows that operate between low and high transmittance.

What are Polymers?

The term polymer is defined as very large molecules having high molecular mass ($10^3 - 10^7$ u).

These are also referred to as macromolecules, which are formed by joining of repeating structural units on a large scale.

The repeating structural units are derived from some simple and reactive molecules known as monomers and are linked to each other by covalent bonds. The process of formation of polymers from respective monomers is called polymerisation.

Types of Polymers: Under this type of classification, there are three sub categories:

- **Natural polymers:** These polymers are found in plants and animals. Examples are proteins, cellulose, starch, some resins and rubber.
- **Semi-synthetic polymers:** These are those that are derived from nature itself but are made to undergo chemical processes to enhance their quality. Cellulose derivatives such as cellulose acetate (rayon) and cellulose nitrate etc. are the usual examples of this sub category.
- **Synthetic polymers:** These are those which are human-made polymers. Some examples of synthetic polymers are: plastic (polythene), synthetic fibres (nylon 6,6) and synthetic rubbers (Buna – S).

What are Interpenetrating polymer networks?

Interpenetrating polymer networks are soft matter systems that innovatively optimize different functionalities such as mechanical, optical, and electrical properties to provide novel solutions in engineering and biomedical applications.

A specific class of these architectures called as **hierarchical double networks** synergistically combine rigid and soft networks to realize thermal, electrical, and optical properties.

89. [European Parliament asks India to act promptly to end Manipur violence](#)

Source: The post is based on the article “**European Parliament asks India to act promptly to end Manipur violence**” published in **The Hindu** on **14th July 2023**

What is the News?

The European Parliament has adopted a resolution on Manipur violence.

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What does the European Parliament resolution on Manipur violence say?

Firstly, it called on the Indian government to act “promptly” to halt the violence in Manipur and protect religious minorities.

Secondly, it also calls on authorities to grant unhindered access to the area by journalists and international observers and to end Internet shutdowns.

Thirdly, it asks the Indian government to repeal the unlawful Armed Forces Special Powers Act in line with the recommendations of the UN Universal Periodic Review.

Fourthly, it asserted that the EU should make human rights prominent in its dialogue and relationship with India.

What was India’s response to the resolution?

The Ministry of External Affairs (MEA) has called the resolution move “unacceptable” and reflective of a “colonial mindset”.

It said that the Indian authorities at all levels including the judiciary, are monitoring the situation in Manipur and are taking steps to maintain peace and harmony and law and order.

90. [PM Modi in France: What is Bastille Day, whose celebrations he will attend?](#)

Source: The post is based on the article “**PM Modi in France: What is Bastille Day, whose celebrations he will attend**” published in **Indian Express** on **13th July 2023**

What is the News?

The Indian Prime Minister will be attending the French National Day celebrations as the Guest of Honour.

The National Day of France is celebrated on July 14 also known as Bastille Day and is marked by a long military parade, along with dancing and other merriment.

Note: Before the present PM Modi, Prime Minister Manmohan Singh had attended Bastille Day celebrations in 2009.

What is Bastille Day?

Bastille Day is the name given to the National Day of France, which is celebrated on 14 July each year.

The day signifies the start of the French Revolution, more than 200 years ago.

What happened on Bastille Day?

In 1789, people were unhappy with King Louis XVI’s reign, which had been dominated by food shortages and high taxes.

After outbreaks of violence on the streets of Paris, an armed mob surrounded Bastille on the morning of 14 July.

They stormed the Bastille prison and as word spread, the French Revolution was born.

The mob chose Bastille because people were imprisoned here simply because the King said so, without trial and without publicly stated causes.

The monarchy was eventually overthrown and Louis XVI and his wife Queen were executed.

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91. [Tropical waters have turned green in colour, courtesy climate change: Study](#)

Source: The post is based on the article “**Tropical waters have turned green in colour, courtesy climate change: Study**” published in **Down to Earth** on **12th July 2023**

What is the News?

A recent study has indicated that Tropical Ocean waters are turning Green in colour due to alteration in phytoplankton communities.

About the Study:

The study has found that 56% of the global ocean — a territory larger than the total land area on Earth — experienced color change between 2002 and 2022.

Tropical ocean regions near the Equator seem to have become greener over time. The southern Indian Ocean, in particular, has seen a significant colour change.

What does green color in oceans indicate?

Green-coloured water indicates life, especially phytoplankton, which are microscopic plant-like organisms. Blue, in contrast, indicates little life.

The colour also determines the amount of carbon dioxide absorbed by the ocean. Currently, oceans absorb 25% of all carbon dioxide (CO₂) emissions.

Why are Tropical oceans turning green in colour?

Researchers said that more work would be needed to find out what exactly those colour changes might mean. But they have said **climate change** was very likely to be the cause.

What is the impact of Climate Change on oceans?

Climate change threatens global oceans and the life that depends on them in multiple ways.

For instance, a 2020 study has warned that polar bears could largely disappear by the end of the century if global warming continues.

Another study found that half of the world’s coral reefs have already been killed by warmer waters and ocean acidification.

92. [India, France set to co-develop jet engine](#)

Source: The post is based on the article “**India, France set to co-develop jet engine**” published in **The Hindu** on **15th July 2023**.

What is the News?

The Indian Prime Minister has paid an Official Visit to France. He was the Guest of Honour at the [Bastille Day](#) Parade.

What are the key highlights from the Indian Prime Minister’s visit to France?

The Indian PM was conferred with the highest honour of France, the **Grand Cross of the Legion of Honour**, by the French President.

Joint Statement: India and France have issued a joint statement – “25th Anniversary of the Strategic Partnership between France and India: towards a Century of Indo-French Relations”. This sets the course for the France-India bilateral relationship in all areas till 2047.

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– Year 2047 will mark: 100 years of India’s Independence, 100 years of diplomatic relations between our two countries, and 50th year of the Indo-French strategic partnership.

– The roadmap for bilateral relations has three pillars: partnership for security and sovereignty; partnership for the planet; partnership for the people.

Defence: The two countries signed agreements on: 1) acquisition of 26 Rafale-M (the marine version) fighters for the Indian Navy 2) co-production of three more Scorpene class submarines at the public sector Mazagon Dock Shipbuilders Ltd and 3) joint development of a combat aircraft engine.

Indo-Pacific Roadmap: India and France have released India-France Indo-Pacific Roadmap.

– Under this roadmap, the two sides decided to work on finalizing an **Indo-French development fund** for third countries. This will enable joint financing of sustainable development projects in the Indo-Pacific region.

– India and France will also work to set up the Indo-French Health Campus for the Indo-Pacific, with the aim of making it a regional magnet for research and academia.

– In 2018, India and France agreed on a ‘Joint Strategic Vision of India-France Cooperation in the Indian Ocean Region.

Single-use plastic: India and France made a joint commitment to eliminate single-use plastic products pollution, including a ban on single-use plastic products which have low utility and high littering potential.

– The two countries have decided to constructively engage other like-minded countries to strengthen the negotiations for an international legally binding instrument to end plastic pollution.

93. New Scorpene class submarines for the Navy: Why they are a crucial buy

Source: The post is based on the article “**New Scorpene class submarines for the Navy: Why they are a crucial buy**” published in **Indian Express on 15th July 2023**

What is the News?

The Defence Acquisition Council has cleared proposals worth thousands of crores to buy three additional Scorpene submarines and 26 Rafale Marine fighter jets for the Navy.

What are Scorpene submarines?

The Scorpene submarines are conventional attack subs, meaning that they are designed to target and sink adversary naval vessels.

They are capable of launching a large array of torpedoes and missiles. They are also equipped with a range of surveillance and intelligence-gathering mechanisms.

These submarines use diesel electric propulsion systems, with an endurance – ability to operate independently without refueling – of approximately 50 days.

This sort of propulsion system alternates between using diesel (for functioning on the surface) and electric (for functioning underwater).

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How many Scorpene submarines does India have currently?

Mazagon Dock Shipbuilders Limited (MDL) is building six Scorpene class submarines under the Project-75, as part of a deal signed in 2005, which allowed for transfer of technology from the French defense firm, Naval Group.

Of these, five (INS Kalvari, INS Khanderi, INS Karanj and INS Vela) have already been commissioned and the last one (INS Vagir) will likely be commissioned early next year.

This project saw significant delays, with the first submarine originally slated for delivery in 2012.

What is the need of three additional scorpene class submarines?

The need to procure the three additional submarines was felt in the backdrop of the delayed deliveries of submarines under Project 75, as well as to bolster India's dwindling submarine fleet.

Currently, the Navy has 16 conventional submarines in service – seven of the Sindhughosh class (Russian Kilo class), four of the Shishumar class (modified German Type 209) and five of the Kalvari class (French Scorpene class). However, to carry out its full spectrum of operations the Navy needs at least 18 such submarines.

Moreover, at any given time, around 30% of the submarines are under refit, thus further bringing down the strength of operational submarines.

How are nuclear class submarines different from scorpene class submarines?

Nuclear submarines are known for their unlimited endurance – a nuclear reactor on a submarine has an operational life of up to 30 years.

As they are not propelled by batteries, these submarines only need to come to the surface for replenishing supplies for the crew. They are also able to move much faster than conventional submarines.

However, this is not to say that a navy should only choose to procure nuclear submarines. This is because:

First and foremost, nuclear submarines are expensive and require a significant amount of specialized experience to operate.

Second, with advancements in diesel electric technology, the range of conventional submarines as well as their stealth has gone up significantly.

94. [Chandrayaan-3 | India's third lunar odyssey begins with perfect launch](#)

Source: The post is based on the article "[Chandrayaan-3 | India's third lunar odyssey begins with perfect launch](#)" published in **The Hindu** on **15th July 2023**

What is the News?

Indian Space Research Organisation (ISRO) will launch the highly anticipated Chandrayaan-3 mission to the moon from the Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh.

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What is Chandrayaan-3?



Source: Indian Express

Chandrayaan-3 is India's third lunar mission.

It is a follow-on mission to Chandrayaan-2 to demonstrate end-to-end capability in safe landing and roving on the lunar surface.

Objectives: 1) To demonstrate Safe and Soft Landing on Lunar Surface 2) To demonstrate Rover roving on the moon and 3) To conduct in-situ scientific experiments.

Modules: The spacecraft consists of two parts — the propulsion and the Lander-rover modules.

- The propulsion module's main job is to take the lander-rover payloads to the moon. You can think of the propulsion module as a truck and the lander-rover payload as the cargo.
- After reaching the vicinity of the moon, the lander-rover payload will detach itself from the propulsion module and fall on to the moon.
- The lander has engines that will slow down the fall, so that it descends gently onto the moon rather than crash-landing on it.
- The rover is a tiny, trolley kind of device with wheels. Once the lander lands on the moon, the rover will slide out of the lander's belly and crawl over the moon's surface.
- Both the lander and the rover have instruments for experiments, such as analyzing the moon soil, checking how the moon's surface conducts heat, and how quake waves move through the moon surface.

Lander payloads: 1) Chandra's Surface Thermophysical Experiment (ChaSTE) to measure the thermal conductivity and temperature 2) Instrument for Lunar Seismic Activity (ILSA) for measuring the seismicity around the landing site 3) Langmuir Probe (LP) to estimate the plasma density and its variations and 4) passive Laser Retroreflector Array from NASA is accommodated for lunar laser ranging studies.

Rover payloads: 1) Alpha Particle X-ray Spectrometer (APXS) and 2) Laser Induced Breakdown Spectroscopy (LIBS) for deriving the elemental composition in the vicinity of the landing site.

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Significance: A successful soft landing will make India the fourth country, after the United States, Russia, and China, to achieve the feat.

[95. Union Minister leads Mangrove Plantation drive in Chengalpattu , Tamil Nadu as part of the Mangrove Initiative for Shoreline Habitats and Tangible Incomes \(MISHTI\) scheme](#)

Source: The post is based on the article “**Union Minister leads Mangrove Plantation drive in Chengalpattu , Tamil Nadu as part of the Mangrove Initiative for Shoreline Habitats and Tangible Incomes (MISHTI) scheme**” published in **PIB** on **14th July 2023**

What is the News?

The Ministry of Environment, Forest and Climate Change has organized a mangrove plantation program at Kovalam Panchayat in Chengalpattu District in Tamil Nadu.

It was organized as part of the Mangrove Initiative for Shoreline Habitats and Tangible Incomes (MISHTI) scheme.

What is MISHTI Scheme?

The MISHTI Scheme was announced in the Budget 2023-24.

Objective: To take up mangrove reforestation and afforestation along the coastal districts of India by adopting best practices that already exist in India as well as from other countries including Indonesia.

– To develop mangrove associated ecotourism initiatives and livelihood generation in coastal states.

Coverage: Currently, there is approximately 5000 sq kms of area under mangroves and through the MISHTI program an additional area of 540 sq km is proposed to be covered across 9 States and 4 Union Territories.

Duration of the scheme: The scheme is planned to be implemented for a period of five years from 2023-2024 to 2027-2028.

Funding: MISHTI is to be implemented by converging CAMPA Fund, MGNREGS, and other sources.

Significance: MISHTI will contribute to the efforts of ‘[Mangrove Alliance for Climate \(MAC\)](#)’ – an intergovernmental alliance for promotion of Mangrove, of which India became its active member during the (COP27)

[96. Skill India project successfully revives the dying Namda Art of Jammu and Kashmir](#)

Source: The post is based on the article “**Skill India project successfully revives the dying Namda Art of Jammu and Kashmir**” published in **PIB** on **14th July 2023**

What is the News?

The Union Minister of State for Skill Development and Entrepreneurship has flagged off the first batch of Namda Art products for export to the United Kingdom (UK).

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What is Namda Art?



Namda is a type of traditional Kashmiri rug (rug is *something made of woven fabric that covers a floor*).

It is made of sheep wool through felting technique instead of the normal weaving process.

Note: Felting is the process of producing a textile or fabric by combining and compressing the loose fibers, wool or hair.

What has the government done to revive the Namda Art?

Due to low availability of raw material, lack of skilled manpower and marketing techniques, the export of Namda craft has declined almost 100 percent between 1998 and 2008.

To preserve this craft, the government has launched a project to revive the Namda craft under a Skill India's Pilot Project as part of the [Pradhan Mantri Kaushal Vikas Yojana \(PMKVY\)](#).

Under this project, nearly 2,200 candidates have been trained in the art of Namda craft, representing a significant milestone in preserving this traditional craft and empowering the local weavers and artisans.

This project sets a great example of the public-private partnership (PPP) model in the field of skill development, as it is being implemented in collaboration with local industry partners.

[97. Union Minister of Cooperation inaugurates the National Mega Conclave on FPO in the cooperative sector](#)

Source: The post is based on the article **“Union Minister of Cooperation inaugurates the National Mega Conclave on FPO in the cooperative sector”** published in **PIB** on **14th July 2023**

What is the News?

The Union Minister of Cooperation has addressed the National Mega Conclave on Farmer Producer Organisations (FPO) in the cooperative sector.

The minister also released an action plan for the formation of 1,100 new FPOs by Primary Agricultural Credit Societies (PACS).

What are the key highlights from the address of the Minister at the conference?

On Cooperatives sector in India: Cooperatives in India can be divided into three categories: 1) states, where the cooperative movement has been successful in advancing and strengthening itself 2) states, where the cooperative movement is still going on and 3) States, where the cooperative movement is almost dead.

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– About 65 crore people in India are engaged in agriculture. Hence, it is important to revive the cooperative movement, modernize it, bring transparency in it and aim to achieve new heights.

On FPOs: The idea of Farmer Producer Organisations (FPO) was conceived in 2003 by the Yogendra Alagh Committee.

– Currently, 11,770 FPOs are working in the country and through these and through these, lakhs of farmers of the country have been successful in increasing their income.

– It was announced in the budget to set up 10,000 FPOs and the target is to achieve this by the year 2027.

Importance of Agriculture and allied activities: Agriculture, animal husbandry and fisheries sectors are the backbone of the country's economy and strengthening them will strengthen the country's economy.

– The three sectors together make up 18 percent of India's GDP, but are never discussed in the country.

– Unlike manufacturing, if agriculture, animal husbandry and fisheries sectors are strengthened through cooperatives, then employment opportunities will increase along with the GDP.

Agriculture Budget: The budget allocation for the agriculture sector has increased by 5.6 times. In 2013-14, the agriculture budget was Rs 21,000 crore, it has now increased to Rs 1.15 lakh crore in the year 2023-24.

98. [Govt effort on to curb vector-borne diseases](#)

Source: The post is based on the article “Govt effort on to curb vector-borne diseases ” published in **Livemint** on **15th July 2023**

What is the News?

The Union health ministry has sounded the alarm on a vector-borne disease outbreak with record rainfall in North India creating a favourable breeding ground for disease-carrying mosquitoes.

What are Vector Borne Diseases?

Vector-borne diseases are human illnesses caused by parasites, viruses and bacteria that are transmitted by vectors.

Every year there are more than 700,000 deaths from diseases such as malaria, dengue, schistosomiasis, human African trypanosomiasis, leishmaniasis, Chagas disease, yellow fever, Japanese encephalitis and onchocerciasis.

The burden of these diseases is highest in tropical and subtropical areas, and they disproportionately affect the poorest populations.

Since 2014, major outbreaks of dengue, malaria, chikungunya, yellow fever and Zika have afflicted populations, claimed lives, and overwhelmed health systems in many countries.

Other diseases such as Chikungunya, leishmaniasis and lymphatic filariasis cause chronic suffering, life-long morbidity, disability and occasional stigmatization.

What are the steps the government is taking against vector borne diseases?

Government has issued advisories to states and Union Territories (UTs) to collaborate with the respective civic agencies and take prompt action against vector borne diseases.

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Note: India has set ambitious goals to eliminate kala-azar by 2023 and eradicate malaria and lymphatic filariasis by 2030.

99. Data Protection Bill poses severe restrictions to RTI Act, NCPRI cautions govt.

Source: The post is based on the article “**Data Protection Bill poses severe restrictions to RTI Act, NCPRI cautions govt.**” published in **The Hindu** on **15th July 2023**

What is the News?

The National Campaign for Peoples’ Right to Information (NCPRI) has warned that the Digital Personal Data Protection (DPDP) Bill will severely restrict the scope of the Right to Information (RTI) Act.

How does the Digital Personal Data Protection (DPDP) Bill affect the Right to Information (RTI) Act?

Digital Personal Data Protection Bill (DPDP Bill) seeks to amend the Section 8(1)(j) of the RTI Act.

According to Section 8(1)(j) of the RTI Act, in order to deny personal information at least one of the following grounds has to be proven: 1) information sought has no relationship to any public activity or information sought has no relationship to any public interest or 2) information sought would cause an unwarranted invasion of privacy and 3) PIO/appellate authority is satisfied that there is no larger public interest that justifies disclosure.

The Bill proposes to remove all these exemptions prohibiting government agencies from sharing private information of any kind, regardless of the public interest it may entail.

This will severely restrict the scope of the RTI Act and adversely impact the ability of people to access information.

100. Export Preparedness Index (EPI) Report, 2022

Source: The post is based on the article “**Export Preparedness Index (EPI) Report, 2022**” published in **PIB** on **14th July 2023**

What is the News?

NITI Aayog will be releasing the third edition of Export Preparedness Index (EPI) for States/UTs of India for the year 2022.

What is the Export Preparedness Index (EPI)?

EPI is a comprehensive tool which measures the export preparedness of the States and UTs in India.

Aim: To undertake a comprehensive analysis of States and UTs across export-related parameters in order to identify their strengths and weaknesses.

- To present a comprehensive picture of states and UT’s export preparedness.
- To highlight the achievements of states/UTs and encourage peer-learning among the states/UTs to uphold the spirit of competitive federalism.

Pillars: The index assess the performance of the States and UTs across **four pillars:**

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- **Policy Pillar** evaluates states and UTs' performance based on its adoption of the export-related policy ecosystem at a state and district level as well as the institutional framework surrounding the ecosystem.
- **Business Ecosystem** assesses the prevailing business environment in a state/UT, along with the extent of business-supportive infrastructure, and a state/UTs' transport connectivity.
- **Export Ecosystem** focuses on the export-related infrastructure in a state/UT along with the trade support provided to the exporters, and the prevalence of Research and Development in the state/UT to foster innovation.
- **Export Performance** is an output-based indicator which gauges the growth of a state's export over the previous year and analyzes its export concentration and footprint on the global markets.

101. [What is the Guillain-Barré Syndrome?](#)

Source: The post is based on the article “**What is the Guillain-Barré Syndrome?**” published in **Indian Express** on **14th July 2023**

What is the News?

The Peruvian Government has declared a state of national emergency for up to three months due to a spike in the number of cases of a rare neurological disorder called Guillain-Barré Syndrome.

What is Guillain-Barré Syndrome?

Guillain-Barré Syndrome is a rare neurological disorder where the body's immune system — which normally protects it from infections and other foreign bodies — mistakenly attacks its own peripheral nerve cells.

In most cases of GBS, the immune system damages the myelin sheath. (Myelin sheath is an insulating layer of fat and protein that surrounds the nerve cells. It enables signals to pass through the nerve tracts at breakneck speed under normal conditions).

What causes Guillain-Barré Syndrome?

The exact reasons for Guillain-Barré Syndrome are not yet understood. However, it often develops shortly after a person gets an infectious disease.

Rarely, vaccinations can cause it. Guillain-Barré Syndrome was also linked to the cytomegalovirus, Epstein Barr virus, Zika virus and even the COVID-19 pandemic.

What are the types of Guillain-Barre syndrome?

GBS has three forms:

Acute inflammatory demyelinating polyradiculoneuropathy(AIDP) is the most common form found in North America and Europe. The most common sign of this form is muscle weakness that starts in the lower body and spreads to the upper body.

Miller Fisher syndrome(MFS): In this, the paralysis starts with the eyes. This syndrome is less common in the US, and more common in Asia.

Acute motor axonal neuropathy is more common in China, Japan, and Mexico.

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Is Guillain-Barré Syndrome curable?

Currently, there is no certain cure for Guillain-Barré Syndrome. The paralysis not only affects the legs and arms, but also important parts of the nervous system that regulate breathing, blood pressure and heartbeat.

102. [How safe is your car? All about BharatNCAP](#)

Source: The post is based on the article “**How safe is your car? All about Bharat NCAP**” published in **Livemint** on **17th July 2023**

What is the News?

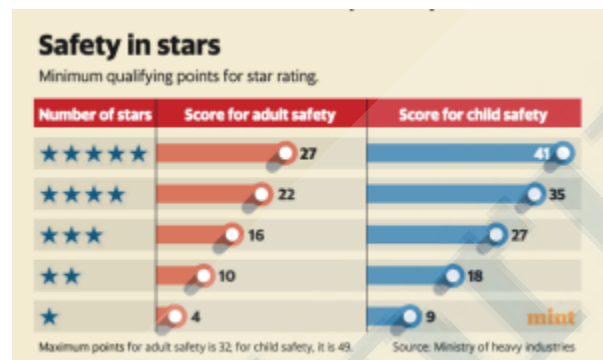
India will get its own crash safety star rating for four-wheelers called Bharat New Car Assessment Programme (NCAP) from 1st October, 2023. This will help make cars safer than they are today.

What is Bharat New Car Assessment Programme (NCAP)?

Bharat NCAP is a new safety assessment programme for passenger vehicles that can seat up to eight people and weigh less than 3.5 tonnes.

As part of the programme, cars will be crash-tested and given points which in turn would translate into stars. The safest of the lot will get five stars.

How will the cars be tested?



Source: Livemint

There will be three types of crash tests — frontal, side and pole-side impact tests. Scoring would be done for both adult safety for front passengers and child safety at the rear.

Out of a maximum 32 points for adult safety, a car would have to score at least 27 for a 5-star rating.

For child safety, a 5-star rating would be awarded for those cars that score a minimum 41 out of 49 points.

Will all cars come with star ratings from 1 October?

Bharat NCAP will be rolled out from 1 October but it will be voluntary, so cars will only be tested at the request of makers.

What's the point if it is not mandatory?

Even in developed countries, NCAPs are mostly voluntary. They are aimed at nudging firms to offer more than the basic safety features by sparking competition.

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What is the significance of Bharat NCAP?

Firstly, it will bring India at par with other parts of the world like the US, Europe, Japan, Australia and Latin America that have NCAPs of their own.

Secondly, it will bring about more transparency, create awareness among consumers and help buyers choose cars based on their safety credentials.

103. [Lightning not a natural disaster, says Centre](#)

Source: The post is based on the article **“Lightning not a natural disaster, says Centre”** published in **The Hindu** on **17th July 2023**

What is the News?

The Union Government is not in favour of declaring Lightning a natural disaster as deaths caused by it can be prevented by making people aware of safety steps.

What is Lightning?

[Click Here to read](#)

Deaths due to Lightning:

National Crime Records Bureau (NCRB) data show that 2,880 people died in lightning strikes in 2021. The deaths made up 40% of all accidental deaths caused by “forces of nature”.

The frequency of lightning was the highest in northeastern States and in West Bengal, Sikkim, Jharkhand, Odisha and Bihar.

But the number of deaths is higher in the central Indian States of Madhya Pradesh, Maharashtra, Chhattisgarh and Odisha.

Steps taken to prevent Lightning deaths:

India is among only five countries in the world that has an early warning system for lightning — the forecast is available from five days to up to three hours.

Is Lightning categorized as a Natural Disaster in India?

Currently, Lightning is not categorized as a Natural Disaster in India.

Several states have been demanding that lightning deaths be covered as a natural disaster. Once this is notified, the victims will be entitled to compensation from the State Disaster Response Fund (SDRF). The Centre makes 75% of the contribution to the SDRF.

Cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslip, avalanche, cloudburst, pest attack, frost and cold wave are now considered disasters under the SDRF.

104. [Low-cost perovskite solar cells with superior thermal and moisture stability developed indigenously by Indian scientists](#)

Source: The post is based on the article **“Low-cost perovskite solar cells with superior thermal and moisture stability developed indigenously by Indian scientists”** published in **Department of Science and Technology’s website**.

What is the News?

Indian scientists have indigenously developed highly stable, low-cost Carbon-based perovskite solar cells.

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What is Perovskite?

A perovskite is a material that has the same crystal structure as the mineral calcium titanium oxide also known as Perovskite.

It was first found in the Ural Mountains and named after Lev Perovski who was the founder of the Russian Geographical Society.

Because of their unique crystal make-up, perovskites often display a number of interesting properties, including superconductivity, giant magnetoresistance, and ferroelectricity.

What are Perovskite Solar Cells(PSC)?

Perovskite Solar Cells(PSC) is a type of solar cell that includes a perovskite-structured compound, most commonly a hybrid organic-inorganic lead or tin halide-based material, as the light-harvesting active layer.

Perovskite Solar Cells(PSC) offer a promising alternative to traditional silicon solar cells as they have higher efficiencies and very low production costs.

However, Perovskite solar cells face the problem of degradation during operation when they come in contact with heat, moisture, light, and other environmental factors. This long-duration stability is a major hindrance in the large-scale commercialisation of the product.

What have the scientists developed?

Scientists have indigenously developed highly stable, low-cost Carbon-based perovskite solar cells with superior thermal and moisture stability which can help overcome the challenges of degradation during operation.

105. [Government forms new panel to review all NSO data](#)

Source: The post is based on the article “**Government forms new panel to review all NSO data**” published in **The Hindu on 17th July 2023**

What is the News?

The Ministry of Statistics and Programme Implementation (MoSPI) has replaced the Standing Committee on Economic Statistics (SCES) with a Standing Committee on Statistics (SCoS).

Why has the government decided to replace the Standing Committee on Economic Statistics (SCES) with the Standing Committee on Statistics (SCoS)?

The Standing Committee on Economic Statistics (SCES) was set up in late 2019.

It was tasked with examining economic indicators pertaining to the industrial sector, the services sector and the labour force statistics.

This meant that their purview was limited to datasets like the Periodic Labour Force Survey, the Annual Survey of Industries, the Index of Industrial Production and the Economic Census.

Hence, that's why SCoS has been set up with a broader mandate to review the framework and results of all surveys conducted under the National Statistical Office (NSO).

What are the functions of the Standing Committee on Statistics (SCoS)?

Chairman: Pronab Sen, India's first chief statistician and the former chairman of the National Statistical Commission (NSC), has been named as the chairman.

Members: The committee has 10 official members and four non-official members who are eminent academics. It can have up to 16 members.

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Mandate: To advise the Ministry on technical aspects for all surveys, such as sampling, design, survey methodology and finalization of results.

– To identify data gaps that need to be filled by official statistics, along with an appropriate strategy to plug those gaps.

– To explore the use of administrative statistics to improve data outcomes.

Role of National Statistical Commission (NSC): The committee will help finalize survey results. But the NSC will have the ultimate authority to approve the publication of those results.

106. [How gaps in cloud system configuration could expose sensitive user data](#)

Source: The post is based on the article “**How gaps in cloud system configuration could expose sensitive user data**” published in **The Hindu** on **17th July 2023**

What is the News?

According to a 2023 survey by Thales Cloud Security, 35% of organizations in India note that their data was breached in cloud storage in 2022.

Moreover, 68% of businesses in India have said that more than 40% of data stored in the cloud is classified as sensitive.

What is cloud storage?

Cloud storage is a method through which digital data including files, business data, videos or images are stored on servers in off-site locations.

These servers may be maintained by the companies themselves or by third-party providers responsible for hosting, managing, and securing stored data.

These servers can be accessed either by the public or through private internet connections, depending on the nature of the data.

Why do companies use cloud storage?

Companies use cloud storage to store, access and maintain data so that they do not need to invest in operating and maintaining data centres.

An added advantage of cloud storage is its scalability — organizations can expand or reduce their data footprint depending on its needs.

What are the benefits and risks associated with Cloud Storage?

Benefits: Most cloud providers offer security features like physical security at data centers, in addition to zero-trust architecture, identity and access management and encryption to ensure the security of data on their servers.

Risks: Deployment of incompatible legacy IT systems and third-party data storage architecture.

– Use of weak authentication practices and easily guessable passwords can allow unauthorized individuals to access sensitive data.

– Data stored in the cloud also faces the risk of exposure due to insecure APIs, poorly designed or inadequate security controls, internal threats due to human error and inadequate encryption during transfer or storage.

Who is liable for data protection in the cloud?

The onus of ensuring data security lies with the companies even though they grant access to data to vendors and partners.

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If the data is sensitive in nature, it is the company's responsibility to make sure that a selected vendor has all the right checks in place and has conducted due diligence.

This includes checking cloud compliances like ensuring passwords have two-factor authentication, monitoring access to the database, ensuring it is encrypted and ensuring all firewall rules are set so that only access through certain places and certain departments is allowed.

107. [SC Collegium's quiet transparency is driving change](#)

Source: The post is based on the article **"SC Collegium's quiet transparency is driving change"** published in **The Hindu** on **17th July 2023**

What is the News?

The Supreme Court Collegium under the present Chief Justice of India D.Y. Chandrachud has quietly and transparently streamlined the appointment process of judges to the constitutional courts.

What are steps taken by CJI to ensure transparency in appointment of judges?

While recommending appointments to the Supreme Court, the collegium takes into consideration the following three aspects:

Seniority of Chief Justices and senior puisne Judges in their respective parent High Courts as well as overall seniority of the High Court judges:

The merit, performance and integrity of the judges under consideration: For this, the judgments of the judges are circulated among the members of the collegium, well in advance.

- The Centre for Research & Planning of the court also prepares a compilation of relevant background material to assist the collegium.
- There is also a Judgment Evaluation Committee which goes through the judicial work of the candidates with a fine-tooth comb. The judgments are graded with the very best receiving an "outstanding" grade.

Need to ensure diversity and inclusion in the Supreme Court: It refers to the 1) representation of High Courts which are not represented or are inadequately represented in the Supreme Court 2) appointment of persons from marginalized and backward segments of society 3) gender diversity and 4) representation of minorities.

108. [China event raises concern over India's only ape](#)

Source: The post is based on the article **"China event raises concern over India's only ape"** published in **The Hindu** on **17th July 2023**

What is the News?

Global Gibbon Network (GGN) held its first meeting in China to discuss conservation of Hoolock Gibbon.

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What is Hoolock Gibbon?



Hoolock Gibbon is the only ape found in India.

It is native to eastern Bangladesh, India, Myanmar, and Southwest China.

In India, they are confined to the seven states of northeast India with Brahmaputra as the distribution boundary.

They form an arboreal species and prefer to live in canopies of the evergreen forests in northeast India.

They traverse across the canopy using their very long forelimbs hanging and jumping from branch to branch.

Along with this, they are famous for their loud holou calls (that inspires their name “Hoolock”) and duets which both male and female of a group indulge in.

Threats: Hoolock gibbon faces threat primarily from the felling of trees for infrastructure Projects.

How many species of Hoolock Gibbon are there in India?

According to Zoologists, Northeast of India houses two species of the ape — the eastern hoolock gibbon (*Hoolock leuconedys*) found in a specific region of Arunachal Pradesh and the western hoolock gibbon (*Hoolock hoolock*) distributed elsewhere in the Northeast.

But a study led by Hyderabad-based Centre for Cellular and Molecular Biology (CCMB) in 2021 proved through genetic analysis that there is only one species of ape in India. It debunked earlier research that the eastern hoolock gibbon was a separate species based on the colour of its coat.

However, the Red List maintained by the International Union for Conservation of Nature (IUCN) categorizes the **Western hoolock gibbon** as **Endangered** and the **Eastern hoolock gibbon** as **Vulnerable**.

109. [India and Indonesia announce launch of the “India – Indonesia Economic and Financial Dialogue” \(EFD Dialogue\)](#)

Source: The post is based on the article “**India and Indonesia announce launch of the “India – Indonesia Economic and Financial Dialogue” (EFD Dialogue)**” published in **PIB on 16th July 2023**

What is the News?

India and Indonesia have announced the launch of the “India – Indonesia Economic and Financial Dialogue”.

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This platform was launched during the G20 Finance Ministers and Central Bank Governors (FMCBG).

What is India – Indonesia Economic and Financial Dialogue(EFD)?

Aim: To enhance collaboration on bilateral and international economic and financial matters by bringing together economic policymakers and financial regulators from both countries.

Areas of cooperation include: macroeconomic challenges and global economic prospects, bilateral investment relations, and cooperation in G20 and ASEAN matters.

Significance: EFD Dialogue will not only deepen the bilateral relationship between India and Indonesia, but also contribute to the broader economic and financial stability of Southeast Asia and the world.

How much is the Bilateral Trade between India and Indonesia?

The evolution of India's 'Look East Policy' in 1991, followed by the 'Act East Policy', has facilitated a rapid development in bilateral relations between India and Indonesia particularly in the commercial and cultural fields.

Indonesia has emerged as India's largest trading partner in the ASEAN region, with our trade seeing an eightfold increase since 2005, reaching an impressive \$38 billion in FY 2022-23.

110. Western Ghats lost 5% evergreen forest cover, shows analysis

Source: The post is based on the article “**Western Ghats lost 5% evergreen forest cover, shows analysis**” published in **The Hindu on 14th July 2023**

What is the News?

According to Western Ghats Spatial Decision Support System(WGSDSS), Western Ghats, which is among 36 global biodiversity hotspots, has seen a loss of 5% evergreen forest cover.

What is Western Ghats Spatial Decision Support System(WGSDSS)?

Launched by: Indian Institute of Science's Energy and Wetlands Research Group

Purpose: It is a web portal that has been designed as part of the ongoing ecological research in the Western Ghats.

What did this web portal find about the Western Ghats?

Loss of Forest Cover: Western Ghats has seen a loss of 5% evergreen forest cover with an increase of 4.5% built-up cover, and 9% agriculture area.

– The interior forest constitutes only 25% of the forest landmass, depicting the fragmentation pressure, impacting local ecology.

Ecological Sensitivity or Fragility: Ecological sensitivity or fragility refers to permanent and irreparable loss of extant life forms or significant damage to the natural processes of evolution and speciation with the alterations in the ecological integrity of a region.

– Researchers have classified the vulnerability of the regions in the Western Ghats into four categories of Ecologically Sensitive Regions (ESR) — very high ecological fragility, high ecological fragility, moderate ecological fragility, and low ecological fragility.

– The ESR analysis of the Western Ghats depicts 63,148 square km area under very high ecological fragility, 27,646 square km under high ecological fragility, 48,490 square km as moderate, and 20,716 square km as low ecological fragility.

Recommendations: Western Ghats region witnessed large-scale land cover changes during the past century due to unplanned developmental activities with industrialisation and globalization.

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– This necessitates implementing mitigation measures involving stakeholders to address the impacts through location-specific conservation measures.

111. [How India and UAE are planning to promote use of local currencies for cross-border transactions](#)

Source: The post is based on the article “**How India and UAE are planning to promote use of local currencies for cross-border transactions**” published in **Indian Express** on **15th July 2023**

What is the News?

India and the United Arab Emirates (UAE) have signed a pact to establish a framework to promote the use of the rupee and UAE Dirham (AED) for cross-border transactions.

What is the mechanism being setup by India and UAE to promote use of local currencies for cross-border transactions?

The mechanism for the use of local currencies for transactions between India and the UAE aims to put in place a Local Currency Settlement System (LCSS).

This system would enable exporters and importers to invoice and pay in their respective domestic currencies.

India is likely to use this mechanism to pay for crude oil as well as other imports from the UAE, which is currently made in US dollars.

Note: Bilateral trade between India and the UAE was around \$85 billion in FY23. India is also the third largest oil importer in the world and the UAE was its fourth biggest supplier of crude.

What are the expected benefits of this mechanism?

Firstly, it would enable the development of an INR-AED foreign exchange market.

Secondly, this arrangement would also promote investments and remittances between the two countries.

Thirdly, the use of local currencies would optimize transaction costs and settlement time for transactions, including for remittances from Indians residing in the UAE.

Why has India signed this mechanism with the UAE?

The move to ink the pact with the UAE is part of a concerted policy effort by India to internationalize the rupee to bring down the dollar demand as a means to insulate the domestic economy from global shocks.

Government officials had earlier indicated that apart from Russia, countries in Africa, the Gulf region, Sri Lanka and Bangladesh had also expressed interest in trading in rupee terms.

112. [Union Minister says, India has developed the world's latest Steel Slag Road technology](#)

Source: The post is based on the article “**Union Minister says, India has developed the world's latest Steel Slag Road technology**” published in **PIB** on **17th July 2023**

What is the News?

The Union Minister of Science & Technology has announced that India has developed the world's latest Steel Slag Road technology.

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What is Slag?

Slag is made up of impurities melted out of the ore during the steel-making process in most of the Steel Plants.

Use of Steel Slag in Road construction:

CSIR- Central Road Research Institute (CRRI), New Delhi has pioneered the development of use of Steel slag in road construction.

In 2022, Surat in Gujarat became the first city in the country to get a processed steel slag (industrial waste) road.

The Border Roads Organisation (BRO) has also used steel slag to construct a long-lasting heavy-duty road at Arunachal Pradesh along the India-China border area.

Besides, India's largest road building agency, National Highway Authority of India successfully tested the Steel Slag Road technology on NH-66 (Mumbai- Goa).

What are the advantages of using Steel Slag in road construction?

Environment friendly: India is the world's second largest steel producer. For per ton of steel production around 200 kg Steel slag is generated as solid waste.

– Steel slag generation in the country is about 19 Million tons per annum and expected to reach 60 million tons by 2030.

– This huge quantity of steel slag is piled up in and around the steel plants as big mounds and becoming the source of air, water, and land pollution.

– Hence, the use of steel slag in road construction is an environmentally friendly cost-effective method.

Cheaper: Steel slag road costs are about 30% cheaper than conventional making of roads.

Less Maintenance cost: Steel slag roads have been found to last ten years as compared to three to four years for bitumen roads, thus bringing down sharply the maintenance costs.

More durable: Steel slag roads are more durable and resistant to weather unpredictability.

113. [13.5 crore Indians move out of multidimensional poverty in five years: Niti Aayog report](#)

Source: The post is based on the article “**13.5 crore Indians move out of multidimensional poverty in five years: Niti Aayog report**” published in **The Hindu** on **18th July 2023**

What is the News?

Niti Aayog has published the second edition of National Multidimensional Poverty Index: A progress of Review 2023.

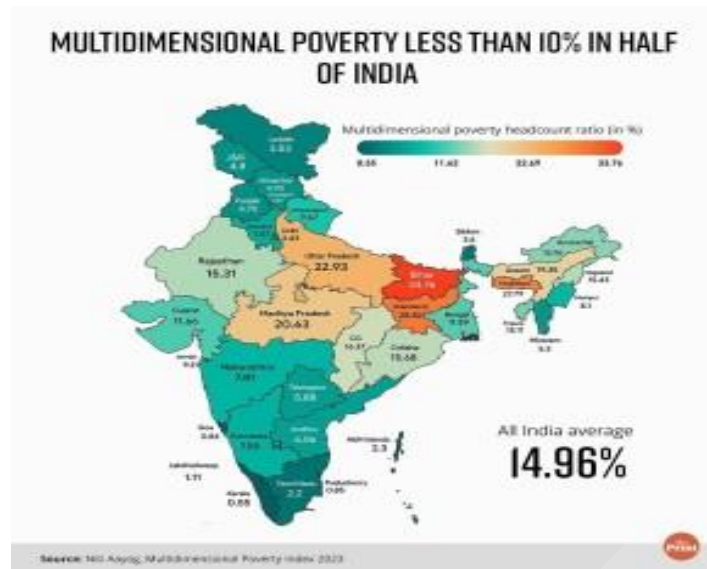
What is the National Multidimensional Poverty Index?

[Click Here to read](#)

National MPI 2023 is based on the latest National Family Health Survey (2019-21) and represents progress made by India in reducing multidimensional poverty between the two surveys, NFHS-4 (2015-16) and NFHS-5 (2019-21).

Factly Compilation for the Month of July 2023

What are the key findings of the National Multidimensional Poverty Index 2023?



Source: The Print

About **135.5 million (13.5 crore) persons have exited poverty** between 2015-16 and 2019-21.

– In 2015-16, one in four Indians (24.85%) met the criteria for multidimensional poverty. By 2019-21, this percentage decreased to 14.96% or one in seven.

Rural areas saw a faster reduction in their MPI value, compared to urban areas. The incidence of poverty fell from 32.59% to 19.28% in rural areas compared to a decline from 8.65% to 5.27% in urban areas between 2015-16 and 2019-21.

Uttar Pradesh has registered the **largest decline in the number of poor** with 3.43 crore people escaping multidimensional poverty.

The number of states with **less than 10 per cent people living in multidimensional poverty doubled** in the five years between 2016 and 2021.

– In 2015-16 (NFHS-4), only seven states had less than 10% of their population living in multidimensional poverty — Mizoram, Himachal Pradesh, Punjab, Sikkim, Tamil Nadu, Goa, and Kerala.

– In 2019-21 (NFHS-5), the list had doubled to include 14 states, with the seven new additions being Telangana, Andhra Pradesh, Haryana, Karnataka, Maharashtra, Manipur, and Uttarakhand.

Except for Bihar, no other state in India has more than one-third of its population living in multidimensional poverty.

– Even Bihar has also made remarkable improvement. In 2015-16, over 51.89 per cent of Bihar's population lived in multidimensional poverty. By 2019-21, the figure had dropped to 33.76 per cent.

114. [Why are Hollywood writers and actors on strike?](#)

Source: The post is based on the article **“Why are Hollywood writers and actors on strike?”** published in **The Hindu on 18th July 2023**

Factly Compilation for the Month of July 2023

What is the News?

Hollywood actors joined the ongoing strike of the Writers Guild of America (WGA) after their contract negotiations with studios broke down.

This is Hollywood's biggest labour fight in six decades and marks the first dual strike of both writers and actors since 1960.

Why are Hollywood writers and actors protesting?

Pay issues: The profits of the entertainment industry have increased from \$5 billion in 2000 to a whopping \$30 billion in 2019.

– But the average pay of the writer-producer position has gone down by 4% over the past decade. Adjusted for inflation, this is a 23% decline.

Use of Artificial Intelligence(AI): AI has emerged as a crucial area where actors and writers want production houses to limit the use of AI so their professions are not endangered in the near future.

– Writers are demanding that AI not be used to create new and unpaid content from their original work and their scripts not be used to train AI like language learning models.

– As for the actors, they do not want studios to use their AI-created likeness or performances without their consent or without compensation.

What is the economic impact of this strike?

The strike does not just affect its participants but a large number of those employed in production related jobs and tertiary industries such as costume, catering, lighting, for hire location providers, and so on.

The last writers' strike in 2007 which lasted 100 days cost \$2.1 billion to California's economy alone.

115. [RBI to detail SOP for banks to help expedite rupee trade](#)

Source: The post is based on the article “**RBI to detail SOP for banks to help expedite rupee trade**” published in **The Hindu** on **18th July 2023**

What is the News?

The Reserve Bank of India (RBI) is expected to issue a standard operating procedure for banks to expeditiously issue FIRC (Foreign Inward Remittance Certificate) and Electronic bank realization certificates(e-BRCs).

This is being done to overcome the problems faced by exporters with the [rupee-based trading mechanism for foreign trade](#).

What is FIRC (Foreign Inward Remittance Certificate)?

Fostering rupee trade

The RBI will soon urge banks to follow an SOP to expedite the issuance of FIRC and e-BRC certificates, says a govt. official



- Exporters had approached the Commerce Ministry citing delays in the generation of e-BRCs
- Due to the delay, exporters had a problem validating their exports and claiming any benefits
- The official adds that there was no bar on traders using any currency for international payments

Source: The Hindu

FIRC is a document that acts as a testimonial for all the inward remittances entering India.

Most of the statutory authorities accept this document as proof that an individual or a business, such as a limited company, partnership firm, sole proprietorship firm and others, has received a payment in foreign currency from outside the country.

What is an Electronic Bank Realization Certificate(e-BRC)?

An Electronic Bank Realization Certificate(e-BRC) is a vital digital certificate for export businesses.

A bank issues the e-BRC to confirm that the buyer made payment to the exporter against the export of services or goods.

Businesses availing export benefits under the Foreign Trade Policy (FTP) must produce a valid BRC. The BRC is the proof of realization of payment against exports.

116. [New guidelines for designation of senior advocates in the SC: What they say](#)

Source: The post is based on the article “**New guidelines for designation of senior advocates in the SC: What they say**” published in **Indian Express on 17th July 2023**

What is the News?

The Supreme Court has issued new guidelines on designating lawyers as ‘Senior Advocates’ in the apex court.

The guidelines were issued by the court following the judgment in the Indira Jaising Vs Supreme Court case, which modified the criteria.

What is a Senior advocate?

Section 16 (1) of the Advocates Act, 1961 states there shall be two classes of advocates, namely, senior advocates and other advocates.

Section 16 (2) allows an advocate to be designated as a senior advocate if he consents to it and if the Supreme Court or a High Court is of opinion that by virtue of his ability, he is deserving of such distinction.

What is Indira Jaising Vs Supreme Court case?

[Click Here to read](#)

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What are the new guidelines issued by the Supreme Court on designating lawyers as ‘Senior Advocates’?

Committee for Designation of Senior Advocates: All matters relating to the designation of Senior Advocates in the Supreme Court of India shall be dealt with by a Permanent Committee.

– The committee will be composed of the following: (1) Chief Justice of India Chairperson (2) Two senior-most Judges of the Supreme Court of India (3) Attorney General for India (4) A member of the Bar, nominated by the Chairperson and Members.

– The committee will meet twice a year. The Committee shall have a permanent secretariat. The composition of the Secretariat will be decided by the Chief Justice of India in consultation with the members of the Committee.

Eligibility to be designated as a Senior advocate: The candidates need to be at least ten years’ standing as an Advocate or ten years’ combined standing as an Advocate and as a District and Sessions Judge or as a Judicial Member of any Tribunal in India to be designated as Senior Advocates at the Supreme Court.

– They must practice mainly in the Supreme Court but advocates with domain expertise of practising before specialized Tribunals may be given concession.

– The age limit for applying for the designation of Senior Advocate is now 45 years unless the age limit is relaxed. The age limit can be relaxed by the Committee.

Role of Secretariat: The Secretariat of the Committee shall initiate the process for designation of Senior Advocate at least once every year by inviting applications from Advocates-on-Record/Advocates for designation as Senior Advocates.

— The Committee will examine each application on the basis of the data provided by the Secretariat and make its overall assessment on the basis of a point- based format.

– The points will be given to the advocate based on years of practice, pro-bono work undertaken, judgements, publications and a personality test.

– The Committee may short-list the number of candidates to be selected for interview by the Full Court comprising all judges.

– The Full Court may review its decision to designate a person as a Senior Advocate and recall the conferment of designation if the Advocate is found guilty of conduct which according to the Full Court disentitles him to designation.

117. [Rupee-dirham deal is bilateral: envoy](#)

Source: The post is based on the article **“Rupee-dirham deal is bilateral: envoy”** published in **The Hindu** on **18th July 2023**

What is the News?

The United Arab Emirates Ambassador to India has said that the India-UAE rupee-dirham deal signed is bilateral, and does not carry any agenda to “de-dollarize” the global economy.

What is the India-UAE rupee-dirham deal?

The Reserve Bank of India (RBI) and the Central Bank of the UAE has agreed to establish a framework for enabling the use of the two countries’ local currencies for cross-border transactions.

As per the memorandum of understanding between the two central banks, all current account payments, including those involving the two countries’ exporters and importers, and certain “permitted” capital account transactions could be settled using either the rupee or the dirham.

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To facilitate settlement, the two banks are set to put in place a Local Currency Settlement System and at a later date interlink their payments messaging systems.

What are the benefits of India-UAE rupee-dirham deal?

The immediate benefits of this settlement mechanism would be the development of a rupee-dirham foreign exchange market that would help in pricing the two currencies independent of their exchange rates with other currencies such as the dollar and the euro.

Indian and UAE businesses also would not need to factor in exchange rate risks when quoting to supply goods or services to buyers in the other country thus improving the ease of doing business and boosting trade.

What about the Air Service Agreement between India and UAE?

The discussions on revision of the Air Service Agreement (ASA) signed in 2014 between India and UAE has reached a deadlock.

UAE wants more flights to carry passengers from India. But India is reluctant to increase the number of seats between UAE cities including Dubai and some 15 Indian cities as it could take away business from Indian airlines.

As a result, data from travel portals show an increase in airfares of 45-50% to Dubai from New Delhi, Bengaluru and Kochi as compared with pre-COVID fares.

118. Climate change aiding spread of deadly virus in Europe: What is CCHF

Source: The post is based on the article “Climate change aiding spread of deadly virus in Europe: What is CCHF” published in **Indian Express on 18th July 2023**

What is the News?

According to the World Health Organization(WHO), Climate Change is helping in the spread of deadly viruses like Crimean-Congo haemorrhagic fever (CCHF).

What is Crimean-Congo haemorrhagic fever (CCHF)?

Crimean-Congo haemorrhagic fever(CCHF) is a viral haemorrhagic fever usually transmitted by ticks.

Hosts: The virus is present in the tick family of insects. Animals such as cattle, goats, sheep and hares serve as amplifying hosts for the virus.

Transmission: Transmission to humans occurs through contact with infected ticks or animal blood. CCHF can also be transmitted from one infected human to another by contact with infectious blood or body fluids such as sweat and saliva.

First detected in: The disease was first described in the Crimean Peninsula in 1944 and given the name Crimean hemorrhagic fever.

– In 1969 it was recognized that the pathogen causing Crimean haemorrhagic fever was the same as that responsible for an illness identified in 1956 in the Congo Basin.

– The linkage of the two place names resulted in the current name for the disease and the virus.

Endemic countries: CCHF is endemic in all of Africa, the Balkans, the Middle East and in Asia.

Fatality rate: CCHF outbreaks constitute a threat to public health services as the virus can lead to epidemics. It also has a high case fatality ratio (10–40%).

– The first fatality from the disease in Europe was in Spain. In India, **one person succumbed to CCHF last month in Gujarat.**

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Treatment: There is no vaccine for the virus in either humans or animals, and treatment generally consists of managing symptoms.

How is Climate Change amplifying the spread of viruses like CCHF?

As temperature patterns are disrupted, pathogens are thriving in geographies that traditionally had a climate hostile to them.

For instance, Europe is generally known for colder climate. But now it is reeling under heatwave and wildfires.

This warmer temperature expands the habitat of ticks and other insects and gives them more time to reproduce. This is leading to spread of viruses like Crimean-Congo haemorrhagic fever (CCHF).

119. [Poor no longer? Dimensions of poverty in India](#)

Source: The post is based on the article **“Poor no longer? Dimensions of poverty in India”** published in **Livemint** on **19th July 2023**

What is the News?

Niti Aayog has published the second edition of National Multidimensional Poverty Index: A progress of Review 2023.

What is Multidimensional Poverty(MDP)?

Historically, poverty estimation was done by largely focusing on income as the sole indicator.

However, there was criticism that monetary and consumption-based poverty measures fail to capture the impact of lack of other non-monetary factors on standard of living.

Niti Aayog's National Multidimensional Poverty Index is modeled on the Global Multidimensional Poverty Index. It captures overlapping deprivations in health, education and living standards.

Niti Aayog published the first National MPI baseline report for India in 2021.

How do we measure Multidimensional Poverty(MDP)?

National MPI divides these three broad indicators health, education and living standards into further dimensions.

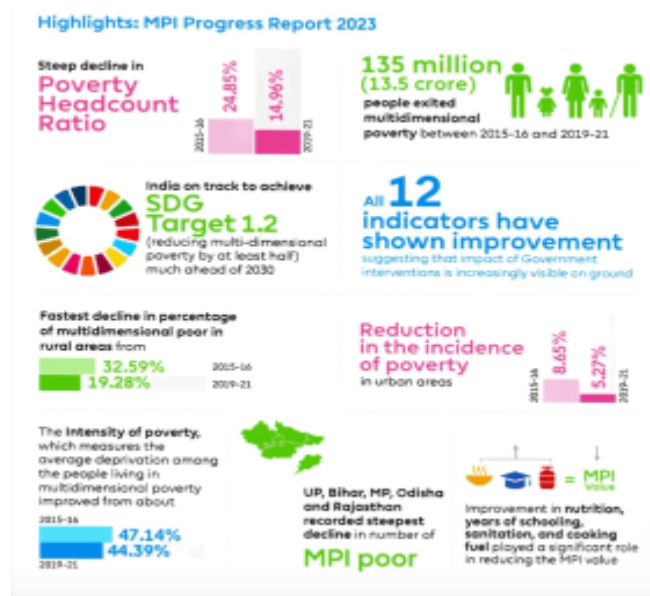
For instance, health includes nutrition, child-adolescent mortality and maternal health, while education considers years of schooling and school attendance.

All these indicators are weighed in to calculate the 'deprivation score'. The deprivation score is the sum of the weighted status of all the indicators for an individual.

If the deprivation score is more than 0.33, then an individual is considered multidimensionally poor.

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What are the key findings of National Multidimensional Poverty(MDP) 2023?



Source: Niti Aayog

A quarter of Indians were multidimensionally poor in 2015-16 which fell to 15% in 2019-21.

The decline was the highest in Bihar (51.9% to 33.8%), Madhya Pradesh (36.6% to 20.6%) and Uttar Pradesh (37.7% to 22.9%).

The southern states were already doing well, so their decline was tiny. Kerala had the lowest share of MDP persons: 0.55%.

The number of MDP Indians dropped by an estimated 135 million — that's 10% point drop over the five years.

Note: The global MPI has estimated India's MDP shares at 27.7% for 2015-16 and 16.4% for 2019-21.

[Click Here to read more](#)

How did India reduce multidimensional poverty so fast?

India achieved such rapid poverty reduction due to improvement in seven standard-of-living sub-indicators— cooking fuel, sanitation, drinking water, housing, electricity, assets, and bank accounts.

For instance, around 58 percent of Indians were deprived of clean cooking fuel in 2015-16, but by 2019-2021, it was only 44 per cent.

Similarly, the percentage of individuals lacking adequate sanitation facilities dropped from 51.88 per cent to 30.13 per cent.

However, when it comes to indicators like health and education, the reduction has not been so slow.

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120. [Peace and prosperity in Mekong region play pivotal role in India's Act East policy, says External Affairs Minister](#)

Source: The post is based on the article “**Peace and prosperity in Mekong region play pivotal role in India's Act East policy, says External Affairs Minister**” published in **The Economic Times** on **16th July 2023**

What is the News?

India's External Affairs Minister has addressed the 12th Mekong Ganga Cooperation (MGC) Mechanism meeting.

What is Mekong Ganga Cooperation(MGC)?

Mekong-Ganga Cooperation (MGC) was launched in 2000 at Vientiane, Lao PDR with the signing of the Vientiane Declaration.

The grouping was initially called **Ganga Suvarnabhumi Programme (GMSP)**.

Aim: Both the Ganga and the Mekong are civilizational rivers and the MGC initiative aims to facilitate closer contacts among the people inhabiting these two major river basins.

Members: It is an initiative by six countries – India and five ASEAN countries, namely, Cambodia, Lao PDR, Myanmar, Thailand and Vietnam.

Meetings: The MGC meetings are co-chaired alternately every year between India and one of the 5 Mekong countries.

Areas of cooperation: The four foundational areas of cooperation under MGC include tourism, culture, education, and transport & communication.

– It has further expanded to include new areas like health and traditional medicine, agriculture and allied sectors, small and medium enterprises, water resources management, science and technology, skill development, and capacity building.

What is the Quick Impact Project Initiative?

The Government of India announced the implementation of Quick Impact Projects(QIP) in CLMV (Cambodia, Lao PDR, Myanmar, and Vietnam) countries at the 6th Mekong Ganga Cooperation (MGC) Ministerial Meeting held in New Delhi in 2012.

Each QIP project costs not more than US\$ 50,000/.

The emphasis of QIPs is on short gestation high visibility projects with a normal gestation period of up to one year, which directly benefits the local communities with results that are immediate and visible.

The type of projects under QIP includes the creation or up-gradation of physical infrastructure such as roads, local community centers and social infrastructures such as in the education, health, sanitation, or community development sectors.

121. [Radio collars are killing the cheetahs in Kuno. Here is how — and why](#)

Source: The post is based on the article “**Radio collars are killing the cheetahs in Kuno. Here is how — and why**” published in **Indian Express** on **19th July 2023**

What is the News?

Two cheetahs died of suspected septicaemia from festering neck wounds caused by radio collars in Kuno National Park.

Factly Compilation for the Month of July 2023

What are Satellite or radio collars?

The cheetah's movements are tracked using satellite transmitters attached to the collars fitted around the neck of the animal.

With the help of Satellite Collar IDs, the wildlife officials can closely track their travels, activities and health.

The GPS in the collars is similar to that used in smartphones and other electronic devices. Satellites can easily identify the electronic signals that the GPS chips broadcast. It is designed in such a way that it won't be destroyed due to animal's movements.

Apart from the location, the tool is used to learn about the animal's physical state as it helps in communicating health-related information which can be used to determine whether the animal needs to be treated.

How cheetah's might have died due to Satellite or radio collars?

Carrying something on the body for long has its downsides. A study published in the Journal of Clinical and Diagnostic Research found a significantly higher presence of Staphylococcus aureus bacteria on the wrists of watch wearers compared to others. Staph getting into blood can lead to sepsis or death.

What are the factors that could have made the cheetahs in India more vulnerable due to collars than other big cats and individuals of the species in Africa?

Firstly, a 2020 study led by researchers from the UK criticized the 3% collar weight rule for not factoring in "animal athleticism". The researchers found that during movement, the forces exerted by collars were generally equivalent to up to five times the collar's weight for a lion — and a massive 18 times for a cheetah.

Secondly, pathogens that aggravated the wound under the collar could be novel either to the African cheetahs or to Indian conditions. These animals could be vulnerable to certain local pathogens to which Indian tigers and leopards may be immune.

122. [Indian group proposes radical new way to settle universe expansion dispute](#)

Source: The post is based on the article "**Indian group proposes radical new way to settle universe expansion dispute**" published in **The Hindu on 17th July 2023**

What is the News?

Researchers from the International Centre for Theoretical Sciences (ICTS), Bengaluru, the Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune, and University of California, Santa Barbara (UCSB), have proposed a new way to determine the Hubble constant.

What is Hubble Constant?

The Hubble constant is a unit that describes how fast the universe is expanding at different distances from a particular point in space.

It is one of the keystones in our understanding of the universe's evolution.

It gets its name from Edwin Hubble who was first to calculate the constant from his measurements of stars in 1929.

How is Hubble Constant measured?

Two details are required to calculate the value of the Hubble constant 1) distance between the observer and astronomical objects and 2) velocity at which these objects are moving away from the observer as a result of the expansion of the universe.

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So far, scientists have used three methods to get these details:

– **First method:** They compare the observed brightness of a stellar explosion, called a supernova, with its expected brightness to figure how far away it could be. Then they measure how much the wavelength of the light from the star has been stretched by the expansion of the universe – i.e. the redshift – to figure how much it's moving away.

– **Second method:** They use changes to the cosmic microwave background (CMB) – radiation leftover from the Big Bang event – to estimate the Hubble constant.

– **Third method:** They use gravitational waves, ripples in spacetime produced when massive astronomical objects – like neutron stars or black holes – collide with each other.

Drawbacks with these methods: Measurements from the first method have reported a Hubble constant about two units higher than the one derived by the second method. The third method hasn't yet matured enough to provide a precise measurement.

What is the new method proposed by scientists to understand universe expansion rate?

The new method proposed by the researchers uses **gravitational lensing**.

Gravitational lensing is when massive objects in space can warp spacetime. This bends all kinds of waves that travel near the objects, distorting them. The phenomenon is typically used to describe when light waves are bent.

As we have seen before, sometimes, extreme lensing of some objects can make them visually appear as multiple objects in the sky. Just like that, lensing can produce multiple copies of the same gravitational signal that can reach Earth at different times.

The researchers believe that the delays between the signals could be used to calculate the universe's expansion rate.

– **Note:** Scientists are yet to find lensed gravitational waves but there's good reason to believe that they will in the next two decades. This is because the upcoming generation of gravitational wave detectors are expected to be able to sense about a million gravitational waves a year.

123. [DGFT implements the Advance Authorisation Scheme, allows duty-free import of inputs for export purposes](#)

Source: The post is based on the article “**DGFT implements the Advance Authorisation Scheme, allows duty-free import of inputs for export purposes**” published in **PIB on 17th July 2023**

What is the News?

The Directorate General of Foreign Trade (DGFT) is implementing the Advance Authorisation Scheme.

What is an Advance Authorisation Scheme?

Directorate General of Foreign Trade(DGFT) implements the Advance Authorisation Scheme under the Foreign Trade Policy.

Purpose: The scheme allows duty-free import of inputs for export purposes.

– In addition to any inputs, packaging material, fuel, oil and catalyst which is consumed / utilized in the process of production of export products is also allowed.

– The quantity of inputs allowed for a given product is based on specific norms defined for that export product, which considers the wastage generated in the manufacturing process.

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124. [Tracking the new railway proposal for Kerala](#)

Source: The post is based on the article “**Tracking the new railway proposal for Kerala**” published in **The Hindu** on **19th July 2023**

What is the News?

Kerala has proposed a new semi-high speed train project expected as an alternative to the Silver Line project.

What is the new semi-high speed train proposed by Kerala?

The semi-high speed train will travel the 420-km Thiruvananthapuram-Kannur north-south corridor.

It will cover the distance in three and a half hours. It is expected to cruise at an average speed of 125 kmph.

It is being projected as an alternative to the Thiruvananthapuram -Kasargod [Silver Line project](#).

Why are high speed trains a priority?

Trains in Kerala are operating at rock-bottom speed. Even express trains in the State operate at an average speed of less than 50 kmph due to frequent stops, huge number of sharp curves.

What happened to the High Speed Rail Corridor and Silverline Project?

High Speed Rail Corridor: In 2014, Kerala government entrusted the Delhi Metro Rail Corporation (DMRC) with the task of readying a Detailed Project Report (DPR) for a high-speed rail corridor linking Thiruvananthapuram with the northernmost district Kasaragod. But the project was considered too ambitious and costly and failed to take off.

The Silver Line project has met with massive resistance as it was to be built over a tall embankment constructed over the ground, and would have led to massive displacement of people.

– Environmental activists and others expressed fears that this would worsen flooding in many areas, since the embankment would block natural flow of water even if drains and canals were built at intervals.

125. [India reports a record 93% DPT3 immunization coverage in 2022: WHO](#)

Source: The post is based on the article “**India reports a record 93% DPT3 immunization coverage in 2022: WHO**” published in **The Hindu** on **19th July 2023**

What is the News?

The WHO and UNICEF estimates for national immunization coverage for 2022 has been released recently.

As per the estimate, the coverage rate for DPT3 vaccine in India rose to an all-time high of 93% in 2022. This has surpassed the previous pre-pandemic best of 91% recorded in 2019.

What is DPT3 Vaccine?

The DPT vaccine or DTP vaccine is a class of combination vaccines against three infectious diseases in humans: diphtheria, pertussis (whooping cough), and tetanus.

The vaccine components include diphtheria and tetanus toxoids and either kill whole cells of the bacterium that causes pertussis or pertussis antigens.

Note: Toxoid vaccines use a toxin (harmful product) made by the germ that causes a disease. They create immunity to the parts of the germ that cause a disease instead of the germ itself.

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What does WHO and UNICEF say about the DPT3 vaccination coverage in the South-East Asia Region?

In the WHO South-East Asia Region, the coverage rate for DPT3 vaccine recovered to the pre-pandemic level of 91%, a sharp increase from the 82% recorded in 2021.

The number of zero-dose children (those that have not received even the first dose of DPT vaccine) halved to 2.3 million in 2022 from 4.6 million in 2021.

Similarly, the number of partially vaccinated children (those that have received at least one dose of DPT vaccine but did not complete the primary series of three doses) reduced to 6.5 lakh in 2022 from 1.3 million in 2021.

The region had the best immunization recoveries among all the WHO regions. This can be majorly attributed to the efforts being made by India and Indonesia.

126. [Tamil Nadu tops NITI Aayog export preparedness index 2022, Gujarat skids to 4th slot](#)

Source: The post is based on the article **“Tamil Nadu tops NITI Aayog export preparedness index 2022, Gujarat skids to 4th slot”** published in **The Hindu** on **19th July 2023**

What is the News?

NITI Aayog has released the third edition of Export Preparedness Index (EPI) 2022.

What is the Export Preparedness Index(EPI)?

[Click Here to read](#)

What are the key findings of Export Preparedness Index(EPI) 2022?

Topped by: Tamil Nadu has topped the index followed by Maharashtra and Karnataka.

– Gujarat, which held the top position in EPI 2021 (released in 2022) has been pushed to the fourth slot in EPI 2022.

Hilly States: Uttarakhand secured the top position among hilly/Himalayan states in the EPI 2022.

Landlocked States: Haryana topped the chart among the landlocked regions, indicating its preparedness for exports. It was followed by Telangana, Uttar Pradesh, Punjab, Madhya Pradesh, and Rajasthan.

Union Territories/Small States: Goa has ranked first followed by Jammu and Kashmir, Delhi, Andaman and Nicobar Islands, and Ladakh.

Districts: Out of the 680 districts engaged in exports, the top 100 districts contribute about 87% of the total exports from India.

– Among export districts, Jamnagar in Gujarat tops the index. It was followed by Surat, Mumbai Suburban, Mumbai, Pune, Bharuch and Kanchipuram.

India's exports: Despite global slowdown, India's exports in 2021-22 crossed an unprecedented USD 675 Billion, with trade in goods accounting for USD 420 billion.

– The value of merchandise exports crossed USD 400 billion in FY2022, an ambitious goal set by the government, reaching up to USD 422 billion by March 2022.

Recommendations: 1) Location-specific strategies to boost exports 2) Diversification of export markets (such as based on GI products) 3) Leveraging foreign markets using FTAs 4) Identifying high-growth sectors such as pharmaceuticals, automotive, textiles and renewable

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energy and 5) Improvement in data availability.

127. [India climbs seven points to 80 on Passport Index; Singapore at top position](#)

Source: The post is based on the article “**India climbs seven points to 80 on Passport Index; Singapore at top position**” published in **The Hindu** on **20th July 2023**

What is the News?

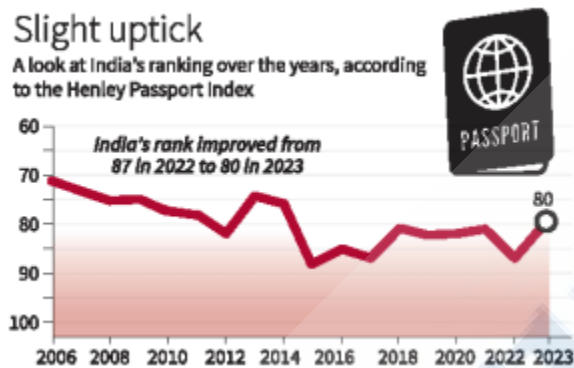
Henley Passport Index 2023 has been released by the consultancy firm named ‘Henley & Partners’.

What is the Henley Passport Index?

Henley Passport Index is the ranking of all the world’s passports according to the number of destinations their holders can access without a prior visa.

The index includes 199 passports and 227 travel destinations.

What are the key rankings of Henley Passport Index 2023?



Source: The Hindu

Globally: Singapore has topped the index. It is now officially the most powerful passport in the world with its citizens able to visit 192 travel destinations out of 227 around the world visa-free.

– Germany, Italy, and Spain occupied the second place.

– Japan, which occupied the top position Index for five years, has dropped to the third place.

India: India has climbed seven places in 2023 and is ranked at **80th position**. Indian citizens can now enjoy visa-free access to 57 destinations.

– In 2014, India was ranked 76 with 52 countries allowing Indian passport holders visa-free access but its performance has not been linear.

– It ranked 88 in 2015 (visa-free access to 51 countries), 85 in 2016, 87 in 2017, 81 in 2018, 82 in 2019 and 2020, and 81 in 2021.

What is the Henley Openness Index?

Henley Openness Index measures how many nations does a country allows visa-free access to.

The top 20 ‘most open’ countries are all small island nations or African states, except for Cambodia.

Here, India was ranked 94 out of a total of 97 ranks for allowing only four countries visa-free access.

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128. [40% of districts do not have nursing colleges, Health Ministry data show](#)

Source: The post is based on the article “40% of districts do not have nursing colleges, Health Ministry data show” published in **The Hindu** on **20th July 2023**

What is the News?

Recently, the Cabinet Committee on Economic Affairs has approved 157 new nursing colleges for 24 states and 3 union territories.

What is the present status of Nursing services in India?

Nursing services form the backbone of any medical establishment. India currently has close to 35 lakh nurses, but its nurse-to-population ratio is only 2.06:1000 against a global benchmark of 3:1000.

There has been a 36% growth in the number of institutions offering undergraduate nursing education since 2014-15 resulting in a 40% growth in nursing seats. But there is a regional skew within these statistics. **For instance:**

- About 64% of the nursing workforce is currently trained in just eight States.
- 42% of nursing institutions are concentrated in Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, and Telangana while 17% are in the western States of Rajasthan, Gujarat, and Maharashtra.
- Only 2% of nursing colleges are in the northeastern States.
- There are no nursing colleges in 40 percent of districts across India.
- The growth of nursing colleges also lags far behind the 81% growth rate of medical colleges with the number of undergraduate and postgraduate medical seats surging at 110% and 114%, respectively, since 2014-15.

What does the WHO say on the global nursery workforce?

According to the WHO, approximately 27 million men and women make up the global nursing and midwifery workforce, accounting for nearly 50% of the global health workforce.

There is a global shortage of health workers, in particular nurses and midwives, who represent more than 50% of the current shortage in health workers.

The largest shortages of nurses and midwives are in Southeast Asia and Africa.

What is the scheme launched by the Government of India to address shortage of nurses?

Government has approved 157 new nursing colleges for 24 states and 3 union territories.

The nursing colleges will be set up in co-location with the existing medical colleges in India.

Funding: The financial contribution of the central government for the project will be Rs 1570 crore.

- The central government will provide Rs 10 crore for setting up these colleges and the state governments can invest in the remaining amount depending upon the project report to be prepared for each college.

Significance: The new colleges will add about 15,700 nursing graduates every year.

129. [A third of Central varsity teaching positions lying vacant](#)

Source: The post is based on the article “A third of Central varsity teaching positions lying vacant” published in **The Hindu** on **20th July 2023**

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What is the News?

According to a Right To Information(RTI) reply, over 30% of teaching positions are lying vacant in 45 Central Universities across India.

What is the data regarding the vacant position lying in Central Universities across India?

Vacant seats: Over 30% of teaching positions are lying vacant in 45 Central Universities across India.

State wise: Around 88% of the teaching positions were vacant in Odisha's central universities — the highest among all States.

– On the other hand, Mizoram and Kerala had the least share of vacancies — 15% or less.

Universities: Central University of Andhra Pradesh had a 100% vacancy, with none of the sanctioned teaching positions filled.

– The Central University of Odisha, Dr. Harisingh Gour University in Madhya Pradesh, the Central Kashmir University and the Tripura University had over 50% of seats vacant.

Caste wise: Only 20% of teacher positions sanctioned under the general category were vacant compared to 44% among OBC positions, 38% among SC positions and 45% among ST positions.

– Notably 71% of posts sanctioned under the EWS quota and 58% under the Persons with Disabilities were also vacant.

– Hence, among all the reservation groups, General Category positions had the least vacancy share.

What are the main reasons for these higher vacancies in Central Universities?

Location: Vacancies can arise in some universities which are located in remote rural areas. For instance, the Central University of Odisha is located in Sunabeda town of Koraput district in Odisha which is up to 486 km away from the State capital, Bhubaneswar.

Age of the University: Central University of Andhra Pradesh was founded in 2018. This is a fairly new university. It usually takes three to five years for a Central University to have a fully functional campus. In these campuses, teaching faculty from older Universities are often asked to mentor and handhold until vacant positions get filled.

What are the steps being taken by the University Grants Commission (UGC) to address vacancies in Central Universities?

CU- Chayan portal has been launched by University Grants Commission (UGC).

Purpose: It is a unified recruitment portal designed and developed specifically for faculty recruitment in Central Universities.

– The portal provides a common platform for listing vacancies/advertisements/ faculty positions across all Universities. The Portal makes the recruitment process entirely online, from application to screening with alerts to all the portal users.

130. [The Ministry of Culture and the Indian Navy sign an MoU to revive the “ancient stitched shipbuilding method \(Tankai method\)”](#)

Source: The post is based on the article **“The Ministry of Culture and the Indian Navy sign an MoU to revive the “ancient stitched shipbuilding method (Tankai method)”**” published in **PIB on 19th July 2023**

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What is the News?

The Ministry of Culture and Indian Navy have entered into a Memorandum of Understanding (MoU) to revive and preserve the 2000-year-old technique of shipbuilding known as the **Tankai method**.

What is the Tankai method?

The Tankai method is a 2000-year-old technique of shipbuilding. It is also known as 'stitched shipbuilding method'.

In this method, the ships are constructed by stitching wooden planks together rather than using nails.

This method offers flexibility and durability to ships making them less susceptible to damage from shoals and sandbars.

The arrival of European ships led to a shift in shipbuilding techniques. But this art of stitching ships has survived in a few coastal regions of India, primarily for small local fishing boats.

How is the Ministry of Culture planning to revive the Tankai method?

The Ministry of Culture and Indian Navy have entered into a Memorandum of Understanding (MoU) to revive the Tankai method.

As per the MoU, the plan is to construct an ocean-going wooden stitched sail ship using the ancient Tankai method.

Significance: The significance of this stitched ship project extends beyond its construction. It aims to revive the maritime memory and instill a sense of pride in India's rich maritime heritage among its citizens.

– Additionally, it aims to promote cultural memories among the Indian Ocean littoral countries.

131. [A 'dead' Ghaggar and its tributaries wrought havoc in Haryana early July; here is how](#)

Source: The post is based on the article "**A 'dead' Ghaggar and its tributaries wrought havoc in Haryana early July; here is how**" published in **Down To Earth on 17th July 2023**

What is the News?

Ghaggar River and its tributaries have caused widespread devastation in Haryana after reclaiming their floodplains.

Where is Ghaggar River?

Ghaggar-Hakra River is an intermittent river in India and Pakistan that flows only during the monsoon season.

The river is known as Ghaggar before the Ottu barrage, and as Hakra downstream of the barrage in the Thar Desert.

Origin: It originates in the village of Dagshai in the Shivalik Hills of Himachal Pradesh and flows through Punjab, Haryana and Rajasthan.

Tributaries: The main tributaries of the Ghaggar are the Kaushalya, Tangri, Markanda, Beghna and Sukhna and Chautang.

What happened now?

Ghaggar river and its tributaries are considered dead rivers in the state and are heavily encroached upon.

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These rivers are facing threats from growing residential settlements, industrial units and sewage. The rivers have been so badly encroached that it would be difficult to locate them on the ground.

However, this monsoon heavy rains in the Shivalik hills caused flash floods in the catchment areas of the Ghaggar and its tributaries.

Due to this, many cities in Haryana have been flooded causing heavy losses.

132. [A fascinating fusion of rock art at Rudragiri hillock](#)

Source: The post is based on the article **“A fascinating fusion of rock art at Rudragiri hillock”** published in **The Hindu on 19th July 2023**

What is the News?

Rudragiri hillock stands as a shining example of the rich historical and artistic legacy of Andhra Pradesh.

What is Rudragiri Hillock?

Rudragiri Hillock is located in Guntur district of Andhra Pradesh.

It is nestled amidst the Eastern Ghats, features five naturally formed rock shelters at its foothills, facing westward.

It features a unique combination of prehistoric rock paintings from the Mesolithic period and exquisite artwork from the Kakatiya dynasty, dating back to around 1300 AD.

Key Findings from the Rudragiri Hillock site:

The first cave presents a narrative mural portraying the intense battle between the Vanara brothers, Vali and Sugriva.

In the middle cave, a grand sketch of Hanuman, accompanied by sacred symbols of the conch (Sankha) and the fire altar (Yagna Vedi) is present. Hanuman is depicted carrying the Sanjivani hill in his right hand symbolizing his mission to save Lakshmana's life.

The third cave houses the prehistoric rock paintings from the Mesolithic era. The Kakatiya artist chose the same rock shelter to superimpose the elegant figure of Hanuman who is portrayed in a unique 'Anjali' posture, folding his hands in a divine offering.

What is the Rudragiri Hillock connection with Telangana?

There is a striking resemblance between the splendid frescoes on Rudragiri's rock shelters and those discovered in Muppavaram and Pandavula Gutta in Warangal district of Telangana.

These similarities suggest that the Ramayana scenes depicted at Rudragiri might have drawn inspiration from the artworks at Muppavaram.

Moreover, the **Ganapati Deva** (1199-1262 AD), the founder of Muppavaram temple and a prominent figure of the **Kakatiya dynasty** likely patronized the rich ancient mural heritage found at Rudragiri.

133. [What are the takeaways from the NATO summit?](#)

Source: The post is based on the article **“What are the takeaways from the NATO summit?”** published in **The Hindu on 20th July 2023**

What is the News?

The North Atlantic Treaty Organization (NATO) summit was held recently at Vilnius, Lithuania.

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What is the North Atlantic Treaty Organization(NATO)?

[Click Here to read](#)

What are the key takeaways from the recent NATO summit?

Firstly, NATO acknowledged that the Russian Federation is the most significant and direct threat to Allies' security, peace, and stability in the Euro-Atlantic area. Their approach towards strengthening their defenses and deterrence against Russia remains the recurring theme of the Summit document.

Secondly, there was an expectation of a timeline for the Ukrainian membership of NATO. However, this did not happen but the leaders reiterated that NATO will be in a position to extend an invitation to Ukraine when allies agree and conditions are met.

– In this regard, the launch of the NATO-Ukraine Council as a forum for crisis consultations and decision-making indicated that NATO tried to assuage the feelings of Ukraine for not being included in the alliance by creating a mechanism for its wider engagement, support and future inclusion as a full member.

Thirdly, the inclusion of Finland and approval of Sweden as NATO members indicates a few things.

– It signals that NATO continues to practice Article 10 of the Washington Treaty signed in April 1949 which states that member countries can invite other European countries to become members of NATO.

– Turkey moving back from its long-standing opposition to Sweden's inclusion in NATO is also a significant shift.

Fourthly, the summit minced no words on the challenges and threats emerging from China's stated ambitions and coercive policies. It stated that NATO faces threats from China's malicious hybrid cyber operations, as well as confrontational rhetoric and disinformation, which specifically aim at NATO allies and pose a threat to the security of the Alliance.

134. [ECI to issue digital time vouchers to National and State political parties for campaigning on Doordarshan & All India Radio during election](#)

Source: The post is based on the article “**ECI to issue digital time vouchers to National & State political parties for campaigning on Doordarshan & All India Radio during elections**” published in **The Hindu on 20th July 2023**

What is the News?

The Election Commission of India (ECI) has introduced a digital time voucher system for political parties to access government-owned electronic media, such as Doordarshan and All India Radio for campaigning during elections.

Background:

The scheme regarding political parties' access to government-owned electronic media such as Doordarshan and All India Radio for campaigning during elections was initially notified in 1998.

This scheme holds a statutory basis under Section 39A of the Representation of People's Act, 1951.

Under this Scheme, an equitable base time is allotted to each National Party and Recognized State Party of the state concerned uniformly on DD & AIR.

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– An additional time is allotted based on the poll performance of the parties in the last assembly elections from the respective States/UT or in the last general Elections to Lok Sabha, as the case may be.

What is a Digital Time Voucher introduced by EC now?

A digital voucher is a type of voucher that is given online and can be redeemed at a later date.

Election Commission of India (ECI) has planned to issue digital time vouchers to National & State political parties for campaigning on Doordarshan & All India Radio during elections.

These vouchers can be redeemed by political parties at designated Doordarshan or AIR centres in exchange for total time allotted.

Each political party shall be given time Vouchers of different denominations of, 5 minutes and 10 minutes, equal to the total time allotted to it for telecasts on Doordarshan and broadcasts on AIR.

The political party shall have the discretion to choose any representatives and allow them to use those time vouchers provided that no such individual representative shall be allowed to use more than 20 minutes of the total time allotted to that party, either on Doordarshan or on AIR.

What is the significance of this Digital Time Voucher by EC?

Firstly, with this the political parties will not be required to send their representatives to ECI/CEO Offices for collection of the time vouchers physically during elections.

Secondly, this step also reflects the EC's commitment to leveraging technology for the betterment of the electoral process and ease of all stakeholders.

– **Note:** EC had also recently introduced a web portal for online filing of financial accounts by political parties with the Election Commission.

135. [Rajasthan minimum income Bill: provisions, what makes it unique](#)

Source: The post is based on the article “**Rajasthan minimum income Bill: provisions, what makes it unique**” published in **Indian Express on 21st July 2023**

What is the News?

The Rajasthan government has tabled the Rajasthan Minimum Guaranteed Income Bill, 2023.

What is Rajasthan Minimum Guaranteed Income Bill, 2023?

Aim: To cover the entire adult population of the state with guaranteed wages or pension.

Categories: The Bill has three broad categories: 1) right to minimum guaranteed income 2) right to guaranteed employment and 3) right to guaranteed social security pension.

Expenditure: Government anticipates an additional expenditure of Rs 2,500 crore per year for this scheme, which may increase with time.

Key Provisions of the Bill:

Minimum guaranteed income: Each adult citizen of the state has been guaranteed a minimum income for 125 days a year through the Rajasthan government's flagship Indira Gandhi Shabri Rozgar Guarantee Yojana for urban areas and through Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in rural areas.

Right to guaranteed social security pension: Government will provide eligible categories such as aged, disabled, widows, and single women with a minimum pension of Rs 1,000 per month. Importantly, the pension will be increased at the rate of 15 per cent each year.

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Right to guarantee employment: According to the Right to Employment, once the work in a rural or urban employment schemes are finished, the entitled minimum wages must be paid weekly or not later than a fortnight.

– To implement this, a Program Officer will be appointed by the State government. In rural areas, the officer must not be below the rank of a Block Development Officer (BDO). In urban areas, they must be an Executive Officer of the relevant local body.

– The officer will ensure that the work site is within a five-kilometer radius of the location in which the job card is registered in both rural and urban areas.

– The Program Officer must also ensure the applicant gets work within 15 days of receiving the application. If not, the applicant is eligible for unemployment allowance on a weekly basis and in any case not later than a fortnight.

What is the significance of this bill?

Firstly, Mahatma Gandhi had said “true measure of any society can be found in how it treats its most vulnerable members”. Hence, it **is a moral responsibility** of every government to ensure that everyone gets justice.

– Therefore, the Bill is part of a bouquet of schemes and measures undertaken by the Rajasthan government **to provide relief from inflation.**

Secondly, the bill contains many firsts in the country. The bill’s approach, guaranteeing minimum employment and pensions by law, distinguishes it from the cash transfer schemes that various other states have.

136. [Why is Kerch Bridge attack significant?](#)

Source: The post is based on the article “**Why is Kerch Bridge attack significant?**” published in **The Hindu On 21st July 2023**

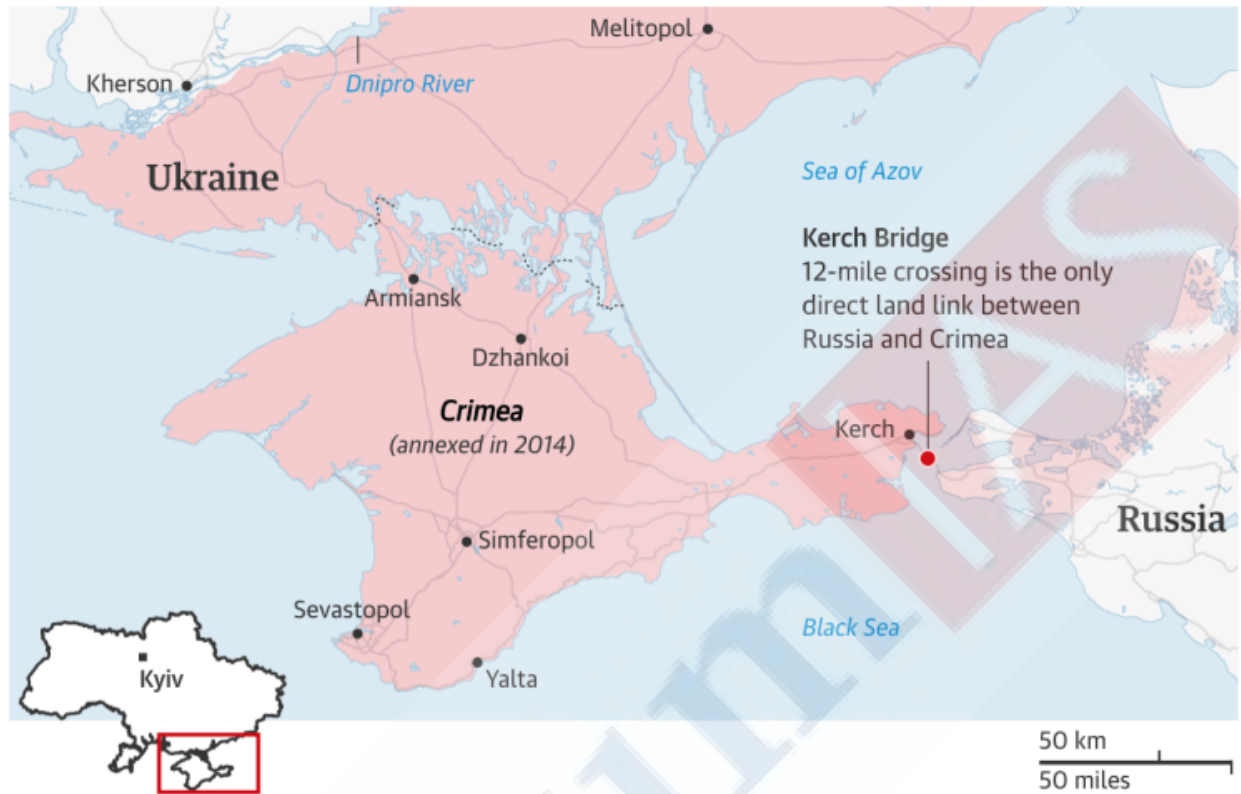
What is the News?

The Kerch Bridge has come under attack. One section of the bridge was damaged in what the Russians called an attack by two Ukrainian sea drones.

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What is Kerch Bridge?

■ Russian-controlled territory in Ukraine



Guardian graphic. Source: the Institute for the Study of War with AEI's Critical Threats Project

Source: Guardian

The Kerch Bridge also known as the Crimean Bridge was built by Russia after it invaded and de-facto annexed the peninsula of Crimea from Ukraine in 2014.

The bridge links the Russian mainland to the Crimean Peninsula in the Black Sea.

The bridge is a vital supply route for goods heading to the Crimean Peninsula from Russia.

What is Kerch Strait?

Kerch Strait is a strait in Eastern Europe.

It connects the Black Sea and the Sea of Azov, separating the Kerch Peninsula of Crimea in the west from the Taman Peninsula of Russia's Krasnodar Krai in the east.

The most important harbor, the Crimean city of Kerch, gives its name to the strait, formerly known as the Cimmerian Bosphorus.

It has also been called the Straits of Yenikale after the Yeni-Kale fortress in Kerch.

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137. [Over 60 species of plants that can survive extreme dehydration found in Western Ghats](#)

Source: The post is based on the article “**Over 60 species of plants that can survive extreme dehydration found in Western Ghats**” published in **Down to Earth** on **19th July 2023**.

What is the News?

Researchers have recently discovered 62 **Desiccation-tolerate vascular(DT) plant** species in India’s Western Ghats.

What are Desiccation-tolerate vascular plant species?

Desiccation-tolerant vascular (DT) plants are those plant species that are able to withstand extreme dehydration.

They can lose up to 95% of their water content and can revive themselves once water is available again.

This unique ability allows them to survive in harsh, arid environments that would be uninhabitable for most other plants.

These plants are found in both flowering and non-flowering species and in both temperate and tropical climates.

The global population of these species ranges between 300 and 1,500.

Desiccation-tolerate vascular(DT) plant species in India:

Indian desiccation tolerant plants are primarily found in forest rock outcrops and partially shaded tree trunks.

Ferricretes (a hard, erosion-resistant layer of sedimentary rock) and basaltic plateaus (plateaus produced by volcanic activity) seemed to be the preferred habitats.

A study has recently found 62 desiccation-tolerant vascular plant species in Western Ghats. Of these, 16 are endemic to India while 12 are exclusive to Western Ghats outcrops.

Among these discovered, nine genera of DT plants are reported as new also in a global perspective. They are identified as *Pyrosia*, *Aleuritopteris*, *Corallodiscus*, *Arundinella*, *Bhidea*, *Bothriochloa*, *Danthonidium*, *Dimeria* and *Glyphochloa*.

What is the significance of this discovery?

The discovery of the desiccation-tolerant (DT) vascular plants has potential applications in agriculture. For instance:

- Desiccation-resistant vascular plants can be used particularly in areas where water is scarce.
- Desiccation-resistant vascular plant genes can be used to develop a high temperature tolerant crop variety to boost climate resilience.

138. [‘Zombie fires’ in the Arctic: Canada’s extreme wildfire season offers a glimpse of new risks in a warmer, drier future](#)

Source: The post is based on the article “**‘Zombie fires’ in the Arctic: Canada’s extreme wildfire season offers a glimpse of new risks in a warmer, drier future**” published in **Down To Earth** on **19th July 2023**

What is the News?

Due to rise in global temperature, fires are spreading farther north and into the Arctic, leading to a rise in “**zombie fires**”

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What are Zombie Fires?

Zombie fires are fires that seem to come back from the dead.

After a wildfire has been extinguished on the surface, some of it can still burn belowground in secret, fuelled by peat and methane.

These fires can continue to burn all through winter, hidden under a layer of snow, and in spring as the temperature rises, the snow melts and the soil dries out, the wildfires can re-ignite and spread once again.

Why are Zombie Fires occurring in the Arctic region?

Wildfires have been a natural part of northern forest and tundra ecosystems for thousands of years.

However, the severity, frequency and types of wildfires in northern and Arctic regions have changed in recent decades.

One major reason for this is the rising temperature: The Arctic is warming nearly four times faster than the rest of the world, a phenomenon known as **Arctic amplification**.

This rise in temperature brings with it a number of changes to the environment that make the forest and tundra more susceptible to burning for longer.

Why is Zombie Fires a concern for the Arctic region?

Firstly, as the organic-rich Arctic soils dry up because of changing climate conditions, they can burn slowly and release vast amounts of smoke into the atmosphere.

Secondly, fires that spread underground are harder for firefighters to tame and extinguish, thus demanding more resources for longer periods of time.

Finally, these zombie fires don't die easily. Recent research finds that Arctic fires can smolder through the winter and reignite during early spring when temperatures rise.

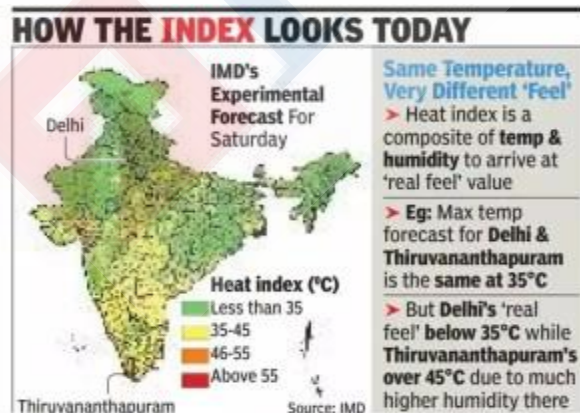
139. [IMD has launched Heat Index](#)

Source: The post is based on the article **"IMD has launched Heat Index"** published in **PIB on 20th July 2023**.

What is the News?

India Meteorological Department (IMD) has launched the Heat Index on an experimental basis.

What is the Heat Index?



Source: TOI

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Heat Index is also known as the apparent temperature. It is the temperature humans feel when relative humidity combines with the air temperature.

For instance, you may experience unusually high levels of heat despite the official temperature forecast indicating a 'normal' range. Say, if the absolute humidity of an area is high, you may feel hot, even though the temperature may not necessarily be that high.

Similarly, say there is a wind blowing; you will automatically feel colder, even if the temperature may not be so low.

How will the Heat Index be calculated by IMD?

At present, heat index is derived using the heat index equation similar to what is used by National Weather Service, National Oceanic and Atmospheric Administration (NOAA), USA.

What are the colour codes used for Heat Index?

The colour codes used for Experimental Heat Index are as follows: **1) Green:** Experimental heat Index less than 35 deg C **2) Yellow:** Experimental heat Index in the range 36-45 deg C **3) Orange:** Experimental heat Index in the range 46-55 deg C and **4) Red:** Experimental heat Index greater than 55 deg C.

140. [NITI Aayog releases Analytical Tools for managing Climate Change and exploring Net Zero Pathways](#)

Source: The post is based on the article “**NITI Aayog releases Analytical Tools for managing Climate Change and exploring Net Zero Pathways**” published in **PIB on 20th July 2023**.

What is the News?

Niti Aayog has launched the revamped version of India Energy Security Scenarios (IESS) 2047.

What is India Energy Security Scenarios (IESS) 2047?

IESS is an open source web based tool launched by Niti Aayog. It has been designed with the help of IIT Bombay.

Purpose of the tool: To assess the integrated impact of various green energy policies of the Government of India.

– To analyze emissions, cost, land and water requirements of India till 2047 by assessing the demand and supply of energy in the country.

The tool will be updated on a **yearly basis**.

Significance of IESS tool: It is user-friendly interactive tool that can help ministries/ departments to develop a variety of energy transition scenarios to achieve net-zero.

– The tool is also flexible enough to provide many permutations and combinations of net-zero pathways.

– It can also help in computing the energy needs and estimates of the country and hence reduce India's dependency on external agencies for the estimates.

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141. [SC urges Centre to transfer cheetahs to another location](#)

Source: The post is based on the article “**SC urges Centre to transfer cheetahs to another location**” published in **The Hindu on 21st July 2023**

What is the News?

The Supreme Court has asked the Union government why the recent deaths of Cheetah’s was becoming a “prestige issue”.

It also asked why the cheetahs were all released in Kuno National Park in Madhya Pradesh, and not spread out across sites.

What has happened to Cheetahs?

20 cheetahs were translocated to Kuno National Park in India from Namibia and South Africa as part of efforts to revive the cheetah population in India.

Later, four cubs were born to one of the Cheetah.

Among these 24 cheetah’s, eight cheetahs have died which includes three cubs born in India.

What did the Supreme Court say on Cheetah’s deaths?

The Supreme Court has said that the deaths of 40% of the 20 cheetahs brought from South Africa and Namibia to the Kuno National Park (KNP) within a year does not present a good picture.

The court said that instead of having cheetahs in one place, we can create one or more habitats for them.

142. [Himalayan glaciers retreating at varying rates, says Union Minister](#)

Source: The post is based on the article “**Himalayan glaciers retreating at varying rates, says Union Minister**” published in **PIB on 20th July 2023**

What is the News?

The Union Minister of Earth Sciences has said that the majority of Himalayan glaciers analyzed are melting or retreating at varying rates in different regions.

Melting of Himalayan Glaciers:

Chandra Basin in Western Himalayas: National Centre for Polar and Ocean Research (NCPOR) has been monitoring six glaciers in the Chandra basin in western Himalaya since 2013.

– A state-of-the-art field research station ‘**Himansh**’ established in Chandra basin and operational since 2016 for conducting field experiments and expeditions to glaciers.

– NCPOR has found that the Chandra basin has lost about 6% of its glacial area during last 20 years.

Garhwal Himalayas: Wadia Institute of Himalayan Geology (WIHG) has been pursuing cryospheric research on different aspects that include glacier dynamics, hydrology and hazards using both satellite data and ground-based observations.

WIHG have observed that glaciers in the Garhwal Himalaya have shown an overall retreat of glaciers with variable rate of melting.

Himalayan Karakoram region: Indian Space Research Organization’s (ISRO’s) Space Application Centre (SAC) has mapped 5234 glaciers of Himalayan-Karakoram (H-K) region which indicated varied loss in glacier area in the region.

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Why are the Himalayan Glaciers melting?

The melting of glaciers is a natural process and cannot be controlled. The recession or melting of glaciers is mainly caused by global warming and climate change.

Therefore, the rate of melting of glaciers can't be prevented or slowed down, unless all the factors responsible for global warming and climate change can be controlled.

What is the impact of melting of Himalayan Glaciers?

Melting of Glaciers will not only severely affect the flow in Himalayan river system but will also give rise to natural disasters.

It may also lead to shift of tree line in the Himalaya and may also cause change in phonological behavior of plants. It may also impact the livelihoods of mountain people and downstream populations.

143. [Rajya Sabha Chairman nominates four women parliamentarians to panel of vice-chairpersons](#)

Source: The post is based on the article “**Rajya Sabha Chairman nominates four women parliamentarians to panel of vice-chairpersons**” published in **The Hindu on 21st July 2023.**

What is the News?

Rajya Sabha Chairman has reconstituted the panel of vice chairpersons.

For the first time in the history of the Rajya Sabha, the Chairman has nominated four women parliamentarians to the panel of vice-chairpersons, giving women **equal representation** in the panel.

One among the newly nominated women members is S. Phangnon Konyak. She is the first woman to be elected as a Member of the Rajya Sabha from Nagaland in April 2022 and the second woman from the State to be elected to either House of the Parliament or the State Assembly.

What is the Panel of Vice-Chairpersons?

Under the Rules of Rajya Sabha, the Chairman nominates from amongst the members a panel of vice-chairpersons.

Any one of the members of the Panel of Vice-Chairpersons can preside over the House in the absence of the Chairman or the Deputy Chairman. He has the same powers as the Chairman when so presiding. He holds office until a new panel of vice-chairpersons is nominated.

When a member of the panel of vice chairpersons is also not present, any other person as determined by the House acts as the Chairman.

It must be emphasized here that a member of the panel of vice chairpersons cannot preside over the House, when the office of the Chairman or the Deputy Chairman is vacant.

During such time, the Chairman's duties are to be performed by such member of the House as the president may appoint for the purpose. The elections are held, as soon as possible, to fill the vacant posts.

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144. [Portal launched to report violation of ban on e-cigarettes](#)

Source: The post is based on the article “**Portal launched to report violation of ban on e-cigarettes**” published in **The Hindu on 22nd July 2023**.

What is the News?

The Union government has asked the state governments to effectively implement the Centre’s ban on e-cigarettes.

What are e-cigarettes?

[Click Here to read](#)

About the ban on e-cigarettes:

In 2019, Parliament passed the [Prohibition of Electronic Cigarettes \(Production, Manufacture, Import, Export, Transport, Sale, Distribution, Storage, and Advertisement\) Act \(PECA\)](#) to curb the use and sale of e-cigarettes in India.

Despite this ban, e-cigarettes continue to be sold on e-commerce sites even to children below 18.

This is happening because of the weak implementation of PECA Act leading to easy availability of e-cigarettes through online, retail, convenient stores, stationery shops and near educational institutions.

Now to curb this, the Health Ministry has launched an online portal www.violation-reporting.in to facilitate reporting of violations under PECA Act.

The portal will allow faster action against any reported violations of ban on e-cigarettes.

145. [Industry Leaders Forge Alliance for increasing Demand of Electric Freight Vehicles](#)

Source: The post is based on the article “**Industry Leaders Forge Alliance for increasing Demand of Electric Freight Vehicles**” published in **PIB on 22nd July 2023**

What is the News?

NITI Aayog has organized the **e-FAST India** event on the sidelines of the 14th Clean Energy Ministerial.

What is the Clean Energy Ministerial?

[Click Here to read](#)

What is e-FAST India?

Launched in: September, 2022

Full Form: e-FAST stands for Electric Freight Accelerator for Sustainable Transport – India.

Purpose: It is India’s first electric freight platform.

Aim: To galvanize the transition towards cleaner and greener freight transportation (Freight transport is the movement of goods from one place to another).

Led by: NITI Aayog and supported by the collaborative efforts of 12 knowledge partners.

Features: The platform will help strengthen partnerships and identify and support innovative freight solutions.

– The platform also aims to promote freight electrification, supported by ground-based demonstration pilots and research that is supported by evidence.

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– Additionally, it will assist with scalable trials and provide information for policymakers that aim to hasten India's freight electrification.

146. [Use any Indian language as optional medium, says CBSE](#)

Source: The post is based on the article “**Use any Indian language as optional medium, says CBSE**” published in **The Hindu on 22nd July 2023**.

What is the News?

Central Board of Secondary Education(CBSE) has allowed affiliated schools to use Indian Languages as an optional medium of instruction from pre-primary stages to Class 12.

What does the National Education policy say on the use of Indian Languages as a medium of instruction in schools?

National Education Policy (NEP) 2020 envisages the use of mother tongue or regional or Indian languages as the medium of instruction until at least Grade 5, and preferably till Grade 8 and beyond.

The policy also highlights the significant cognitive advantages of multilingualism for young learners, particularly when they were exposed to several languages from the foundational stage.

What are the challenges in the use of mother tongue as a medium of instruction in schools?

There are several challenges such as: 1) availability of skilled teachers capable of teaching in multilingual settings **2)** creation of high-quality multilingual textbooks and **3)** limited time available, especially in two-shift government schools as multilingual education demands additional instructional time allocation.

What are the steps the government is taking to promote multilingual education?

The Ministry of Education has directed the National Council of Educational Research and Training (NCERT) to prepare textbooks in the 22 Scheduled Languages of the country.

147. [Ports to UPI to green energy, India and Sri Lanka deepen economic ties](#)

Source: The post is based on the article “**Ports to UPI to green energy, India and Sri Lanka deepen economic ties**” published in **Indian Express on 22nd July 2023**.

What is the News?

The President of Sri Lanka has paid an official visit to India.

During the visit, India and Sri Lanka adopted a ‘vision document’ for a deeper economic partnership between the two countries.

What is the India-Sri Lanka Economic Partnership Vision document?

The vision document has been called ‘Promoting Connectivity, Catalysing Prosperity: India-Sri Lanka Economic Partnership Vision’.

Aim: To strengthen bilateral and economic partnership between India and Sri Lanka.

Pillars: The document is based on five pillars: maritime connectivity; air connectivity; energy and power connectivity; trade, economic and financial connectivity and people-to-people connectivity.

Key Features of these five Pillars:

Maritime connectivity: The document outlines cooperation in development of ports and logistics at Colombo, Trincomalee and Kankesanthurai, with an aim to consolidate regional logistics and shipping.

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– It also talks of resumption of passenger ferry services between Nagapattinam in India and Kankesanthurai in Sri Lanka besides working towards early resumption of ferry services between Rameswaram and Talaimannar.

Air connectivity: Currently, there is a single flight a day between Chennai and the northern Lankan city of Jaffna.

– The two countries agreed to expand this flight to Colombo as well as explore connectivity between Chennai and Trincomalee, Batticaloa and other destinations in Sri Lanka.

Energy and power connectivity: The two countries have plans to **establish a high-capacity power grid interconnection**. This is to enable bidirectional electricity trade between Sri Lanka and other regional countries, including those of the BBIN (Bangladesh, Bhutan, India, Nepal) initiative.

– The document also talks of expediting implementation of understanding reached on the **Sampur Solar power project** and LNG infrastructure and exploring **cooperation in Green Hydrogen and Green Ammonia**.

– The two countries will also be working on a **multi-product petroleum pipeline from India's South to Sri Lanka**.

– They will also undertake a mutually agreed **joint exploration and production of hydrocarbons in Sri Lanka's offshore basins** to develop Sri Lanka's upstream petroleum sector.

Trade, economic and financial connectivity: The two sides will undertake discussions on the **Economic and Technology Cooperation Agreement** with an aim to comprehensively enhance bilateral trade and investments in new and priority areas.

– They have decided to **designate Indian Rupee as currency for trade settlements** between the two countries.

– Both sides also agreed to **operationalise UPI-based digital payments** for further enhancing trade and transactions between businesses and common people.

People-to-people connectivity: The two countries have planned to promote awareness and popularize India's Buddhist circuit, and Ramayana trail as well as ancient places of Buddhist, Hindu and other religious worship in Sri Lanka for enhancing tourism.

148. [Biofortified foods: Industry bats for separate branding](#)

Source: The post is based on the article **“Biofortified foods: Industry bats for separate branding”** published in **The Hindu Businessline on 19th July 2023**.

What is the News?

According to a report, the global market of biofortification is projected to reach \$217.21 million by 2030 from the current \$100.84 million (in 2022).

What is Biofortification?

Biofortification is the process of improving the nutritional quality of food crops.

This can be achieved through agronomic practices, conventional breeding or biotechnology based approaches like genetic engineering and genome editing.

Biofortification of staple crops such as rice is intended as a sustainable, cost-effective and food-based means of delivering target micronutrients to populations who do not have access to or cannot afford diverse diets and other existing interventions such as fortified foods and supplementation.

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It is identified by the Copenhagen Consensus as one of the highest value-for-money interventions for micronutrient deficiency: gaining 17 USD worth of benefits for every 1 USD spent.

What are the steps being taken by the government of India to promote biofortified foods?

On World Food Day 2020, the Prime Minister dedicated to the nation 17 biofortified seed varieties of eight local and traditional crops, including wheat and paddy rice. These varieties have been developed by utilizing the local landraces and farmer's varieties.

Further, to encourage biofortification amongst farming communities, Indian Council for Agricultural Research (ICAR) has started the Nutri-Sensitive Agricultural Resources and Innovations (NARI) programme for promoting family farming linking agriculture to nutrition.

Government is seeking the private sector's help to popularize the biofortified foods. The private industry wants separate branding of biofortified foods, similar to what has been done for "organic" products.

149. [Rule 176 vs Rule 267: What Govt agrees to, what Opp demands](#)

Source: The post is based on the article "**Rule 176 vs Rule 267: What Govt agrees to, what Opp demands**" published in **Indian Express on 22nd July 2023**

What is the News?

The Parliament transacted no business amid opposition parties' demand for a discussion on the ongoing violence in Manipur.

The government agreed for a 'short-term' discussion under **Rule 176**. But the Opposition pressed for suspending all business under **Rule 267** and that the Prime Minister make a suo motu statement followed by a discussion.

What is Rule 176?

Rule 176 allows for a Short-duration discussion not exceeding two-and-a-half hours on a matter of urgent public importance.

It says that any member desirous of raising discussion on a matter of urgent public importance may give notice in writing to the Secretary-General specifying clearly and precisely the matter to be raised.

The notice shall be accompanied by an explanatory note stating reasons for raising discussion on the matter in question and it must be supported by the signatures of at least two other members.

Once the Chairman admits the notice, the chairman in consultation with the Leader of the Council, will fix the date on which such a matter may be taken up for discussion and allow such time for discussion not exceeding two and a half hours.

The rule says there shall be no formal motion or voting under a short duration discussion.

What is Rule 267?

According to the Rules of Procedure and Conduct of Business in the Rajya Sabha, Rule 267 relates to suspension of rules.

Rule 267 says "Any member, may, with the consent of the Chairman, move that any rule may be suspended in its application to a motion related to the business listed before the Council of that day and if the motion is carried, the rule in question shall be suspended for the time being."

Simply put, under this rule, Rajya Sabha MPs can give a written notice to suspend all listed business and discuss an issue of importance the country is facing.

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According to Parliament records, the last time the Rajya Sabha witnessed a discussion under Rule 267 was on November 16, 2016. The issue was demonetisation.

150. [What are Bacteriophages, the ‘good viruses’ that fight bacteria?](#)

Source: The post is based on the article “**What are Bacteriophages, the ‘good viruses’ that fight bacteria?**” published in **Indian Express on 21st July 2023.**

What is the News?

Scientists are exploring the potential of bacteriophages to treat bacterial infections that are resistant to antibiotics.

What are Bacteriophages?

A bacteriophage or phage is a virus that infects bacteria.

They were discovered independently by Frederick W. Twort in Great Britain (1915) and Félix d’Hérelle in France (1917).

D’Hérelle coined the term bacteriophage, meaning “bacteria eater,” to describe the agent’s bactericidal ability.

How do Bacteriophages kill bacteria?

Bacteriophages are harmless to human cells as they do not recognize them as their bacterial prey.

They work by hunting down bacteria and attaching themselves to the surface of a bacterial cell, before injecting viral DNA material into the cell.

The viral DNA then replicates inside the bacteria, sometimes by borrowing the DNA replication hardware of the bacteria.

Once all the bacteria are lysed (dead), they’ll stop multiplying. Like other viruses, phages can lay dormant (in hibernation) until more bacteria show up.

What is Phage Therapy?

Phage therapy is the therapeutic use of bacteriophages for the treatment of bacterial infections.

Advantages of Phage Therapy: It has reduced side effects and reduced risk of the bacteria developing resistance, since bacteriophages are much more specific than antibiotics.

– They are typically harmless not only to the host organism but also to other beneficial bacteria such as the gut microbiota, reducing the chances of opportunistic infections.

Disadvantages of Phage Therapy: Disadvantages include the difficulty of finding an effective phage for a particular infection; a phage will kill a bacterium only if it matches the specific strain.

151. [On ED’s power to arrest and seek custody](#)

Source: The post is based on the article “**On ED’s power to arrest and seek custody**” published in **The Hindu on 21st July 2023.**

What is the News?

The Madras High Court has upheld the legality of Minister V. Senthilbalaji’s arrest by the Enforcement Directorate (ED) and his subsequent remand in judicial custody in a money-laundering case linked to a cash-for-jobs scam.

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What are the observations made by the Madras High Court?

The central question before the Madras High Court was whether the ED has the power to seek custody of a person arrested.

In this, the High Court accepted the argument on behalf of the petitioner that ED officials are not police officers as per the law laid down by the Supreme Court in **Vijay Madanlal Choudhary versus Union of India (2022)**.

However, the court also held that the Supreme Court designated ED officials to not be police officers only for the reason that the statements given to the latter in any criminal case would not be admissible in evidence before the trial court under the CrPC whereas statements given to the former were admissible in evidence under the Prevention of Money Laundering Act (PMLA), 2002.

However, this observation could not be stretched to the extent of denying the ED an opportunity to subject the accused to custodial interrogation for unearthing crucial facts related to the alleged crime.

Hence, the court ruled that the ED can subject any person accused in a case booked under the Prevention of Money Laundering Act (PMLA), 2002, to custodial interrogation.

What were the Supreme Court verdicts in the past about the PMLA?

Vijay Madanlal Choudhary versus Union of India, 2022: In this judgment, the Supreme Court upheld various provisions of the PMLA which relate to the powers of arrest, attachment, search, and seizure conferred upon the ED.

– The court was of the opinion that all the provisions under PMLA have a reasonable nexus with the objects sought to be achieved by the Act to effectively prevent money-laundering.

Chidambaram versus Directorate of Enforcement (2019): In this case, the Supreme Court rejected a prayer for anticipatory bail with respect to an offense of money-laundering and proceeded to grant custody to the ED.

– The court reasoned that money-laundering cases involves ‘systematic and analyzed’ investigations which would be impacted if pre-arrest bail is granted.

152. [Invasive weed threatens elephant habitats in Tamil Nadu](#)

Source: The post is based on the article “**Invasive weed threatens elephant habitats in Tamil Nadu**” published in **The Hindu on 22nd July 2023**.

What is the News?

An Invasive aquatic weed named “**Ludwigia peruviana**” is threatening elephant habitats in Tamil Nadu and reviving the risk of human-elephant conflicts in the region.

What is Ludwigia peruviana?



Source: Wikipedia

Ludwigia peruviana is an aquatic weed native to some countries in Central and South America, including Peru.

It is usually found in wetlands, swamps, marshes and along the edges of lagoons and slow-moving waterways (sometimes also floating on the water surface).

Why is Ludwigia peruviana an invasive plant?

Ludwigia peruviana is among the **22 priority invasive plants in Tamil Nadu**. It was probably introduced as an ornamental plant for its tiny yellow flowers.

However, it is now challenging the existence of local vegetation in various swampy areas.

It is a fast growing aquatic weed. It forms dense colonies in slow-moving and static waterways.

This impacts the water flows in waterways, outcompetes native plants, reduces food and shelter for fish and other native aquatic animals and decreases light and water temperature.

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Moreover, unlike other invasive plants, Ludwigia poses a unique challenge as it grows in swamps and there is little scope to use machinery which may further destroy the ecosystem.

Even if Ludwigia is pulled out manually, the soft plant easily breaks and it spreads again from the root or broken stems that fall in the swamp.

How is Ludwigia peruviana impacting elephant habitats?

In Tamil Nadu, Ludwigia peruviana has limited the growth of grass and native plants that is a source of food for elephants and other animals including gaur. This has revived the risk of human-elephant conflicts in the region.

153. [India crosses a significant milestone for The National Tele Mental Health Programme of India](#)

Source: The post is based on the article “**India crosses a significant milestone for The National Tele Mental Health Programme of India**” published in **PIB on 22nd July 2023**.

What is the News?

Tele MANAS Initiative has reached a significant milestone. The toll-free service has received over 2,00,000 calls from various parts of the nation since the launch portraying a consistently progressive trend.

What is the Tele MANAS Initiative?



Tele Mental Health Assistance and Networking Across States (Tele-MANAS) initiative was launched by the Ministry of Health & Family Welfare during October 2022.

Aim: To provide free tele-mental health services all over the country round the clock, particularly catering to people in remote or under-served areas.

– The initiative maintains anonymity of the callers, thereby reducing the stigma generally surrounding mental health issues.

Nodal center: The initiative includes a network of 23 tele-mental health centers of excellence, with **National Institute of Mental Health and Neurosciences (NIMHANS)** being the nodal center and International Institute of Information Technology-Bangalore (IIITB) providing technology support.

Features: Tele-MANAS is organized in two tier systems: Tier 1 comprises state Tele-MANAS cells which include trained counselors and mental health specialists.

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– Tier 2 comprises specialists at District Mental Health Programme (DMHP)/Medical College resources for physical consultation and/or e-Sanjeevani for audio visual consultation.

154. [Will generic supply of bedaquiline be accessible?](#)

Source: The post is based on the article **“Will generic supply of bedaquiline be accessible?”** published in **The Hindu on 24th July 2023.**

What is the News?

Johnson & Johnson’s patent on bedaquiline has expired recently. This long-awaited expiry will allow generic manufacturers to supply the drug, but J&J appears intent on maintaining its monopoly over the bedaquiline market.

What is Tuberculosis?

[Click Here to read](#)

What is the threat from Tuberculosis?

According to WHO, Tuberculosis was the world’s deadliest infectious disease before COVID-19 swept the world.

Each year, nearly half a million people develop drug-resistant TB and nearly 10.4 million people develop drug-sensitive TB.

One-third of the world’s population has latent TB, a version of the disease that can turn active as immunity falls.

Nearly 2.8 million TB patients, the most in the world, live in India making it a national public health emergency.

What is Bedaquiline?

Bedaquiline is a medication used to treat active tuberculosis. Specifically, it is used to treat multidrug-resistant tuberculosis (MDR-TB) along with other medications for tuberculosis.

It was developed by Janssen Pharmaceutical (a subsidiary of J&J) around 2002.

Several of the phase I and II clinical trials of the drug were sponsored by public and philanthropic organizations such as the U.S. National Institutes of Health (NIH), National Institute of Allergy and Infectious Diseases, and the TB Alliance.

However, J&J has claimed sole ownership of it, protected by its aggressive patenting strategies.

What has Johnson & Johnson(J&J) done?

J&J has filed secondary patents over bedaquiline till 2027, which were granted in 66 low-and middle-income countries.

It includes 34 countries with high burden of TB, multidrug-resistant TB (MDR-TB), and TB/HIV. Over the past week, J&J has faced public outrage for seeking to extend its patent on bedaquiline.

However in India, the Indian Patent Office has rejected J&J’s secondary patent which would have extended its monopoly for four more years. Indian manufacturers will now be able to supply affordable, quality assured generic versions of bedaquiline in India as the primary patent expired.

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It is estimated that, with the introduction of competition from India, the price of bedaquiline will reduce in the range of \$48-\$102 for a six-month treatment course.

155. [India hands over missile corvette INS Kirpan to Vietnam](#)

Source: The post is based on the article “**India hands over missile corvette INS Kirpan to Vietnam**” published in **Indian Express on 24th July 2023**

What is the News?

The Indian Navy has decommissioned INS Kirpan and handed it over to Vietnam People’s Navy (VPN)—reflecting the growing defense ties and strategic partnership between New Delhi and Hanoi.

What is INS Kirpan?

INS Kirpan is a Khukri class indigenously-built missile corvette. It was commissioned in 1991.

The ship has been an integral part of the Navy’s Eastern Fleet and has participated in several operations.

It is manned by about 12 officers and 100 sailors and is 90 meters long and 10.45 meters in width with a maximum displacement of 1,450 tons.

The ship is fitted with a medium-range gun, 30 mm close-range guns, chaff launchers and surface-to-surface missiles.

What is the significance of India giving INS Kirpan to Vietnam?

The transfer of INS Kirpan from the Indian Navy to the Vietnam People’s Navy symbolizes the status of the Indian Navy of being the ‘Preferred Security partner’ in the Indian Ocean Region and would be a catalyst for enhancing the existing bilateral relations between India and Vietnam.

This development is also significant amid a growing Chinese influence in the South China sea, which is giving rise to territorial disputes with Vietnam in the region.

What are the other deals signed between India and Vietnam recently?

India and Vietnam recently signed a Joint Vision Statement on India-Vietnam Defence Partnership towards 2030 and had inked a pact on Mutual Logistics Support to strengthen bilateral defence cooperation between them.

India has also handed over 12 high-speed guard boats to Vietnam at a ceremony at the Hong Ha Shipyard.

India has also announced gifting two simulators and monetary grant towards setting up of Language and IT Lab at Air Force Officers Training School for capacity building of Vietnamese Armed Forces.

156. [Banks write off bad loans worth Rs 2.09 lakh crore in 2022-23: RBI](#)

Source: The post is based on the article “**Banks write off bad loans worth Rs 2.09 lakh crore in 2022-23: RBI**” published in **Indian Express on 24th July 2023**.

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What is the News?

According to the Reserve Bank of India, banks have written off bad loans worth over Rs 2.09 lakh crore during the year ended March 2023 taking the total loan write-off by the banking sector to Rs 10.57 lakh crore in the last five years.

What is a loan write-off?

Writing off a loan essentially means it will no longer be counted as an asset. By writing off loans, a bank can reduce the level of non-performing assets (NPAs) on its books. An additional benefit is that the amount so written off reduces the bank's tax liability.

Why do banks resort to write-offs?

The bank writes off a loan after the borrower has defaulted on the loan repayment and there is a very low chance of recovery. The lender then moves the defaulted loan or NPA out of the assets side and reports the amount as a loss.

After the write-off, banks are supposed to continue their efforts to recover the loan using various options. They have to make provisioning as well.

Once recovered, the provisions made for those loans flow back into the profit and loss account of banks.

What do the RBI guidelines say on Loan write-offs?

The RBI guidance on write-offs says that in a deregulated credit environment, banks have been advised to take credit related decisions including waiving off bad loans as per their commercial assessment of the viability of the loans in terms of their board approved policies subject to prudential norms issued by the RBI.

The policy on loan recoveries is required to lay down the manner of recovery of dues, targeted level of reduction (period-wise), norms for permitted sacrifice or waiver, factors to be taken into account before considering waivers, decision levels, reporting to higher authorities and monitoring of write-off and waiver cases.

However, the recovery process can take years as most of the loans involved in write-offs belong to wilful defaulters and shady promoters who generally don't pay back to the banks.

157. [Union Minister for Jal Shakti released Manual For Disaster Management Plan](#)

Source: The post is based on the article “**Union Minister for Jal Shakti released Manual For Disaster Management Plan**” published in **PIB on 22nd July 2023**.

What is the News?

Union Minister for Jal Shakti has released the Manual for Disaster Management Plan (DMP)

About the Manual for Disaster Management Plan (DMP):

Developed by: Department of Drinking Water and Sanitation.

Aim: To ensure safety, uninterrupted supply and minimum loss of Water, Sanitation and Hygiene (WASH) assets and services involving stakeholders at national, state, district and village level.

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Based on: The plan is developed based on the Advisory issued by National Disaster Management Authority (NDMA) which under Section 37 of Disaster Management Act, 2005 desires every Ministry/ Department to develop its own disaster plan to counter and be prepared for any emergency arising in future.

Significance: The plan aligns with the two-flagship programmes on WASH implemented by the Department namely the Jal Jeevan Mission (JJM) and Swachh Bharat Mission-Gramin (SBM-G).

What are the key provisions of the Disaster Management Plan (DMP) developed by the Department of Drinking Water and Sanitation?

The plan explores the Disaster Management(DM) Cycle in four stages:

Preparedness: Preparing WASH assets and services for disasters includes ensuring that the system is geared to respond swiftly and effectively to a disaster. The key elements of WASH Preparedness include the **5Ss:** Standards, Supplies, Surge (additional personnel), Strategic alliances and Surveillance.

Response: Disaster response includes emergency services provided during or immediately after a disaster to save lives, reduce health impacts, ensure public safety and meet the basic needs.

– In case of the WASH disaster response, this includes the immediate steps taken to restore water supply, correct water quality issues, and provide solutions for sanitation and hygiene.

Recovery and Reconstruction: Recovery and Reconstruction includes the restoration – and improvement where appropriate – of the facilities, livelihoods and living conditions of the affected communities.

– In the context of WASH, this means the restoration of water, sanitation, and hygiene systems – not just to their pre-disaster levels, but to actually “build back better” so that they are less vulnerable to future disasters of a similar nature.

Mitigation: Mitigation includes the steps taken to minimize the vulnerability of WASH infrastructure and services to future disasters.

Assessment: Three kinds of assessment need to be conducted

– **Before the disaster:** A Hazard-Vulnerability-Capacity mapping to guide the preparedness activities most needed.

– **During Response:** A Rapid Needs Assessment (RNA) which can be completed in a day and point out the immediate needs of the affected population.

– **During Recovery & Reconstruction:** A detailed Post-Disaster Needs Assessment (PDNA) which highlights the long-term needs of the community and helps the administration “build back better” the damaged infrastructure and update the service delivery mechanisms to mitigate against future disasters.

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158. [India may build solar infra in Pacific island nations amid Chinese push](#)

Source: The post is based on the article “**India may build solar infra in Pacific island nations amid Chinese push**” published in **Livemint on 20th July 2023**.

What is the News?

India is considering expanding its solar STAR-C initiative to a number of Pacific Island countries.

What is the STAR-C Initiative?

The STAR-C Initiative is being led by the International Solar Alliance (ISA) and the United Nations Industrial Development Organization (UNIDO) with funding from the Government of France.

Aim: To create a strong network of institutional capacities within ISA Member States to enhance quality infrastructure (QI) for the uptake of solar energy product and service markets, particularly in least developed countries (LDCs) and small island developing states (SIDS).

– To boost solar power ecosystems in the poorest countries.

Activities under the initiative: Building solar workforces, standardizing products, setting up infrastructure and raising awareness among policymakers in developing countries.

Focus regions: STAR C project will initially focus on the Economic Community of West African States (ECOWAS), the East African Community (EAC) and the Pacific Community (SPC)/Pacific Island Forum (PIF).

Significance: India’s expansion of the STAR-C initiative in Pacific Island countries demonstrates its commitment to promoting solar power ecosystems and addressing climate change in the region.

What is the International Solar Alliance (ISA)?

[Click Here to read](#)

159. [India Climate Energy Dashboard\(ICED\)](#)

Source: The post is based on the article “**India Climate Energy Dashboard(ICED)** ” published in **PIB on 20th July 2023**.

What is the News?

NITI Aayog has launched the India Climate Energy Dashboard (ICED) 3.0.

What is the India Climate Energy Dashboard(ICED)?

Launched by: NITI Aayog in association with Vasudha Foundation

Purpose: It is a one-stop platform for near real-time data on the energy sector, climate and related economic datasets based on government published sources.

– The portal enables users to freely access and analyze datasets using an analytical engine.

Significance: It will facilitate insights and enhance understanding about the energy and climate sectors while identifying the key challenges.

– The portal will also be immensely useful in monitoring the progress of India’s clean energy transition journey.

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160. [Manipur violence: What is a Zero FIR and why it is registered](#)

Source: The post is based on the article “**Manipur violence: What is a Zero FIR and why it is registered**” published in **Indian Express on 24th July 2023**.

What is the News?

Of the nearly 6,000 cases of arson, violence, dacoity, and other offences registered in Manipur, nearly a third of them have been **Zero FIRs**.

What are Zero FIRs?

When a police station receives a complaint regarding an alleged offence that has been committed in the jurisdiction of another police station, it registers an FIR and then transfers it to the relevant police station for further investigation. **This is called a Zero FIR.**

After receiving the Zero FIR, the relevant police station registers a fresh FIR and starts the investigation.

When was the provision of Zero FIR established?

The provision of Zero FIR came up after the recommendation in the report of the **Justice Verma Committee**, which was constituted to suggest amendments to the Criminal Law in a bid to provide for faster trial and enhanced punishment for criminals accused of committing sexual assault against women. The committee was set up after **the 2012 Nirbhaya gang rape case**.

Why was Zero FIR introduced?

The objective of a Zero FIR is to ensure the victim doesn't have to run from pillar to post to get a police complaint registered.

The provision is meant to provide speedy redressal to the victim so that timely action can be taken after the filing of the FIR.

What is FIR(First Information Report)?

[Click Here to read](#)

161. [Jammu to pioneer India's first Cannabis Medicine Project](#)

Source: The post is based on the article “**Jammu to pioneer India's first Cannabis Medicine Project**” published in **PIB on 23rd July 2023**.

What is the News?

India's first Cannabis Medicine Project is going to be set up in Jammu.

What is a Cannabis Research Project?

Initiative of: Council of Scientific and Industrial Research-Indian Institute of Integrative Medicine (CSIR-IIIM), Jammu.

Type: The project is under public-private partnership (PPP) with a Canadian firm.

Purpose of the project: To produce export quality drugs meant for different kinds of neuropathies, diabetic pains etc.

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– To spread awareness that this substance of abuse has diverse medicinal uses especially for the patients suffering from malignancies and other diseases.

Significance: The project has the potential to produce medicines that are currently imported from foreign countries, thereby promoting indigenous production and reducing dependency on external sources.

What is Cannabis?

Cannabis is a generic term used to denote the several psychoactive preparations of the plant *Cannabis sativa*. The major psychoactive constituent in cannabis is delta 9 tetrahydrocannabinol (THC).

The Mexican term ‘marijuana’ is frequently used in referring to cannabis leaves or other crude plant material in many countries.

Cannabis is by far the most widely cultivated, trafficked and abused illicit drug. Half of all drug seizures worldwide are cannabis seizures.

About 147 million people, 2.5% of the world population, consume cannabis (annual prevalence) compared with 0.2% consuming cocaine and 0.2% consuming opiates.

Cannabis in India: The central law that deals with cannabis (weed or marijuana) in India is the Narcotic Drugs and Psychotropic Substances Act, 1985.

– The NDPS Act prohibits the sale and production of cannabis resin and flowers, but the use of leaves and seeds of the cannabis plant is permitted, with the states having the power to regulate and form the state rules for it.

– For instance, Odisha is a state in which weed is legal in India and people commonly use ‘chillums’ to smoke weed within the state’s territory. Uttarakhand is the first state in India to allow commercial cultivation of Hemp.

162. [Measures to Reduce Methane Emissions](#)

Source: The post is based on the article “**Measures to Reduce Methane Emissions**” published in **PIB on 24th July 2023**.

What is the News?

The Union Minister of State for Environment, Forest and Climate Change has informed Lok Sabha about the measures the government is taking to reduce methane emissions.

What is the data on India’s methane emissions?

India is a Party to the United Nations Framework Convention on Climate Change (UNFCCC), and its Kyoto Protocol (KP) and the Paris Agreement (PA).

As a Party to the UNFCCC, India periodically submits its National Communications (NCs) and Biennial Update Reports (BURs) to the UNFCCC which includes national Greenhouse Gas (GHG) inventory containing information on methane emissions.

As per India’s third Biennial Update Report, India’s methane emissions in 2016 (excluding LULUCF) were 409 million tone CO₂e of which, 73.96% was from Agriculture sector, 14.46%

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from Waste sector, 10.62% from Energy sector and 0.96% was from Industrial Processes and Product Use sector.

What are the measures taken to reduce methane emissions?

National Mission on Sustainable Agriculture(NMSA): It is implemented by the Ministry of Agriculture and Farmers Welfare. It involves climate resilient practices including methane reduction practices in rice cultivation. These practices contribute to substantial reduction of methane emissions.

The Indian Council of Agricultural Research (ICAR) under National Innovations in Climate Resilient Agriculture (NICRA) project has developed several technologies with mitigation potential for methane from rice such as:

- **System for Rice Intensification:** This technique has potential to enhance rice yield from 36-49% with about 22-35% less water than conventional transplanted rice;
- **Direct Seeded Rice:** This system reduces methane emissions as it does not involve raising nurseries, puddling and transplanting. Unlike transplanted paddy cultivation, standing water is not maintained in this system and
- **Crop Diversification Programme:** Methane emissions are avoided due to diversion of paddy to alternate crops like pulses, oilseeds, maize, cotton and agro forestry.

Capacity building programmes are conducted through Krishi Vigyan Kendras across the country for creating awareness on climate resilient practices.

The Department of Animal Husbandry and Dairying (DAHD) is implementing the National Livestock Mission which includes Breed Improvement and Balanced Rationing. Feeding livestock with a superior quality balanced ration is helping to reduce methane emissions from the livestock.

Government of India promotes green fodder production, silage making, chaff cutting, and total mixed ration under National Livestock Mission with a view to reduce methane emissions from livestock.

Cattle waste utilization is being incentivised through initiatives like ‘The Gobar (Galvanizing Organic Bio-Agro Resources) –Dhan’ scheme and New National Biogas and Organic Manure Programme.

163. [Thirty Critical Minerals List Released](#)

Source: The post is based on the article **“Thirty Critical Minerals List Released”** published in **PIB on 24th July 2023.**

What is the News?

The Government of India has released a list of 30 critical minerals for India.

What are Critical Minerals?

These are minerals that are essential for economic development and national security, and the lack of availability of these minerals or the concentration of extraction or processing in a few

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geographical locations could potentially lead to supply chain vulnerabilities and even disruption of supplies.

What are the 30 critical minerals list released by the government of India?

The 30 critical minerals are Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium and Cadmium.

What are the other steps taken by the government of India for critical minerals?

The **Geological Survey of India**, an attached office of Ministry of Mines has carried out a G3 stage mineral exploration (fairly advanced) during Field Season 2020-21 and 2021-22 in **Salal-Haimna areas of Reasi district, Jammu & Kashmir** and estimated an inferred resource of 5.9 million tonnes of lithium ore.

A joint venture company namely **Khanij Bidesh India Ltd. (KABIL)** has been incorporated with the equity contribution from three Central Public Sector Enterprises namely, National Aluminum Company Ltd, Hindustan Copper Ltd and Mineral Exploration Company Ltd.

– The objective of KABIL is to identify and acquire overseas mineral assets of critical & strategic nature such as Lithium, Cobalt & others so as to ensure supply side assurance. KABIL has engagements with countries like Argentina, Australia etc. to acquire critical & strategic minerals assets.

India has recently been inducted into the **Mineral Security Partnership (MSP)**, a US-led collaboration of 14 countries that aims to catalyze public and private investment in critical mineral supply chains globally.

164. [What does India's first gig workers' rights Bill stipulate?](#)

Source: The post is based on the article “**What does India's first gig workers' rights Bill stipulate?**” published in **The Hindu on 25th July 2023**.

What is the News?

The Rajasthan government has passed the Rajasthan Platform Based Gig Workers (Registration and Welfare) Bill, 2023.

It is the first legislation of its kind in India outlining welfare schemes for the State's approximately three lakh gig workers.

What are the key provisions of Rajasthan Platform Based Gig Workers (Registration and Welfare) Bill, 2023?

Definition of Gig Worker: The bill defines a gig worker as a person who performs work or participates in a work arrangement and earns from such activities outside of the traditional employer-employee relationship and who works on contract that results in a given rate of payment, based on terms and conditions laid down in such contract and includes all piece-rate work.

Applies to: The Bill applies to “aggregators” (digital intermediaries connecting buyers and sellers) and “primary employers” (individual or organizations engaging platform-based workers).

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Welfare Board: The Bill proposes a Welfare Board. The Minister in charge of the Labour Department will be the chairperson of the board and at least one-third of its nominated members will be women. It will also have two members each from gig workers and aggregators to be nominated by the state government.

– The board will ensure registration of gig workers and aggregators operating in the state and establish a social security and welfare fund for gig workers.

Fund: The Welfare Board will create a “**Social Security and Welfare Fund**” comprising contributions made by individual workers, State government aids, other sources and a ‘welfare cess’ a cut from each transaction which the aggregator is required to pay.

– The rate of the welfare cess will not exceed 2% nor fall short of 1% of the value of each transaction and aggregators are required to submit the amount within the first five days of a month.

Access to schemes and grievance redressal: The Bill provides gig workers access to general and specific social security schemes and opportunity to be heard for any grievances and appropriate grievance redressal mechanism.

Aggregators duties: The aggregator’s duties under the Bill include: depositing welfare cess on time, updating the database of gig workers and documenting any variations in numbers within one month of such changes.

– If they fail to comply, they will be fined up to ₹5 lakh for the first offence and ₹50 lakh for further violations; primary employers will pay up to ₹10,000 for the first offence and ₹2 lakh for subsequent violations.

165. [ICMR argues for controlled human infection studies](#)

Source: The post is based on the article “**ICMR argues for controlled human infection studies**” published in **The Hindu on 25th July 2023**.

What is the News?

Indian Council of Medical Research’s (ICMR) Bioethics Unit has released a statement arguing for introducing controlled human infection studies (CHIS) in India.

What are Controlled human infection studies (CHIS)?

In controlled human infection studies (CHIS), healthy volunteers are intentionally exposed to pathogens in a controlled environment in order to promote understanding of the pathogenesis, transmission, prevention and treatment of infectious diseases in humans.

Such studies may be conducted to gain insights into how pathogens infect human hosts and cause disease, to better understand immune responses to infection or to evaluate the efficacy of vaccines and drugs designed to prevent and treat infectious diseases.

CHIS have a long history and have made important contributions to the treatment and prevention of many infectious diseases of global health importance.

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What are the concerns related to Controlled human infection studies (CHIS)?

There are ethical and other concerns such as: 1) deliberate harm 2) possible disproportionate payment and hence inducements 3) third-party risk 4) withdrawal from the study and 4) research with vulnerable participants.

Why is ICMR Bioethics Unit arguing for Controlled human infection studies (CHIS)?

India carries a high burden of morbidity and mortality from infectious diseases. They contribute about 30% of the disease burden in the country.

Finding novel, efficient, and cost-effective alternatives to existing methods of research in these diseases and their prevention is important to reduce this burden.

In this context, CHIS model can help provide unique insights into disease pathogenesis and can accelerate the development of novel medical interventions.

It offers accelerated, cost-effective and efficient outcomes using smaller sample sizes in comparison to large clinical trials.

Its social value includes potential contributions to public health response to diseases of concern, healthcare decision-making, policies and economic benefits, improved pandemic preparedness, and community empowerment.

However, ICMR has also cautioned that CHIS is a highly complex area and may require collaborations at different levels between researchers, institutions, organizations and/or between different countries as right expertise may not be available with one centre/research team.

166. [ISRO to launch PSLV-C56 carrying Singapore's new imaging satellite](#)

Source: The post is based on the article “**ISRO to launch PSLV-C56 carrying Singapore's new imaging satellite**” published in **The Hindu on 25th July 2023**.

What is the News?

Indian Space Research Organisation (ISRO) will be launching the Polar Satellite Launch Vehicle (PSLV-C56) mission.

What is the Polar Satellite Launch Vehicle (PSLV-C56) mission?

PSLV-C56 will lift off from the Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh.

It will carry Singapore's DS-SAR satellite and six other satellites.

DS-SAR satellite has been developed under a partnership between DSTA, representing the Government of Singapore and ST Engineering.

– The satellite carries a Synthetic Aperture Radar (SAR) payload developed by Israel Aerospace Industries (IAI).

– Once operational, the DS-SAR will support the satellite imagery requirements of various agencies within the Singapore government.

Six other satellites: The six other satellites include **1) VELOX-AM**, a 23 kg technology demonstration microsatellite **2) ARCADE**, an experimental satellite **3) SCOOB-II**, a 3U nanosatellite with a technology demonstrator payload **4) NuLiON** by NuSpace, an advanced 3U

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nanosatellite enabling seamless IoT connectivity in both urban and remote locations **5)** Galassia-2, a 3U nanosatellite set to orbit at low earth orbit and **6)** ORB-12 STRIDER, a satellite developed under international collaboration.

167. [FCI stops rice supply for ethanol production amid concerns over crop](#)

Source: The post is based on the article “**FCI stops rice supply for ethanol production amid concerns over crop**” published in **Business Standard on 25th July 2023**.

What is the News?

Food Corporation of India (FCI) has stopped the supply of rice from its depots for ethanol production.

Why has the FCI stopped the supply of rice for ethanol production?

Government had said the ban was aimed at containing inflation and to ensure adequate availability in the domestic market.

What will be the impact of this ban?

This FCI ban on supply of rice for ethanol production could impact India’s ambitious ethanol blending petrol (EBP) programme.

For instance, about 100 distilleries across the country depend on rice from the FCI for conversion into starch, which is processed to make ethanol.

– Dual-feed distilleries use sugarcane during the season and grains during the off-season. Both of them will get impacted due to the ban.

What is Ethanol blending petrol (EBP) programme?

[Click Here to read](#)

168. [OneWeb to set up India’s first ‘satellite network portal site’ in Gujarat: What is the project, its significance?](#)

Source: The post is based on the article “**OneWeb to set up India’s first ‘satellite network portal site’ in Gujarat: What is the project, its significance?**” published in **Indian Express on 23rd July 2023**.

What is the News?

The Gujarat government’s Department of Science and Technology (DST) has signed a Memorandum of Understanding with One Web India Communications Pvt Ltd to establish a ‘satellite network portal site’ in Mehsana, Gujarat.

What is OneWeb?

OneWeb Network Access Associates Limited is a communications company that aims to build broadband satellite Internet services. The company is headquartered in London.

It is powered by a constellation of 648 low Earth orbit (LEO) satellites.

It enables high-speed, low latency connectivity for governments, businesses and communities everywhere around the world.

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India's Bharti Enterprises is a major investor in OneWeb group.

What is the MoU signed between the Gujarat government and One Web?

OneWeb will set up a 'satellite network portal sites' in Mehsana, Gujarat.

OneWeb currently has 648 satellites in LEO orbiting at 1,000-1,200 km making 13 orbits per day, covering the entire globe.

The portal site will serve as a signal and data downlink and uplink terminal or base station on the ground, an intermediary for data transmission through satellite tracking antenna systems.

With this, the portal site will aim to provide affordable connectivity to various sectors including the government, offering continuous and secure satellite internet at affordable rates nationwide.

The setting up of this portal site will require a slew of regulatory approvals from the Indian National Space Promotion and Authorisation Centre (IN-SPACe) and spectrum allocation from the Telecom Regulatory Authority of India (TRAI).

Why was Gujarat chosen for the satellite network portal site?

The decision to set up the satellite network portal site in Gujarat was based on geographical and business interests, with Gujarat's long coastline making it suitable for maritime sector coverage.

169. [Govt. launches Meri Maati, Mera Desh campaign](#)

Source: The post is based on the article "**Govt. launches Meri Maati, Mera Desh campaign**" published in **The Hindu on 25th July 2023**.

What is the News?

The Union government has launched the *Meri Maati, Mera Desh* campaign.

What is the Meri Maati, Mera Desh campaign?

The Meri Maati Mera Desh campaign is envisaged as a culminating event of the 'Azadi Ka Amrit Mahotsav' celebration of 75 years of Indian Independence.

Activities planned under the campaign:

A memorial called "Shilaphalakam" will be built in every village or panchayat across the country to pay tribute to those who laid down their lives during the freedom struggle or defence personnel who lost their lives in the line of duty to mark 75 years of Independence.

– The memorials will be inaugurated between August 9 and August 15, 2023.

– A solemn pledge will be taken by people at the memorial site, affirming their commitment to the country.

– Work for the memorial may be executed through the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), leveraging local materials and resources.

Veeron Ka Vandan: It will facilitate freedom fighters, and the families of deceased freedom fighters.

Vasudha Vandhan: It envisages every gram panchayat or village renewing "Mother Earth by planting 75 saplings of indigenous species.

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Amrit Vatika: Volunteers have been tasked with collecting “mitti” — earth — from each of the panchayats or villages and bring them to the block level. From each block, a “mitti kalash”, or an urn carrying this earth, will be carried to Delhi.

– The soil from all parts of the country will be utilized to develop a unique garden, called Amrit Vatika.

In urban areas, events will be organized at local bodies, notified area councils, Cantonment Boards, and town panchayats from August 9 and 15 and in bigger municipalities and municipal corporations from August 16 to 20.

170. [What are marine heat waves, which have gripped parts of the world’s oceans this summer?](#)

Source: The post is based on the article **“What are marine heat waves, which have gripped parts of the world’s oceans this summer?”** published in **Indian Express on 24th July 2023.**

What is the News?

Since April 2023, ocean temperatures have remained at record-high levels giving rise to **Marine Heat Waves (MHWs)** around the globe.

What are Marine Heat Waves (MHWs)?

A marine heat wave is an extreme weather event. It occurs when the surface temperature of a particular region of the sea rises to 3 or 4 degree Celsius above the average temperature for at least five days. MHWs can last for weeks, months or even years.

What is the impact of marine heat waves on ocean life?

An increase of 3 or 4 degrees Celsius in average temperatures may not impact humans a lot. But it can be catastrophic for marine life.

For instance, MHWs along the Western Australian coast during the summer of 2010 and 2011 caused unexpected death of many fish or other aquatic animals over a short period of time.

– Another example is when high ocean temperatures in the tropical Atlantic and Caribbean in 2005 led to a massive coral bleaching event. A 2010 study showed that more than 80% of surveyed corals had bleached and over 40 per cent of the total surveyed had died.

– MHWs also fuel the growth of invasive alien species, which can be destructive to marine food webs.

How do marine heat waves affect humans?

Higher ocean temperatures, which are associated with MHWs, can make storms like hurricanes and tropical cyclones stronger.

With warmer temperatures, the rate of evaporation escalates and so does the transfer of heat from the oceans to the air. When storms travel across hot oceans, they gather more water vapour and heat.

This results in more powerful winds, heavier rainfall and more flooding when storms reach the land — meaning heightened devastation for humans.

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How is global warming affecting marine heat waves and oceans?

According to a 2018 study titled '**Marine heatwaves under global warming**' due to increase in global temperatures, MHWs have become longer-lasting, more frequent and intense in the past few decades. The study has also attributed 87 percent of MHWs to **human-induced warming**.

Moreover, **according to Copernicus Climate Change Service**, oceans have absorbed 90% of the additional heat caused by the release of greenhouse gases into the atmosphere from burning fossil fuels and deforestation in recent decades. This has increased the global mean sea surface temperature by close to 0.9 degree Celsius since 1850.

Hence, as global air temperatures increase, so will ocean temperatures leading to more MHWs.

171. [Social Security of Elders](#)

Source: The post is based on the article "**Social Security of Elders**" published in **PIB on 25th July 2023**

What is the News?

The Ministry of Social Justice and Empowerment has informed Lok Sabha about the social security measures taken for elders.

Elderly Population in India:

According to the 2011 Census, the population of senior citizens is 10.38 crore amounting to 8.6% of the total population of the country.

The National Commission on Population's Report of the Technical Group on Population Projections (2011-2036) for India and States released in 2020 states that the population of senior citizens in 2036 will be 22.7 crore ie.15% of the total population of India.

What are the Social Security measures taken for elderly population?

Umbrella Scheme of Atal Vayo Abhyuday Yojana (AVYAY): It is being run by the Department of Social Justice and Empowerment. It includes components to provide financial security, healthcare, nutrition, shelter, welfare etc. for senior citizens. Important components of the scheme:

- **Integrated Programme for Senior Citizens (IPSRc):** Under this, grant-in-Aid is given to Implementing Agencies for running and maintenance of Senior Citizens Homes where basic amenities like shelter, food, medical care, entertainment opportunities etc are provided free of cost to indigent senior citizens.
- **Rashtriya Vayoshri Yojna (RVY):** Under this, assisted living devices are distributed free of cost, in camp mode, to senior citizens belonging to the families living below the poverty line or having Rs. 15000/- as monthly income and suffering from age related disabilities.
- **Elderline/National Helpline for Senior Citizens (NHSC):** It provides free information, guidance, emotional support and field intervention in cases of abuse and rescues in order to improve the quality of life of senior citizens.

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Indira Gandhi National Old Age Pension Scheme (IGNOAPS): It is a part of National Social Assistance Programme (NSAP). It is a Centrally Sponsored Scheme of the Department of Rural Development.

– It provides a monthly pension at the rate of Rs.200/- per month per beneficiary to elderly persons in the age group of 60-79 years belonging to Below Poverty Line (BPL) households. The rate of pension is increased to Rs.500/- per month per beneficiary on reaching the age of 80 years.

National Programme for Health Care of the Elderly(NPHCE): It was launched by the Ministry of Health and Family Welfare in 2010-11 with a view to provide dedicated healthcare services to senior citizens at various level of State Health Care delivery system i.e., at Primary, Secondary and Tertiary health care, including outreach services.

172. [Lok Sabha passes contentious Biological Diversity Bill amid din](#)

Source: The post is based on the article “**Lok Sabha passes contentious Biological Diversity Bill amid din**” published in **The Hindu on 26th July 2023**

What is the News?

Lok Sabha has passed the Biological Diversity (Amendment) Bill, 2021.

What is the Biological Diversity (Amendment) Bill, 2021?

The Bill amends the Biological Diversity Act, 2002 to simplify compliance requirements for domestic companies.

Key Provisions of the Bill:

Significant shift

The Biological Diversity (Amendment) Bill, 2021 seeks to exempt registered AYUSH medical practitioners from intimating biodiversity boards before accessing biological resources



Traditional knowledge: A tribal harvesting *Arogyapacha* leaves from a forest in Kerala. S. MAHINSHA

■ It also aims at easing compliance burden, boosting investment and simplifying patent application processes

■ Environmental organisations have raised concerns about potential for “bio piracy”; they say amendments favour industry and there is lack of clarity on benefit sharing with local communities

The Bill exempts registered AYUSH medical practitioners and people accessing codified traditional knowledge among others from giving prior intimation to State biodiversity Boards to access biological resources for certain purposes.

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The Bill removes research and bio-survey activities from the purview of benefit sharing requirements.

Benefit sharing will be based on terms agreed between the user and the local management committee represented by the National Authority.

The bill decriminalizes a range of offences under the Act and substitutes them with monetary penalties.

What are the concerns with the Biological Diversity (Amendment) Bill, 2021?

Firstly, the term codified traditional knowledge has not been defined. A broad interpretation might exempt all local traditional knowledge from benefit sharing requirements.

Secondly, Environmental organizations such as Legal Initiative for Forests and Environment (LIFE) have said that the amendments were made to “solely benefit” AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy) firms and would pave the way for “bio piracy”.

Thirdly, the Bill decriminalizes offences under the Act and instead provides for a wide range of penalties. Further, the Bill empowers government officials to hold inquiries and determine penalties. It may be questioned whether it is appropriate to confer such discretion to government officials.

173. [Centre withdraws DNA Bill: What it says, and what are the objections against it](#)

Source: The post is based on the article “**Centre withdraws DNA Bill: What it says, and what are the objections against it**” published in **Indian Express on 26th July 2023**.

What is the News?

Government has withdrawn The DNA Technology (Use and Application) Regulation Bill 2019 from the Lok Sabha.

What is DNA Technology (Use and Application) Regulation Bill, 2019?

The DNA Technology (Use and Application) Regulation Bill, 2019 was introduced in Lok Sabha in 2019.

The Bill provides for the regulation of use of DNA technology for establishing the identity of certain persons.

The Bill was referred to the Department-related Parliamentary Standing Committee on Science and Technology. The committee submitted its report in 2021 recommending several changes in the draft.

What are the key provisions of the Bill?

[Click Here to read](#)

What are the key concerns with the bill?

Lack of privacy and dignity: Privacy concerns were paramount, especially with the establishment of DNA data banks and the possibility of misuse or mishandling of sensitive personal information.

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Data storage and security: Clear guidelines were required for the secure storage of DNA data, particularly in medical or research laboratories.

Inadequate consent requirements: The absence of explicit consent protocols for civil cases undermined individual agency and rights.

Misuse of DNA profiling: The potential linkage with surveillance systems raised concerns about possible misuse of DNA profiling data for caste-based or community profiling.

Lack of clarity on data storage: The scope of data that may be stored in the umbrella database required clearer guidelines to ensure data privacy and protection.

Insufficient guidelines for combining DNA technology with other Tools: The bill needed specific guidelines on the appropriate use of DNA technology in conjunction with other tools in the justice system to prevent potential miscarriages of justice.

Why has the DNA Technology (Use and Application) Regulation Bill, 2019 been withdrawn now?

The Bill has been withdrawn as the main provisions of the Bill have already been enacted as part of another law, the [Criminal Procedure \(Identification\) Act](#) that was passed by both houses of Parliament in 2022.

174. [New algorithm to quantify terrestrial RFI in space for earth orbiting radio astronomy experiments](#)

Source: The post is based on the article “**New algorithm to quantify terrestrial RFI in space for earth orbiting radio astronomy experiments**” published in **PIB on 25th July 2023**.

What is the News?

Scientists at Raman Research Institute (RRI), an autonomous institute of the Department of Science and Technology, have developed an algorithm called STARFIRE to estimate the Radio Frequency Interference(RFI) emitted by FM radio stations, WiFi networks and others.

Background:

In order to study the early Universe and its evolution, astronomers tune their radio antennas within the 40 to 200 MegaHertz (MHz) range in search of the 21-cm hydrogen line, believed to contain some of the unknown secrets about the cosmos.

However, given their faint and weak strength, detecting these signals is extremely challenging. In addition, the fast-advancing technologies and expanding areas of human settlements have led to an increased number of sources emitting Radio Frequency Interference(RFI) constraining the efforts for recording astronomical observations on land.

What have the researchers developed to estimate this Radio Frequency Interference(RFI)?

Scientists have developed an algorithm called **STARFIRE**.

This algorithm can estimate the Radio Frequency Interference(RFI) emitted by FM radio stations, WiFi networks, mobile towers, radar, satellites, and communication devices.

This calculation can be used for designing and fine-tuning the antennas and other instrument components of missions like India’s Probing ReionizATIOn of the Universe using Signal from Hydrogen (PRATUSH).

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Note: PRATUSH is one of the several mission opportunities in space contemplated to address the growing RFI on land, to study the birth of the first stars and galaxies in the Universe using the 21-cm hydrogen line obtained from the far side of the moon.

175. [Rehabilitation of Manual Scavengers](#)

Source: The post is based on the article “**Rehabilitation of Manual Scavengers**” published in **PIB on 25th July 2023**

What is the News?

The Ministry of Social Justice and Empowerment has informed Lok Sabha about the measures taken to rehabilitate Manual Scavengers.

What are the measures taken by the government of India to rehabilitate Manual Scavengers?

Prohibition of Employment as Manual Scavenger and their Rehabilitation Act 2013: It bans manual scavenging and hazardous cleaning of sewers and septic tanks.

Swachhta Udyami Yojana: It was launched by the Ministry of Social Justice and Empowerment in 2014.

– Under the scheme, National Safai Karamcharis Finance & Development Corporation (NSKFDC) provides concessional loans to safai karamcharis, manual scavengers & their dependents and the Urban Local Bodies & other agencies responsible for cleaning for procurement of sanitation related instruments/vehicles for complete mechanization of all cleaning operations.

Self Employment Scheme for Rehabilitation of Manual Scavengers (SRMS): It is a Central Sector Scheme of the Ministry of Social Justice and Empowerment (MSJE). The scheme was introduced in y 2007 and was subsequently revised in November 2013 and in 2020-2021.

– The objective of SRMS is to provide assistance to the identified manual scavengers and their dependents for their rehabilitation in alternative occupations.

The following rehabilitation benefits have been provided under the SRMS Scheme:

– **One-time Cash Assistance** of Rs. 40,000/- per family has been provided to all identified and eligible 58098 manual scavengers.

– **Capital Subsidy** upto Rs. 5,00,000/- has been provided to 2313 identified manual scavengers and their dependents to take up alternate self employment projects.

– **Skill Development Training** has been provided to 22294 identified manual scavengers and their dependents with stipend @ Rs. 3,000/- per month during the training period.

– **Health Insurance** under Ayushman Bharat, Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) to the families of all the identified manual scavengers

Workshops are organized in municipalities with the officers, engineers, contractors, sanitation workers etc. of urban local bodies to sensitize them about safe and healthy cleaning practices and mechanized cleaning of sewers & septic tanks.

[National Action for Mechanized Sanitation Ecosystem\(NAMASTE\)](#)

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176. [Geneva HIV patient cured? Can stem cell transplant help?](#)

Source: The post is based on the article “**Geneva HIV patient cured? Can stem cell transplant help?**” published in **Indian Express on 25th July 2023**

What is the News?

A sixth person with HIV, being referred to as the Geneva patient has likely been cured of HIV after receiving a stem cell transplant for leukemia.

What is Stem Cell Transplant?

Stem cells are special human cells that are able to develop into many different cell types.

Stem cell transplantation (SCT) , sometimes referred to as bone marrow transplant (BMT) is a procedure in which a patient receives healthy stem cells to replace damaged stem cells.

How was Stem Cell Transplant used in Geneva HIV patient?

The Geneva patient had been living with HIV since the 1990s and underwent a stem cell transplant in 2018 for an aggressive form of leukemia.

One month after the transplant, his doctors found that there was a significant reduction in the number of HIV-infected cells.

Twenty months later, his tests did not find any viral particles, latent reservoirs of the infection, or elevated immune response against the HIV virus.

However, unlike the five previous cases of remission, the Geneva patient’s cells continue to be susceptible to HIV.

Which genetic mutation is associated with lower risk of HIV?

People who inherit CCR5 delta 32 mutation are associated with lower risk of HIV (CCR5 delta 32 mutation mainly occurs in Caucasians).

This is because HIV lowers immunity in infected individuals by attacking the CD4 immune cells. However, to gain entry into these cells, it needs receptors on the surface.

But people who inherit the CCR5 delta 32 mutation from both sets of parents do not form these receptors, essentially locking the virus out of the cells. Even those who inherit the mutation from one of the parents have fewer receptors and are also less likely to get the infection.

Can stem cell transplant become routine treatment for HIV?

It is highly unlikely. There are 38.4 million people living with HIV currently and it would be impossible to find a matching donor for all of them.

Besides, stem cell transplantation is a major procedure and comes with its own risks including the risk of the patient rejecting the donor cells. Even with the transplants, the virus may learn to infect cells through other mechanisms.

Instead, treatment of HIV across the world depends on **effective antiretroviral therapy**. This therapy suppresses the replication of the virus within the body, allowing the number of CD4 immune cells to bounce back. It also reduces the viral particles to undetectable levels, meaning the person can no longer transmit the infection to others. However, the anti-retroviral therapy needs to be taken for life.

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177. [Moon missions offer tough tests – landers, the toughest](#)

Source: The post is based on the article “**Moon missions offer tough tests – landers, the toughest**” published in **The Hindu on 26th July 2023**.

What is the News?

According to the data, historically 40% of moon missions have failed and 60% of lander missions have been unsuccessful.

What is the data on the success rate of Moon Missions?

Moon Missions: Historically, over 40% of moon missions have failed.

- If we consider only those missions which involved a robotic lander (a spacecraft performing a controlled landing on the lunar surface), the failure rate sharply increases to over 60%.
- The failure rate of ‘sample return’ missions, which collect samples from the moon and bring them back to the earth is even higher at 67% as such missions are complex and riskier.
- Impactor missions, in which a spacecraft or a part of it is deliberately made to collide with the moon in order to study the resulting crater or dust plume, also have a high failure rate of 56.3%.

Chandrayaan 2 Mission: Indian Space Research Organisation (ISRO) Chandrayaan 2 mission was launched in 2019. The lander of Chandrayaan 2 ‘Vikram’ lost contact with the earth and went blank minutes before lunar touchdown. The mission of the lander and the rover ‘Pragyan’ was declared a failure. The orbiter mission was a success as the orbiter was placed in the intended orbit.

Total number of lunar missions completed by decade: The 1950s had a very high failure rate across mission types. All the orbiter missions failed. The overall failure rate was 84.6%.

- The 1960s saw the highest number of moon missions (74) for any decade thus far. But the overall failure rate remained relatively high at 62.2%.
- The 1970s were much better with 40 missions and just a 25% failure rate. In general, the number of moon missions dropped in the following decades.
- The 2000s stood out as all the missions succeeded. The 2010s also had a much lower failure rate of 22% But the number of unsuccessful missions went up again in the following decade and the overall failure rate rose to 47.1%.

178. [Full-reserve banking: where banks act solely as custodians of customers’ money](#)

Source: The post is based on the article “**Full-reserve banking: where banks act solely as custodians of customers’ money**” published in **The Hindu on 26th July 2023**.

What is the News?

This article talks about the Full-reserve banking system.

What is Full-reserve banking?

Full-reserve banking also known as 100% reserve banking refers to a system of banking where banks are not allowed to lend out money that they receive from customers in the form of demand deposits.

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The banks can only lend money that they receive as time deposits from their customers.

Hence, in this case, banks simply act as custodians to depositors' money and may charge a fee from depositors for the service of safekeeping that they offer to the depositors. This is in contrast to today's banking system in which banks pay interest to customers on their demand deposits.

This is done to ensure that banks can successfully meet redemption demands from depositors, and thus avoid a run on the bank even if all depositors someday decide to come asking for their money at the same time.

Note: Demand deposits are deposits that customers can withdraw from the bank at any point in time without any prior notice.

– Time deposits are deposits that customers can withdraw from the bank only after a certain period of time that is agreed upon between the bank and its customers.

What is the type of banking system that exists in most of the countries currently?

The banking system that exists today is known as the **fractional-reserve banking system**.

Fractional-reserve banking is the banking system under which banks that take deposits from the public are required to hold a proportion of their deposit liabilities in liquid assets as a reserve, and are at liberty to lend the remainder to borrowers.

Bank reserves are held as cash in the bank or as balances in the bank's account at the central bank.

The country's central bank determines the minimum amount that banks must hold in liquid assets, called the "reserve requirement" or "reserve ratio".

What are the experts' views on the Full reserve and Friction reserve banking system?

Supporters of fractional-reserve banking believe that full-reserve banking unnecessarily restricts bank lending. They believe that allowing banks to create loans without the necessary savings to back these loans can help spur investment and economic growth.

However, proponents of full-reserve banking argue that it is the only natural form of banking and that it can prevent the various crises that affect today's fractional-reserve banking system.

The full-reserve banking supporters also argue that since banks will not be able to create money out of thin air in a full-reserve banking system, their influence on the economy's money supply will become severely restricted. This will prevent artificial economic booms and busts that are said to be the consequence of changes in money supply.

179. [Safety limits to flying](#)

Source: The post is based on the article "**Safety limits to flying**" published in **Indian Express on 26th July 2023**

What is the News?

Recently, around 100 passengers were stranded in Rajkot after their Air India flight to Delhi was cancelled.

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The pilot had refused to take off because the permitted duty hours of the crew were over, and operating the flight would have violated the flight duty time limitation (FDTL) norms laid down by India's aviation safety regulator.

What are Flight duty time limitation(FDTL) norms?

FDTL norms in India

IN INDIA, maximum flight duty periods per day are stipulated on the basis of maximum permitted landings and flight times. Rest periods are mandatory between flight duty periods, and in-flight for long-haul flights. There are guidelines for scheduling night operations, and maximum cumulative flight time and duty periods per week, two weeks, four weeks, 90 days, and 1 year. There are special norms for ultra-long-haul flights.¶

AIRLINES MUST establish their own limitations on these counts within the DGCA's framework of fatigue management regulations, which are based on ICAO standards and best practices of the US aviation regulator Federal Aviation Administration (FAA) and the European Union Aviation Safety Agency (EASA).¶

UNDER DGCA RULES, airlines can't ask the crew to operate a flight if the

prescribed time limitations are exceeded. They are also not supposed to ask a crew member to fly if it is known or suspected that he/she "is fatigued to the extent that the safety of flight may be adversely affected". Airlines are required to prepare flight crew rosters "sufficiently in advance".¶

CARRIERS ARE REQUIRED to train flight crew on fatigue management, and maintain a non-punitive and confidential system of fatigue report management, through which incidents of crew fatigue can be brought to light. Airlines must define executive responsibility for addressing fatigue management.¶

FLIGHT CREWS also have responsibility and accountability. Regulations expressly prohibit crew from accepting assignments that exceed the prescribed limitations. They are also not supposed to perform duties if it is known or suspected that they are fatigued.

Source: Indian Express

[Click Here to read](#)

Which airports usually face the problem of Flight duty time limitation(FDTL)?

Smaller airports are usually more susceptible to FDTL-related disruptions because they are unlikely to have standby crew, and it is difficult to mobilize them at short notice.

What are the challenges Indian air carriers are expected to face in the coming years?

Shortage of Pilots: Given the volume of traffic, India does not see many FDTL-related disruptions currently.

But this could change in the coming years as Indian carriers expand their fleet and networks and a steady supply of additional pilots is required.

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This could put pressure on the existing pool of pilots. In the worst case, airlines could face a major impediment to their growth plans even as demand surges.

For instance, India currently is estimated to have around 9,000 pilots for a fleet of some 700 aircraft currently.

Almost 2,000 additional pilots may be needed every year over the next few years to keep up with the expected pace of fleet expansion. This is more than double the number of commercial pilot licenses that the DGCA currently issues annually.

Moreover, the most acute shortage is expected to be of the experienced pilots or captains who lead the crew and are in charge of the flight. It takes a few years for a pilot to be promoted as captain and it is estimated that the existing Indian airline ecosystem produces fewer than 200 captains a year

180. [Scientists unveil method to power devices using air humidity](#)

Source: The post is based on the article **“Scientists unveil method to power devices using air humidity”** published in **The Week on 20th July 2023**

What is the News?

Researchers at the University of Massachusetts Amherst have successfully developed a technology called Hygroelectricity.

What is Hygroelectricity?

Hydroelectricity is a technology that can harvest electricity from nothing but humid air.

This technology was first explored by physicist Nikola Tesla and has been the subject of scientific inquiry for decades.

How does Hygroelectricity works?

The key to harvesting electricity from humid air lies in a tiny device comprising two electrodes and a thin layer of material filled with nanopores.

These nanopores, each less than 100 nanometres in diameter, allow water molecules from the air to pass through the device.

As these molecules move from an upper chamber to a lower chamber, they interact with the edges of the nanopores, leading to a buildup of electric charge imbalances between the chambers.

This process effectively transforms the device into a miniature battery, generating continuous electricity.

What are the advantages of Hygroelectricity?

The advantage of Hygroelectricity is its versatility. Unlike other renewable energy sources such as solar and wind, air humidity is continuously available making it a sustainable reservoir of energy.

Moreover, this technology can be applied to a wide range of materials including wood and silicon, as long as they possess the required nanopores. This breakthrough dramatically increases its potential for broad deployment and scalability.

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What are the challenges to Hygroelectricity?

The concept of generating electricity from air humidity is both promising and fascinating.

But some challenges lie ahead such as the nanopore device used by scientists can only produce electricity equivalent to a fraction of a volt. Hence, scaling up the technology to meet practical energy demands is a significant hurdle.

181. [530 districts reported as free of manual scavenging: Centre](#)

Source: The post is based on the article “**530 districts reported as free of manual scavenging: Centre**” published in **The Hindu on 27th July 2023**.

What is the News?

The Ministry of Social Justice has provided data on the Manual Scavenging.

What is the Status of Manual Scavenging in India?

Free from Manual Scavenging: Total 530 of 783 districts (as of March 2023) in India had so far declared themselves to be free of manual scavenging.

State wise Manual Scavenging: 100% of the districts in States such as Bihar, Rajasthan, Tamil Nadu and a few others had declared themselves to be free of manual scavenging.

– Jammu and Kashmir, Manipur, Telangana, Andhra Pradesh, West Bengal and Jharkhand are among the States and Union Territories that have the highest number of districts yet to declare themselves free of manual scavenging.

– Uttar Pradesh which had the highest number of manual scavengers (32,473) in two surveys conducted till 2018 has nearly 90% districts reporting to be free of manual scavenging.

Deaths: Between 2018 and 2023, 339 people lost lives while cleaning sewers and septic tanks in India.

– Nine such deaths were recorded in 2023, 66 in 2022, 58 in 2021, 22 in 2020, 117 in 2019 and 67 deaths in 2018.

Caste with highest Manual Scavenging: According to data released by the government in Parliament in 2021, over 90% of manual scavengers identified in the surveys till 2018, were from the Scheduled Caste communities.

182. [Harness silvopasture systems for local climate resilience](#)

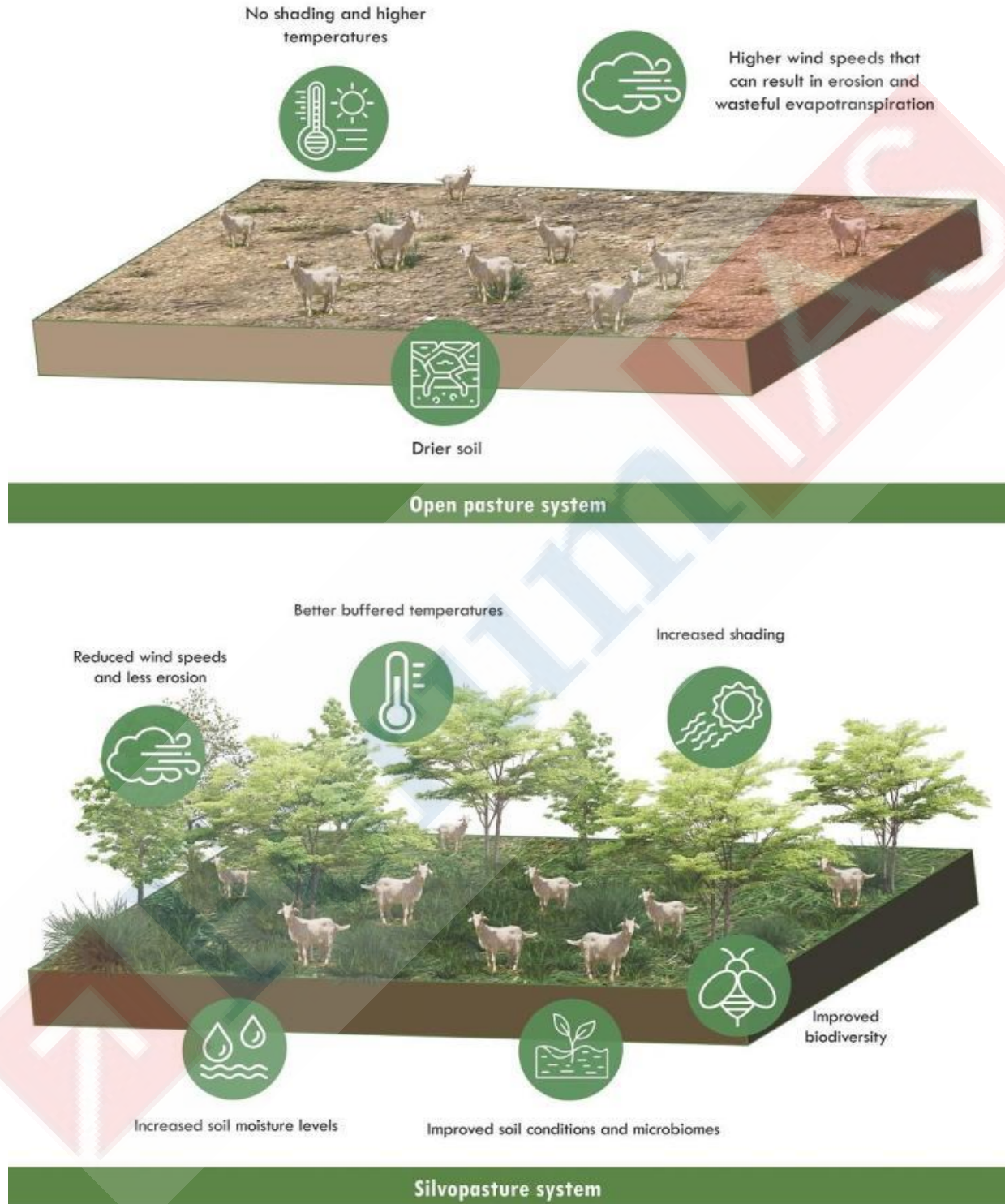
Source: The post is based on the article “**Harness silvopasture systems for local climate resilience**” published in **Down To Earth on 25th July 2023**.

What is the News?

In light of the global deterioration of natural resources and forests, silvopasture systems offer a relevant solution to deforestation trends.

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What is Silvopasture?



Source: Down to Earth

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Silvopasture is an ancient and proven practice that harmoniously integrates trees, forage and livestock on the same land.

By combining these elements, silvopasture brings numerous environmental advantages, including improved local climate resilience.

Silvopasture practices currently cover a vast expanse of 550 million hectares worldwide.

What are the advantages of Silvopasture?

Deforestation: Silvopasture can play a vital role in reversing the negative trend of deforestation for pasture land.

Carbon Sinks: The trees on silvopasture lands act as natural carbon sinks, sequestering five to 10 times more carbon than pastures without trees.

Regulate local climatic conditions: Silvopasture systems also regulate local climatic conditions, buffering against temperature and wind extremes, providing a favorable living environment for livestock.

Nutrition cycle: The extensive root systems of trees within silvopasture plots contribute to nutrient cycling, improved soil stability and quality while effectively combating erosion.

Soil infiltration rates: Soil infiltration rates in silvopasture systems surpass those of open pastures, enhancing water storage potential.

Livestock: The cattle utilized the silvopasture landscape more evenly as there was more shading throughout the plot, reducing heat stress during the warm-weather portions of the year.

183. [LS passes Forest Conservation \(Amendment\) Bill](#)

Source: The post is based on the article “**LS passes Forest Conservation (Amendment) Bill**” published in **The Hindu on 27th July 2023**

What is the News?

Lok Sabha has passed the Forest Conservation (Amendment) Bill. The Bill was introduced to amend the Forest Conservation Act, 1980.

What are the key provisions of the Forest Conservation (Amendment) Bill, 2023?

The Bill amends the Forest (Conservation) Act, 1980 to make it applicable to certain types of land. These include land notified as a forest under the Indian Forest Act, 1927 or in government records after the 1980 Act came into effect. The Act will not be applicable for land converted to non-forest use before December 12, 1996.

It also exempts certain types of land from the purview of the Act. These include land within 100 km of India's border needed for national security projects, small roadside amenities, and public roads leading to a habitation.

The state government requires prior approval of the central government to assign any forest land to a private entity. The Bill extends this to all entities, and allows the assignment to be made on terms and conditions specified by the central government.

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The Act specifies some activities that can be carried out in forests, such as establishing check posts, fencing, and bridges. The Bill also allows running zoos, safaris and eco-tourism facilities.

What are the objections raised against the Forest Conservation (Amendment) Bill, 2023?

Firstly, the amendments “diluted” the Supreme Court’s 1996 judgement in the *Godavarman case* that extended protection to wide tracts of forests, even if they were not recorded as forests.

Secondly, there were objections to the Act’s new name — Van (Sanrakshan Evam Samvardhan) Adhiniyam, translated as Forest (Conservation and Augmentation) Act, instead of the existing Forest (Conservation) Act — saying it was “non-inclusive” and left out many among the “(non-Hindi speaking) population in south India and in the northeast”.

Thirdly, there are fears that large parcels of forest land near the borders would no longer be protected.

184. [Study on Global Warming](#)

Source: The post is based on the article “**Study on Global Warming**” published in **PIB on 26th July 2023**

What is the News?

The Union Minister of Earth Sciences has informed Lok Sabha about the studies and steps taken against Global Warming.

What are the studies conducted on Global Warming?

The Ministry of Earth Sciences (MoES) has published ‘**Assessment of Climate Change over the Indian Region**’.

Purpose: The report contains a comprehensive assessment of the impact of climate change upon the Indian subcontinent.

The key highlights of the report are:

- India’s average temperature has risen by around 0.7°C during 1901-2018.
- Frequency of daily precipitation extremes (rainfall intensities >150 mm per day) increased by about 75% during 1950-2015.
- The frequency and spatial extent of droughts over India has increased significantly during 1951-2015.
- Sea-level rise in the North Indian Ocean occurred at a rate of 3.3 mm per year in the last two and half decades (1993-2017)
- Frequency of Severe Cyclonic Storms over Arabian sea has increased during the post monsoon seasons of 1998-2018.

What are the steps taken against Global Warming?

Warnings related to severe weather events: India Meteorological Department (IMD) issues forecasts and warnings related to severe weather events including heat waves, in different spatial and temporal scales (seasonal, monthly and daily) and shares the same with the public as well as disaster management authorities so as to initiate required mitigation measures.

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Heat Index: IMD has launched an experimental Heat Index to provide general guidance for the regions within India where the apparent temperature/feel like temperature (considering the impact of Humidity along with the temperature) are on a higher side causing discomfort for the human beings.

Heat Action Plan: IMD in collaboration with NDMA and local health departments have started Heat Action Plan in many parts of the country.

– The Heat Action Plan is a comprehensive early warning system and preparedness plan for extreme heat events. It became operational since 2013.

– The Plan presents immediate as well as longer-term actions to increase preparedness, information-sharing, and response coordination to reduce the health impacts of extreme heat on vulnerable populations.

185. India's rice export ban impacts Asian and African nations most

Source: The post is based on the article **“India's rice export ban impacts Asian and African nations most”** published in **The Hindu on 27th July 2023**

What is the News?

Panic-stricken Non-Resident Indians (NRIs) in the United States are rushing to grocery stores and supermarkets to hoard bags of rice.

The sudden rush to hoard bags of rice in the United States was triggered by the Indian government's decision to ban the export of non-basmati white rice.

What is the data on India's rice exports?

Over time, India exported varying quantities of three types of semi/wholly milled rice. Non-basmati white rice took the lead in the last two fiscal years, surpassing basmati rice in export share.

However, non-basmati white rice, which previously accounted for over a quarter of the exports, has now been banned from exports.

The aim behind the ban was to ensure sufficient availability of rice in the Indian market and to curb the increase in prices domestically.

Note: India did not restrict the export of the other types of semi/wholly milled rice — basmati and parboiled rice.

What will be the impact of India's rice export ban on other countries?

In FY23, non-basmati white rice from India was purchased by more than 140 countries.

The ban's most significant impact will be felt in neighboring countries like Nepal and Bangladesh, as well as African nations like Madagascar, Benin, Kenya, and Ivory Coast, and Asian countries such as Malaysia and Vietnam, along with the UAE which are the largest buyers of this rice type.

The U.S. ranks 34th on the list of non basmati rice imports from India. This suggests that the uproar over rice in the U.S. may be due to reporting bias, as there are 33 other countries more affected by the ban.

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186. [2D nanoflakes of material extracted from iron ore can protect sensitive optical equipment from light-induced damage](#)

Source: The post is based on the article “**2D nanoflakes of material extracted from iron ore can protect sensitive optical equipment from light-induced damage**” published in **PIB on 27th July 2023**

What is the News?

Researchers in India have developed a new and highly efficient optical limiter using a novel 2D material, ‘hematene’.

They found that 2D nanoflakes of hematene are capable of withstanding and acting as shield from high laser intensities.

Hence, it could be used to make devices called optical limiters that can protect sensitive optical equipment from light-induced damage.

What are Nanoflakes?

Nanoflakes are a type of nanomaterial that consists of thin, two-dimensional (2D) flakes with nanoscale dimensions. These flakes typically have a high aspect ratio, meaning their length is much greater than their thickness.

Nanoflakes can be made from a variety of materials, including metals, metal oxides, semiconductors, and other types of nanomaterials.

Nanoflakes have attracted significant attention in various fields of science and technology, such as nanoelectronics, photonics, catalysis, energy storage, and sensing applications.

Their large surface area-to-volume ratio and unique electronic properties make them promising candidates for enhancing the performance of many devices and technologies.

What is Hematene?

Hematene refers to a nanomaterial derived from hematite, which is an iron oxide mineral. Hematite has a reddish-black color and is a common mineral found in nature.

Hematene is created by exfoliating, or peeling off, thin layers of hematite to obtain a two-dimensional (2D) nanomaterial with nanoscale thickness.

The unique properties of Hematene as a 2D nanomaterial, make it interesting for various applications in nanotechnology, such as in electronics, sensing and energy storage.

187. [Why trade unions in Kerala are opposing Centre’s power sector revamp scheme](#)

Source: The post is based on the article “**Why trade unions in Kerala are opposing Centre’s power sector revamp scheme**” published in **Indian Express on 27th July 2023**

What is the News?

The Kerala government is facing trouble over the Centre’s Revamped Distribution Sector Scheme (RDSS).

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What is Revamped Distribution Sector Scheme(RDSS)?

Government of India has launched the Revamped Distribution Sector Scheme (RDSS) for the duration of 5 years i.e. from (FY 2021-22 to FY 2025-26).

Aim: To reduce the Aggregate Technical & Commercial (AT&C) losses to pan-India levels of 12-15% and Average Cost of Supply (ACS)-Average Revenue Realized(ARR) gap to zero by 2024-25.

Components: The Scheme has two major components: **Part 'A'** – Financial support for Prepaid Smart Metering & System Metering and upgradation of the Distribution Infrastructure and **Part 'B'** – Training & Capacity Building and other Enabling & Supporting Activities.

– Financial assistance to DISCOMs is provided for upgradation of the Distribution Infrastructure and for Prepaid Smart Consumer Metering & System Metering based on meeting pre-qualifying criteria and achieving basic minimum benchmark in reforms.

– The smart meters are meant to facilitate the reduction of distribution losses and enable automatic measuring of energy consumption.

– The installation of the pre-paid meters is to be done through the TOTEX (total expenditure, including capital expenditure and operational expenditure) model with public-private participation.

Why are organizations in Kerala opposing the RDSS project?

Trade unions are opposing the TOTEX model, in which a private firm installs and maintains smart meters. The private agency will recover the cost incurred in installments. The unions fear that the smart meter system will thus pave the way for the privatization of power distribution in the state.

What is the alternative suggested by the trade unions opposing the project?

Trade Unions opposing the TOTEX model claim that the state should manufacture smart meters using the technology developed by the central government institution Centre for Development of Advanced Computing (C-DAC) which is willing to share the know-how. This will help bring down the cost of the smart meters significantly.

188. [UNESCO endorses banning smartphones in schools](#)

Source: The post is based on the article “UNESCO endorses banning smartphones in schools” published in **The Hindu on 27th July 2023**

What is the News?

The United Nations Educational, Scientific and Cultural Organization (UNESCO) has released its Global Education Monitoring Report,2023 titled “Technology in education: a tool on whose terms?”.

What are the key highlights from the Global Education Monitoring Report,2023?

The report has endorsed the ban on smartphones in schools and has warned against an uncritical rush toward embrace of digital products in educational settings. This is because:

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Firstly, there is little robust evidence on digital technology's added value in education. It cited the example of how Pearson funded its own studies, contesting independent analysis that showed its digital products had no impact on education.

Secondly, technology integration does not improve learning. It highlighted that mere proximity to a mobile device was found to distract students and have a negative impact on learning in 14 countries. But still only one in four countries have banned smartphone use in schools.

Thirdly, the report cited a study of young people between the ages of two and 17 which showed that higher screen time was associated with poorer well-being; less curiosity, self-control and emotional stability; higher anxiety and depression diagnoses.

Fourthly, the report has flagged the higher costs of delivering basic education where there is a dependence on the setting up of digital infrastructure and how this could worsen the problem of unequal access in low-income countries.

– For instance, the cost of moving to basic digital learning in low-income countries and connecting all schools to the Internet in lower-middle-income countries would add 50% to their current financing gap for achieving national SDG 4 targets.

Lastly, another major concern around the indiscriminate use of digital technology in education was children's privacy. Children's data are being exposed yet only 16% of countries explicitly guarantee data privacy in education by law.

– One analysis found that 89% of 163 education technology products recommended during the pandemic could survey children.

189. [Nature inspires breakthrough achievement: Hazard-free production of fluorochemicals](#)

Source: The post is based on the article “**Nature inspires breakthrough achievement: Hazard-free production of fluorochemicals**” published in **Phys.org** on **20th July 2023**

What is the News?

Researchers at the University of Oxford have achieved a groundbreaking breakthrough by developing a new technique to produce **fluorochemicals** without using hazardous hydrogen fluoride (HF) gas

What are Fluorochemicals?

Fluorine is a highly reactive element that comes from a calcium salt called calcium fluoride, or fluorspar.

Fluorine is used to make fluorochemicals, which in turn are used to produce plastics, agrochemicals, lithium-ion batteries and drugs.

What is the process of making Fluorochemicals and what are its drawbacks?

Process: Fluorspar is mined and then treated with sulphuric acid at a high temperature to release hydrogen fluoride (HF). HF is then made to react with other compounds to create fluorochemicals.

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Drawback: A major downside of this process is that HF is an extremely poisonous and corrosive liquid that irritates the eyes and respiratory tract even at low concentrations. It also requires special transportation and storage requirements.

– Moreover, despite stringent safety regulations, HF spills have occurred numerous times in the last decades, sometimes with fatal accidents and detrimental environmental effects.

What have the researchers developed to overcome this drawback in making Fluorochemicals?

Researchers took inspiration from how the human body makes bones and teeth through calcium phosphate biomineralisation.

Based on this, they developed an innovative process which involved grinding fluorospar with potassium phosphate in a ball-mill. While fluorine is very reactive, calcium atoms prefer phosphorus even more, so the milling created calcium phosphate and another compound with fluorine atoms. They called this process **Fluoromix**.

When this Fluoromix was reacted with organic compounds, it could create around 50 fluorochemicals with up to 98% yield.

Significance: This new method has the potential to enhance safety and environmental impact, streamline the supply chain and reduce energy demands in the rapidly expanding global fluorochemical industry.

190. [SEBI chief says instant settlement of trades in the works: What does it mean, and how will investors benefit?](#)

Source: The post is based on the article “**SEBI chief says instant settlement of trades in the works: What does it mean, and how will investors benefit?**” published in **Indian Express on 25th July 2023**.

What is the News?

The Securities and Exchange Board of India (SEBI) Chief has said that he is working on real-time settlement of transactions in India’s stock exchanges.

What is meant by Trade Settlement?

‘Settlement’ is a two-way process that involves the transfer of funds and securities on the settlement date.

A trade settlement is said to be complete once purchased securities of a listed company are delivered to the buyer and the seller gets the money.

Currently, there is a lag between trade and settlement — the settlement date is different from the trade date.

This is because the current cycle of trade settlement is ‘T+1’. This means trade-related settlements happen within a day, or within 24 hours of the actual transaction. The migration to the T+1 cycle came into effect in January, 2023.

Note: India became the second country to start the T+1 settlement cycle in top listed securities after China.

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What has SEBI announced now?

SEBI has said it is working on a plan for “instantaneous” settlement of trades in the securities market.

This means same-day, or ‘T+0’, settlement of trades will be possible with the real-time payment system — Unified Payments Interface (UPI), online depositories, and technology stack.

What will T+0 change for investors?

Under the current T+1 settlement cycle, if an investor sells securities, the money gets credited into her account the following day.

Under the T+0 settlement cycle, if investors sell shares, they will get the money in their account instantaneously and the buyers will get the shares in their demat accounts the same day.

This means that the investor’s money will not get stuck with brokers or stock exchanges, they will get the money on the same day after the transactions happen.

191. [House panel for DGCA-like authority for cybersecurity](#)

Source: The post is based on the article “**House panel for DGCA-like authority for cybersecurity**” published in **Business Standard on 28th July 2023**.

What is the News?

The Standing Committee on Finance has given several recommendations on cybersecurity and other issues.

What are the issues highlighted by the Standing Committee on Finance?


According to the Indian Computer Emergency Response Team (CERT-In), more than 13 million cybersecurity incidents were tracked in 2022 alone.

As per the Union Home Ministry, the volume of financial crimes reported increased from 2.62 lakhs in the financial year 2020-21 to 6.94 lakhs in 2022.

As per Indian Cyber Crime Coordination Centre, out of 6.9 lakhs complaints related to financial frauds in 2022, an FIR was issued only in 2.6% of the cases.

There is a major disparity in the cyber-resilience of commercial banks, cooperative banks and non-banking financial institutions. While all commercial banks have completed cyber security related audits, only a small percentage of cooperative banks, approximately 10.92 per cent – 206 out of 1886 entities – have undertaken such audits.

What are the recommendations given by the Standing Committee on Finance?



RECOMMENDATIONS

- Regulate third-party service providers, including Big Tech and telecom companies
- Whitelisting framework for digital lending agencies
- Adopt proactive approach to global security regulations
- Collaborate with financial institutions to improve service uptime and address recurring downtime issues
- Establish a centralised 'Cyber Protection Authority'

Source: Business Standard

Firstly, Establish a centralized and empowered Cyber protection authority(CPA) similar to the Directorate General of Civil Aviation (DGCA) to tackle the rising instances of white-collar crimes in cyberspace.

– One of the tasks of the CPA should be to create and maintain a Central Negative Registry, which would include information on fraudsters' accounts and the official documents they have utilized.

Secondly, the Centre should mandate Apple and Google to share “exhaustive” metadata, developer identities, and ownership and origin of apps they host on their respective app stores to curb financial fraud.

– The committee said that sharing such information with the government will empower regulators to conduct in-depth analysis, identify potential security vulnerabilities and institute appropriate measures to fortify the digital landscape.

Thirdly, create a whitelisting framework for Digital Lending Agencies (DLAs) and other financial intermediaries.

– This measure is intended to combat fraudulent activities and promote a standardized code of conduct within the digital lending industry, thus fostering a more secure and trustworthy environment for consumers.

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192. [Cinematograph Bill aimed at curbing piracy passed by RS](#)

Source: The post is based on the article “**Cinematograph Bill aimed at curbing piracy passed by RS**” published in **The Hindu on 28th July 2023**

What is the News?

The Rajya Sabha has passed the Cinematograph (Amendment) Bill, 2023.

What is the Cinematograph (Amendment) Bill, 2023?

The Bill amends the Cinematograph Act, 1952. The Act constitutes the Board of Film Certification for certifying films.

Key Provisions of the bill:

Additional certificate categories: The Bill adds certain additional certificate categories based on age.

– Under the Act, film may be certified for exhibition: (i) without restriction (‘U’), (ii) without restriction, but subject to guidance of parents or guardians for children below 12 years of age (‘UA’), (iii) only to adults (‘A’), or (iv) only to members of any profession or class of persons (‘S’).

– The Bill substitutes the UA category with the following three categories to also indicate age-appropriateness: (i) UA 7+, (ii) UA 13+, or (iii) UA 16+. The age endorsement within the UA category by the Board will inform guidance of parents or guardians, and will not be enforceable by any other persons other than parents or guardians.

Separate certificate for television/other media: Films with an ‘A’ or ‘S’ certificate will require a separate certificate for exhibition on television or any other media prescribed by the central government. The Board may direct the applicant to carry appropriate deletions or modifications for the separate certificate.

Unauthorized recording and exhibition to be punishable: The bill prohibits the unauthorized recording of films and their exhibition.

– An unauthorized recording means making or transmitting an infringing copy of a film at a licensed place for film exhibition without the owner’s authorisation.

– An unauthorized exhibition means the public exhibition of an infringing copy of the film for profit: (i) at a location not licensed to exhibit films or (ii) in a manner that infringes upon the copyright law.

– The above offences will be punishable with: (i) imprisonment between three months and three years, and (ii) a fine between three lakh rupees and 5% of the audited gross production cost.

Certificates to be perpetually valid: Under the Act, the certificate issued by the Board is valid for 10 years. The Bill provides that the certificates will be perpetually valid.

193. [National Framework for Safe Reuse of Treated Wastewater](#)

Source: The post is based on the article “**National Framework for Safe Reuse of Treated Wastewater**” published in **PIB on 27th July 2023**.

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What is the News?

Minister of State for Jal Shakti has informed Lok Sabha about the Arth Ganga Model and the initiatives taken to promote the reuse of treated water.

What is the Arth Ganga Model?

[Click Here to read](#)

What are the initiatives taken by the government to promote the reuse of treated water?

National Framework for Safe Reuse of Treated Wastewater: It has been published by the National Mission for Clean Ganga (NMCG). The framework gives guidelines for the formulation of State reuse policy and is intended to build appropriate market and economic models for the reuse of treated wastewater.

Centre of Excellence (CoE) on water reuse has been established in partnership with The Energy Research Institute (TERI) on Water Reuse at the TERI Headquarters in New Delhi.

Thermal Power Plants (TPPs) are required by the Ministry of Power's Tariff Policy 2016 to use treated sewage water from Sewage Treatment Plants (STPs) operated by municipalities or other local authorities located within a 50 km radius.

Central Pollution Control Board (CPCB) has formulated a charter based participatory approach to facilitate the industries for water recycling and pollution prevention in major industrial sectors like Pulp & Paper, Sugar, Textile and Tannery in river Ganga main stem states.

Industry Specific Improvement: Reuse and recycling of wastewater in Industries has been promoted in water intensive grossly polluting industrial units along river Ganga.

194. [Lok Sabha passes Jan Vishwas \(Amendment of Provisions\) Bill, 2023 in Parliament](#)

Source: The post is based on the article "**Lok Sabha passes Jan Vishwas (Amendment of Provisions) Bill, 2023 in Parliament**" published in **PIB on 27th July 2023**.

What is the News?

The Jan Vishwas (Amendment of Provisions) Bill, 2023 has been passed in Lok Sabha.

What is the Jan Vishwas (Amendment of Provisions) Bill, 2023?

The Jan Vishwas Bill aims to decriminalize around 180 offences by amending 42 laws across sectors including environment, agriculture, media, industry and publication.

Some of the acts which are being amended include The Drugs and Cosmetics Act, 1940; Public Debt Act, 1944; Copyright Act, 1957; Patents Act, 1970; Environment (Protection) Act, 1986; Motor Vehicles Act, 1988 among others.

The offences will be decriminalized by either **1)** eliminating both imprisonment and/or fine **2)** removing imprisonment while retaining or increasing fines or **3)** changing imprisonment and/or fine to penalties.

Moreover, the bill removes all offences under the Post Office Act, 1898.

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What are the benefits of the Bill?

Firstly, the Bill will help in rationalizing criminal provisions to ensure that citizens, businesses and the government departments operate without fear of imprisonment for minor or technical defaults.

Secondly, the bill establishes a balance between the severity of the offence or violation committed and the gravity of the prescribed punishment.

Thirdly, the technical and procedural lapses and minor defaults had been burdening the justice delivery system and delaying the adjudication of serious offences. Therefore, the bill would reduce undue pressure on the justice system and reduce the pendency of cases.

Fourthly, the decriminalization of provisions which affect citizens and some government employees will help them live without the fear of imprisonment for minor violations.

Lastly, it will help in rationalizing laws, eliminating barriers and bolstering growth of businesses and will save time and cost for both the government and businesses.

195. [Self Reliant India Fund](#)

Source: The post is based on the article “**Self Reliant India Fund**” published in **PIB on 27th July 2023**

What is the News?

The Minister for Micro Small and Medium Enterprises has informed Lok Sabha about the Self Reliant Fund and the other initiatives taken by the government for the MSME Sector.

What is the Self Reliant India(SRI) Fund?

Self Reliant India Fund was set up in 2021.

It is a Category-II Alternative Investment Fund registered with SEBI.

Aim: To provide growth capital to the deserving and eligible units of the MSME sector.

Size of the fund: The total size of the fund is Rs. 50,000 Crore where Rs.10,000 Crore will come from the Government of India and Rs.40,000 Crore through Private Equity / Venture Capital funds.

Structure of the fund: The Fund is an investment strategy of holding a portfolio of other investment funds, rather than investing directly. In the context of AIFs, a Fund of Fund is an AIF which invests in another AIF.

– Accordingly, SRI Fund will be a combination of Mother/Daughter Funds which will leverage private equity/ other funds and thus will multiply the impact of the initial budgetary infusion.

– The Mother Fund will provide funds only to the Daughter Funds for onward investment as growth capital, while the investment in MSMEs will be done by the Daughter Funds under the Fund.

Implementation: SRI fund is implemented by a special purpose vehicle, NSIC Venture Capital Fund Limited, which is a 100 percent subsidiary of National Small Industries Corporation, a mini-Ratna.

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What are the initiatives taken by the government for the MSME Sector?

Champions 2.0 portal

MSME Champions Scheme: It has been formulated with three components namely, 'MSME-Sustainable' (ZED), MSME-Competitive' (LEAN) and MSME-Innovative' (Incubation, Design, IPR)

Budget 2023-24 announced the infusion of Rs. 9,000 crore in the corpus of Credit Guarantee Fund Trust for Micro & Small Enterprises to enable an additional credit of Rs. 2.00 Lakh crore with reduced cost of credit.

Raising and Accelerating MSME Performance(RAMP) Scheme

196. Gulf Stream could collapse as early as 2025, study suggests

Source: The post is based on the article **“Gulf Stream could collapse as early as 2025, study suggests”** published in **The Guardian on 25th July 2023.**

What is the News?

According to a study, the Gulf Stream system could collapse as soon as 2025.

What is Gulf Stream?



Source: NOAA

The Gulf Stream is a strong ocean current that brings warm water from the Gulf of Mexico into the Atlantic Ocean. It extends all the way up the eastern coast of the United States and Canada.

It is a small part of something called the 'thermohaline circulation' or Atlantic Meridional Overturning Circulation.

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How does the Gulf Stream impact weather and climate?

This strong current of warm water influences the climate of the east coast of Florida, keeping temperatures there warmer in the winter and cooler in the summer than the other southeastern states. Since the Gulf Stream also extends toward Europe, it warms western European countries as well.

Why has the study predicted about the Gulf Stream?

The Atlantic Meridional Overturning Circulation (AMOC), which includes the Gulf Stream governs the climate by bringing warm, tropical waters north and cold water south.

The study estimates a timescale for the collapse of AMOC between 2025 and 2095 with a central estimate of 2050, if global carbon emissions are not reduced.

The last time AMOC stopped and restarted was during the Ice Ages about 115,000 to 12,000 years ago.

Impact of collapse of AMOC: A collapse of AMOC would have disastrous consequences around the world, severely disrupting the rains that billions of people depend on for food in India, South America and west Africa.

– It would also increase storms and drop temperatures in Europe, and lead to a rising sea level on the eastern coast of North America. It would also further endanger the Amazon rainforest and Antarctic ice sheets.

Note: The most recent assessment by the Intergovernmental Panel on Climate Change concluded that Atlantic Meridional Overturning Circulation (AMOC) would not collapse as quickly as the study has suggested.

197. [Supreme Court to appoint DERC chairperson: What is the Delhi govt, L-G tussle over the post](#)

Source: The post is based on the article “**Supreme Court to appoint DERC chairperson: What is the Delhi govt, L-G tussle over the post**” published in **Indian Express on 28th July 2023**

What is the News?

The Supreme Court has said that it will appoint a chairperson for the Delhi Electricity Regulatory Commission (DERC) on an ad hoc basis.

This order comes since the Delhi government and Lieutenant Governor (L-G) failed to arrive at a consensus on the name.

What is the issue between the Delhi government and Lieutenant Governor (L-G) over the DERC Chairman appointment?

The post of Delhi Electricity Regulatory Commission (DERC) chairperson fell vacant. After this, the Delhi government appointed a retired judge for the post and sent the file to L-G.

The LG office returned the file asking that a legal opinion on the appointment be sought from the Delhi High Court Chief Justice.

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The Delhi government went to Delhi High Court against this. The court ruled in its favour and said that the Lieutenant Governor cannot suppress a government like this and asked that the new chief be appointed in two weeks' time.

In the meantime, the Centre promulgated the Government of National Capital Territory of Delhi (Amendment) Ordinance which said that appointments of chiefs of autonomous commissions and boards will be done by the President. This power is usually delegated to the L-G as the administrator.

Based on this ordinance, the President appointed the Chairperson of DERC. The Delhi government challenged this decision in the Supreme Court.

It said that since power was a transferred subject falling under the jurisdiction of the elected government of a state or a Union territory, the Centre did not have the right to make an appointment.

The matter was then heard by the Supreme Court which stayed the appointment.

What is happening now?

Since the Delhi government and L-G have not been able to suggest a common candidate for DERC Chairperson, the Supreme Court has decided to make an appointment as an "ad-hoc" measure.

198. [Union Minister launches Resource Efficiency Circular Economy Industry Coalition in Chennai](#)

Source: The post is based on the article "Union Minister launches Resource Efficiency Circular Economy Industry Coalition in Chennai" published in **PIB on 27th July 2023**.

What is the News?

The Union Minister of Environment, Forest and Climate Change has launched a Resource Efficiency Circular Economy Industry Coalition (RECEIC).

It was launched on the sidelines of the 4th environment and climate sustainability working group meeting and ministerial talks taking place in Chennai, Tamil Nadu.

What is the Resource Efficiency Circular Economy Industry Coalition (RECEIC)?

Resource Efficiency Circular Economy Industry Coalition (RECEIC) was conceived during India's G20 Presidency.

Purpose: It is an industry-led initiative that aims to promote resource efficiency and circular economy practices.

Aim: To facilitate and foster greater company-to-company collaboration, build advanced capabilities across sectors and value chains, bring learnings from diverse and global experiences of the coalition members and unlock on-ground private sector action to enhance resource efficiency and accelerate circular economy transition.

Pillars: The Coalition is structured around the three guiding pillars of 1) partnerships for impact 2) technology cooperation and 3) finance for scale.

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Members: The Coalition has founding members representing 39 companies from 11 countries. Some of the founding members include companies like Maruti Suzuki, Coca Cola, Unilever, Nestle, Aditya Birla Group, Tata Power and Mahindra & Mahindra.

Significant role to be played by Coalition: RECEIC may be invited to the G20 Resource Efficiency Dialogue for annual convenings as well as sharing their experiences with the G20 and highlighting success factors to enhance resource efficiency and circular economy.

– RECEIC will also act as an overarching platform enabling industries to address information gaps and coordination challenges across the G20 members.

199. [Discovered: A mechanism that quietly removes unfit cells before you're born](#)

Source: The post is based on the article “**Discovered: A mechanism that quietly removes unfit cells before you're born**” published in **The Hindu on 26th July 2023**.

What is the News?

Scientists have found that cells that don't express a particular gene are destroyed before an embryo starts to develop.

What are non committed cells?

In the early stages of the human embryo, before it has implanted in the mother's womb, the cells arrange themselves in a particular way.

A blob of cells gathers towards one side of the embryo and the other cells arrange themselves around this blob. This blob is called the **inner cell mass**. It contains cells with the ability to make all the other types of cells in the human body – i.e. the cells in this blob are **pluripotent**.

Within the inner cell mass, researchers in 2016 had discovered a novel group of cells called **non-committed cells**.

These non-committed cells did not participate in the later stages of embryo development and appeared to be eliminated early on compared to the other inner cell mass cells, which contributed to forming the developing embryo.

Why do these non committed cells die so young?

A study has found that human embryonic stem cells express a gene called **HERVH**, a virus-like gene that's important in maintaining pluripotency.

Most of the inner cell mass cells also express HERVH – but not the non-committed cells that eventually die.

The non committed cells actually express **transposons also called “jumping genes”**. These jumping genes are dangerous little pieces of DNA that can insert themselves into different regions of the genome, damaging it and leading to cell death. The DNA damage caused by the transposons leads to these cells dying out early

On the other hand, HERVH actually ends up protecting the cells from the damage inflicted by the jumping genes, kickstarting a protective mechanism that prevents the transposons from getting expressed in most cells.

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But the non-committed cells that don't express HERVH are killed off by the uncontrolled transposon activity.

200. [Centre launches Technological Advancements in Crop Insurance to Empowering Farmers and Streamlining Operations in PMFBY](#)

Source: The post is based on the article “**Centre launches Technological Advancements in Crop Insurance to Empowering Farmers and Streamlining Operations in PMFBY**” published in **PIB on 21st July 2023**.

What is the News?

The Ministry of Agriculture and Farmers Welfare has launched several new technological initiatives under the [Pradhan Mantri Fasal Bima Yojana \(PMFBY\)](#) and [Restructured Weather Based Crop Insurance Scheme\(RWBCIS\)](#).

What are the technological initiatives launched under PMFBY and RWBCIS?

YES-TECH Manual: It is a comprehensive guide developed after extensive testing and piloting in 100 districts of India. It facilitates the implementation of Yield Estimation System, based on Technology (YES-TECH)

– YES-TECH is a technology-driven yield estimation system, offering methodologies, best practices and integration insights for accurate yield assessments at the Gram Panchayat level.

Weather Information Network Data Systems(WINDS) portal: It is a centralized platform that hosts, manages and processes hyper-local weather data collected by Automatic Weather Stations and Rain Gauges at Taluk/Block and Gram Panchayat levels.

– The portal enhances risk assessment and decision-making in crop insurance, agriculture advisories, and disaster mitigation, supporting the agricultural sector and rural economy.

AIDE mobile app: It is a mobile application specifically developed to streamline the enrollment process for farmers in crop insurance schemes like Pradhan Mantri Fasal Bima Yojana (PMFBY) and Restructured Weather-Based Crop Insurance Scheme (RWBCIS).

– It brings the enrolment process directly to the doorstep of farmers. This will ensure a seamless and transparent process, making crop insurance more accessible and convenient for farmers.

201. [Three new lakes may form in Parkachik Glacier in Ladakh due to glacial retreat](#)

Source: The post is based on the article “**Three new lakes may form in Parkachik Glacier in Ladakh due to glacial retreat**” published in **PIB on 28th July 2023**.

What is the News?

A study by scientists of Wadia Institute of Himalayan Geology has found that three glacial lakes are likely to form around Parkachik Glacier in Ladakh due to rapid ice melt.

What is Parkachik Glacier?

Parachik Glacier is a mountain glacier located in Ladakh.

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It is one of the largest glaciers in the Suru River valley, covering an area of 53 square km and is 14 km long.

The Suru River valley is a part of the southern Zaskar Ranges in the western Himalayas.

What are the reasons for the rapid melting of Parkachik Glacier?

There are two main reasons for the rapid melting of the Parkachik glacier: 1) first is global warming and increasing temperatures in the region and 2) second is that it is at a lower altitude than other glaciers in the Zaskar region.

Impact: The glacial melt is worrying as it not only increases chances of glacial lake outbursts but can also lead to paucity of water, glaciers being the region's primary source of water.

– The most catastrophic glacial lake outburst that India has faced in recent years resulted in the 2013 Kedarnath flash floods.

202. [What is Urea Gold launched by PM in Rajasthan](#)

Source: The post is based on the article “**What is Urea Gold launched by PM in Rajasthan**” published in **CNBCTV18 on 27th July 2023**.

What is the News?

The Prime Minister has launched “Urea Gold” during an event in Rajasthan.

What is Urea Gold?

Urea Gold is a new variety of Urea fertilizer that is coated with sulphur. It is being introduced to address the Sulphur deficiency in soil and reduce input costs for farmers.

What are the benefits of Urea Gold compared to other varieties of Urea?

Firstly, Urea Gold facilitates a gradual release of nitrogen, thereby enhancing its availability and uptake by crops.

Secondly, the inclusion of humic acid in Urea Gold further extends its lifespan as a fertilizer.

Thirdly, it is more economical and efficient than neem-coated urea.

Fourthly, Urea Gold not only substitutes traditional urea consumption but also reduces overall fertilizer usage.

– According to a report, 15 kg of Urea Gold provides comparable benefits to 20 kg of conventional urea, making it a more efficient and effective choice for farmers.

Fifthly, it will save input costs for the farmers and also raise incomes for farmers with enhanced production and productivity.

203. [Worms revived after 46,000 years in Siberian permafrost](#)

Source: The post is based on the article “**Worms revived after 46,000 years in Siberian permafrost**” published in **Livemint on 29th July 2023**.

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What is the News?

Scientists have revived a worm that was frozen 46,000 years ago in Siberian Permafrost.

What did the scientists discover?

In 2018, Scientists from Russia's Institute of Physicochemical and Biological Problems in Soil had discovered two species of microscopic nematode in Siberian Permafrost.

These worms have been frozen since the late Pleistocene era, which is around 46,000 years ago.

After analyzing the specimens, they've claimed at least one is from an entirely new species, which they have called them as **Panagrolaimus kolymaensis**.

Scientists revived one of the worms by rehydrating them with water and took other worms for further analysis.

How did these worms survive 46,000 years?

Many animals like nematodes, and more famously, tardigrades, can survive extreme conditions by entering a dormant state called "**cryptobiosis**".

Organisms in a cryptobiotic state can survive the complete absence of water and oxygen and withstand other extreme conditions including heat and cold in a "state between life and death."

The scientists also tested the hardiness of the ancient worms by mildly drying them in the laboratory. When they did that, the worms produced a sugar called **trehalose**, which might be helping them survive harsh desiccation (drying) and freezing.

What is the significance of this study?

This study increases the longest documented cryptobiosis period in nematodes by tens of thousands of years.

Further, this study also shows how animals can adapt to habitat change caused by climate change at a molecular level and survive despite changing weather patterns.

204. [National Waterways Project](#)

Source: The post is based on the article "**National Waterways Project**" published in **PIB on 28th July 2023**.

What is the News?

The Union Minister for Ports, Shipping and Waterways has informed Lok Sabha about the initiatives taken for developing National Waterways.

National Waterways for cargo and passenger movement:

Currently, 111 waterways, including 5 existing and 106 new ones, across 24 States have been declared National Waterways(NWs) under the National Waterways Act, 2016.

Out of these, 26 NWs were found feasible for cargo and passenger movement based on techno economic feasibility studies and Detailed Project Reports (DPRs) and an action plan has been formulated for their development.

Presently, development initiatives are underway for 20 of these NWs.

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What are the challenges in the development of National Waterways?

The development of National Waterways faces significant challenges such as:

- 1) varying and limited depths during lean seasons due to excessive upstream water utilization, causing meandering and braiding of alluvial rivers and erosion of banks leading to excessive siltation
- 2) insufficient cargo earmarked for Inland Water Transport (IWT)
- 3) non-mechanized navigation lock systems
- 4) inadequate unloading facilities at terminals
- 5) clearance issues due to cross structures
- 6) first and last mile connectivity problems
- 7) lack of vessel financing options and
- 8) logistics and shipping market apprehension to shift without policy support, which hinders the use of IWT by shippers.

205. Leg-up for lithium hunt as LS passes mining Bill

Source: The post is based on the article “**Leg-up for lithium hunt as LS passes mining Bill**” published in **Livemint on 29th July 2023.**

What is the News?

Lok Sabha has approved the Mines and Minerals (Development and Regulation Amendment) Bill, 2023.

What is Mines and Minerals (Development and Regulation Amendment) Bill, 2023?

The Bill amends the Mines and Minerals (Development and Regulation) Act, 1957 which regulates the mining sector.

The bill seeks larger participation of the private sector in mineral exploration and production.

How does the bill help in Lithium production?

The Bill brings lithium out from the list of restrictive atomic minerals which require mining grants from the Centre with only government companies given licenses.

This would allow auction of this critical mineral used extensively for making batteries for electric vehicles.

What are the other key provisions of the bill?

Critical and strategic minerals: The bill proposes to bring eight of 12 atomic minerals, including lithium bearing minerals, zirconium bearing minerals, beach sand minerals, titanium bearing minerals, minerals of rare earth group containing uranium and thorium, into a new category – critical and strategic minerals.

– The Centre will have the power to give concessions for these minerals to both public and private mining companies.

Auctioning of high value minerals: The bill empowers the central government to exclusively auction mining leases and composite exploration licenses for certain critical high value minerals such as gold, silver, platinum, copper.

Forest clearances: The Bill also dispenses with cumbersome forest clearances for mine reconnaissance and prospecting operations, making it easier for private firms to participate in exploration of the country’s mineral resources.

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Composite general License: The bill empowers states to grant composite mineral license without having to get a central nod. This is expected to enable state governments to put up blocks for auction at a faster pace.

206. [PM says India can become hub of chip-making industry](#)

Source: The post is based on the article “**PM says India can become hub of chip-making industry**” published in **The Hindu on 29th July 2023**.

What is the News?

The Prime Minister has inaugurated the ‘Semicon India 2023’ conclave in Gujarat. This is the second edition of the conference, which was first held in 2022.

What is Semicon India 2023?

Organized by: [India Semiconductor Mission](#) in partnership with industry and industry associations.

Aim: To make India a global hub for Semiconductor Design, Manufacturing and Technology Development which will help propel the vision of India Semiconductor Mission.

Theme: “Catalysing India’s Semiconductor Ecosystem”

What are the key highlights from PM’s address at Semicon India 2023?

India would emerge as a global hub of semiconductor and chip-making industry.

India has made huge progress in the electronic manufacturing sector which has grown from \$30 billion to over \$100 billion.

India’s exports of electronic manufacturing have doubled in the past few years and today has over 200 mobile manufacturing units.

Broadband users in the country have increased from 60 million in 2014 to 800 million.

India has identified more than 300 colleges where semiconductor courses will be available. In the next 5 years, we will have more than 1 lakh Semicon design engineers.

207. [Land-use changes putting rocky addresses of animals under stress in Sahyadri plateau](#)

Source: The post is based on the article “**Land-use changes putting rocky addresses of animals under stress in Sahyadri plateau**” published in **The Hindu on 29th July 2023**.

What is the News?

According to a study, rapid shift from traditional local grain cultivation to monoculture plantations of mango and cashew in the Sahyadri plateaus of Maharashtra is impacting elusive amphibians, insects, and reptiles that live under a crop of loose rocks.

About the study:

A team of scientists investigated how animals, from ants to snakes are responding to land-use changes in the loose rocks.

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Scientists focused on several animals, including the white-striped viper gecko, Seshachari's caecilian, saw-scaled viper, ants, spiders, and scorpions.

These animals seek refuge among loose rocks which protect them from extreme weather conditions.

However, the rapidly changing agricultural trends such as abandonment of traditional local grain cultivation and the establishment of mango and cashew monoculture plantations is leading to the destruction of natural plateaus.

For instance, the rapid expansion of mango orchards has resulted in the conversion of more than 25,000 hectares of lateritic plateaus.

This has impacted elusive amphibians, insects, and reptiles that live under a crop of these loose rocks.

208. [ADB, India sign \\$200 million loan for expanding urban services in Rajasthan](#)

Source: The post is based on the article “**ADB, India sign \$200 million loan for expanding urban services in Rajasthan**” published in **PIB on 28th July 2023**.

What is the News?

The Government of India and Asian Development Bank (ADB) today signed a \$200 million loan as additional financing for the ongoing Rajasthan Secondary Towns Development Sector Project.

What is the Rajasthan Secondary Towns Development Sector Project?

Aim of the project: To expand water supply and sanitation systems, while also enhancing urban resilience and promoting heritage conservation in selected towns.

The project will incorporate various innovative and climate-resilient solutions for expanding basic urban services such as incorporating nature-based solutions to rehabilitate heritage structures, piloting public-private partnerships in the state's water and sanitation sector among others.

What is the Asian Development Bank(ADB)?

The Asian Development Bank (ADB) is a regional development bank setup in 1996.

Purpose: ADB assists its members, and partners, by providing loans, technical assistance, grants, and equity investments to promote social and economic development.

Members: From 31 members at its establishment in 1966, ADB has grown to encompass 68 members—of which 49 are from within Asia and the Pacific and 19 outside.

Shares: As of 2022, ADB's five largest shareholders are Japan and the United States (each with 15.6%), the People's Republic of China (6.4%), India (6.3%), and Australia (5.8%).

Headquarters: Manila, Philippines.

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209. [A supermassive black hole is firing high-energy particle jet towards Earth](#)

Source: The post is based on the article “**A supermassive black hole is firing high-energy particle jet towards Earth**” published in **Indian Express on 26th July 2023.**

What is the News?

NASA's IXPE Mission has unveiled several mysteries of the Supermassive Black Hole Markarian 421.

It has found that Markarian 421 is firing a jet of high-energy particles aimed directly at Earth.

What is Markarian 421?

Markarian 421 is a supermassive black hole. It is about 400 million light-years away from the earth.

It is located in the constellation Ursa Major.

What is the IXPE Mission?

[Click Here to read](#)

What is a Supermassive Black Hole?

Supermassive black holes are extremely large and incredibly dense regions in the centers of most galaxies, including our own Milky Way galaxy.

They are characterized by their immense gravitational pull, which is so strong that nothing, not even light, can escape from them once it crosses a point called the event horizon. These black holes have masses that range from hundreds of thousands to billions of times that of our sun.

The origin of supermassive black holes is not entirely understood, but they are thought to have formed and grown through a combination of processes, including accretion of gas and the merging of smaller black holes over billions of years.

Supermassive black holes are associated with powerful phenomena, such as active galactic nuclei (AGNs) and quasars, where vast amounts of energy are released as material falls into the black hole and emits intense radiation

Studying supermassive black holes helps astronomers better understand the evolution of galaxies, the interactions between black holes and their surrounding environments, and the fundamental nature of gravity and space-time in extreme conditions.

210. [The 'free movement regime' along the India-Myanmar border, and why it has complicated the volatile situation in Manipur](#)

Source: The post is based on the article “**The 'free movement regime' along the India-Myanmar border, and why it has complicated the volatile situation in Manipur**” published in **Indian Express on 29th July 2023.**

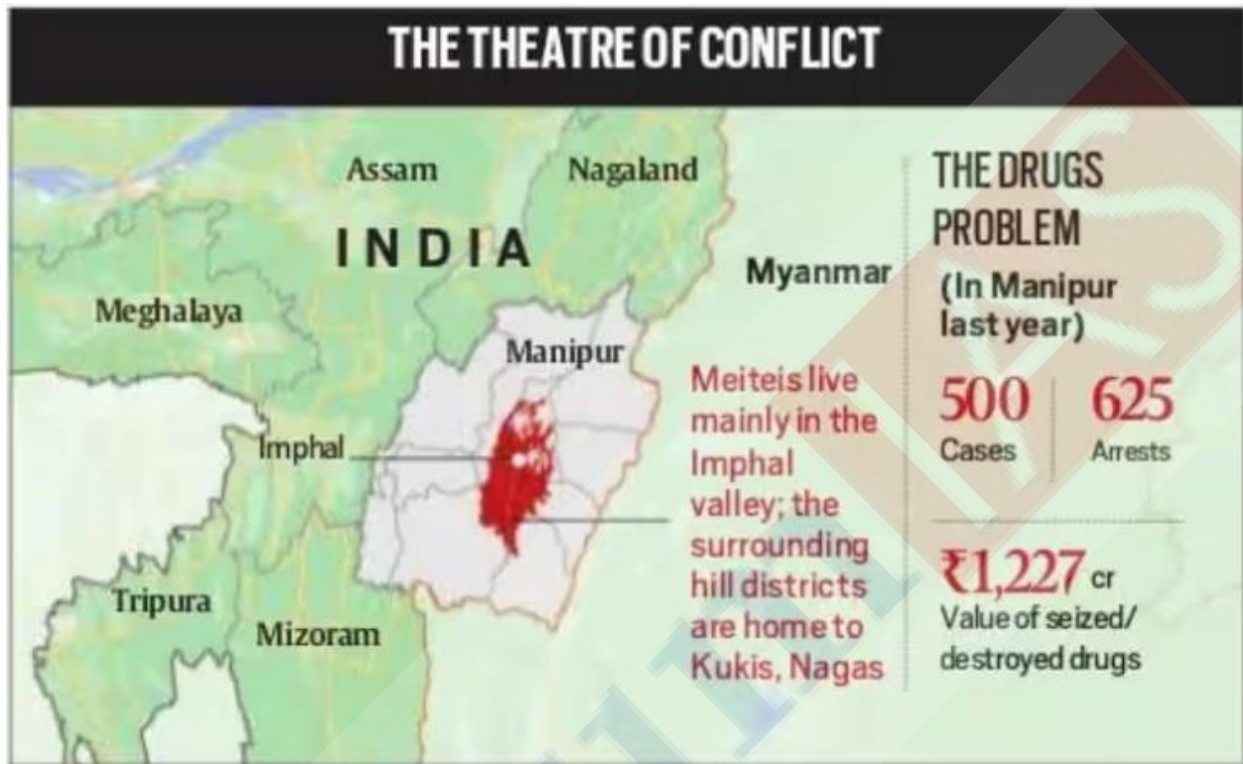
What is the News?

Tribal Kuki-Chin people illegally migrating into India from Myanmar is one of the key issues in the ethnic conflict between Meiteis and Kukis in Manipur.

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Due to this, questions have been raised on the Free Movement Regime (FMR) that facilitates migration across the Indo-Myanmar Border (IMB).

What is the Free Movement Regime (FMR) on the IMB?



Source: Indian Express

The border between India and Myanmar runs for 1,643 km in the four states of Mizoram, Manipur, Nagaland, and Arunachal Pradesh.

The FMR is a mutually agreed arrangement between the two countries that allows tribes living along the border on either side to travel up to 16 km inside the other country without a visa.

The FMR was implemented in 2018 as part of the India government's Act East policy.

However, as the crisis in Myanmar unfolded, India suspended the FMR in September 2022.

Why was the Free Movement Regime (FMR) conceptualized?

The border between India and Myanmar was demarcated by the British in 1826, without seeking the opinion of the people living in the region.

The border effectively divided people of the same ethnicity and culture into two nations without their consent.

Hence, FMR facilitates people-to-people contact. It was also supposed to provide impetus to local trade and business.

Why is the Free Movement Regime (FMR) criticized now?

FMR has been criticized for unintentionally aiding illegal immigration, drug trafficking, and gun running.

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The Indo-Myanmar border runs through forested and undulating terrain, is almost entirely unfenced, and difficult to monitor. In Manipur, less than 6 km of the border is fenced.

Since the military coup in Myanmar in 2021, the ruling junta has launched a campaign of persecution against the Kuki-Chin peoples. This has pushed large numbers of Myanmar tribes into India, especially into Manipur and Mizoram where they have sought shelter.

