

# Factly Weekly

**Compilation**

2024

**For UPSC CSE Prelims  
Exam**

**1<sup>st</sup> Week  
April 2024**

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## Subject: Polity and Nation

### Supreme Court bans uncontrolled soil removal for linear projects

#### Why in the News?

The Supreme Court has **cancelled a notification** from the Environment Ministry issued three years ago. This **notification exempted the extraction of ordinary earth for linear projects** like road and railway construction from needing Environmental Clearance (EC).

#### What was the notification that exempted earth extraction for Linear Projects?

- 1. First notification**– In 2006, the Environment Ministry released a notification under the Environment (Protection) Act 1986 (EPA), specifying activities necessitating prior Environmental Clearance (EC).
- 2. Second notification**– Later in 2016, a second notification was issued, granting exemptions to certain project categories from this requirement.
- 3. Third notification**– In 2020, a third notification was issued, adding “**Extraction or sourcing or borrowing of ordinary earth for linear projects such as roads, pipelines, etc.**” to the list of exempted activities.

#### Basis for Challenging the 2020 Exemption/Notification

- 1. Violation of Article 14**– The exemption faced a challenge in front of the **National Green Tribunal (NGT)**, arguing that permitting unrestricted earth extraction was arbitrary and infringed upon Article 14 of the Constitution of India, as only linear projects were exempted.
- 2. Violation of SC guidelines on environmental clearance**– The petitioner contended that the exemption contradicted the necessity for prior Environmental Clearance outlined by the Supreme Court in the case of **Deepak Kumar versus the State of Haryana (2012)**.
- 3. Government Response**– The Center delayed action on the NGT order until the appellant approached the Supreme Court.

#### What does the Supreme Court held?

- 1. Violation of Article 14**– The court ruled that the blanket exemption without clear guidance was arbitrary and violated Article 14 because the **2020 notification lacked definitions for ‘linear projects’ and specifics on extraction quantity and area.**
- 2. No extraction limit set**– Additionally, it did not clarify environmental authority’s responsibilities or set extraction limits for soil removal.
- 3. Question government’s haste in notification issuance**– The court questioned the government’s haste in issuing the notification, especially during a nationwide lockdown when linear project construction was halted.

## New rules for childbirth registration

### Why in the News?

The Ministry of Home Affairs has drafted model rules for childbirth registration. These rules **must be adopted and notified by state governments before implementation.**

### What is proposed in the new rules for childbirth registration?



Figure 1. Source- UNICEF

#### Specify the religion of both parents separately:

- a. When registering a child's birth, **parents will now need to specify the religion of both the father and mother separately.**
- b. **Previously, birth registers only noted the family's religion.**
- c. The new "Form No.1-Birth Report" will include separate sections for the child's religion, as well as the religion of both the father and mother.
- d. **This update also applies to parents of adopted children.**

According to the Registration of Births and Deaths (Amendment) Act of 2023, information on birth and death registrations will be maintained in the national database.

### What is Registration of Births and Deaths (Amendment) Act, 2023?

This act amended the **Registration of Birth and Death (RBD) Act, 1969**. According to Registration of Birth and Death (RBD) Act, 1969 **a birth or death must be registered within 21 days**. If not registered within this period, it can be registered under the RBD Act with an order from a First-Class Magistrate, verifying the details of the event.

### Key features of Registration of Births and Deaths (Amendment) Act of 2023

1. **National database**– According to 2023 act, the birth and death database will be maintained at the national level.
2. **Connecting database**– It may be used to update various databases including the **National Population Register (NPR), electoral rolls, Aadhaar number, ration card, passport, driving license, property registration, and any other databases as notified.**
3. **Digital records:**
  - a. All births and deaths in the country **must be digitally registered through the Centre's Civil Registration System portal (crsorgi.gov.in).**
  - b. Digital birth certificates issued through this system will **serve as a single document to verify the date of birth for various services**, including admission to educational institutions.
4. **Mandatory data sharing obligation for states**– States will be required to register births and deaths on the Centre's Civil Registration System (CRS) portal and to share the data with the **Registrar General and Census Commissioner of India (RGI)**, operating under the Union Home Ministry.

## Allocation of symbols to political parties

### Why in the News?

This article discusses the allocation of symbols to political parties.

### What do the rules specify?

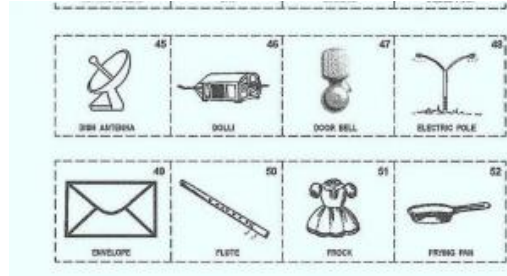


Figure 2, Source- The Hindu

**1. Responsible authority-** The allocation of symbols in elections falls under the jurisdiction of the **Election Commission of India (ECI)**.

**2. Law governed symbol allotment-** This process is governed by **The Election Symbols (Reservation and Allotment) Order, 1968**, which aims to define, reserve, and

assign symbols for recognized political parties.

**3. Symbols Classification-** Symbols are classified as either **reserved** (reserved solely for recognized parties) or **'free'** (accessible to unacknowledged registered parties).

**4. Gazette publication-** The Election Commission publishes lists of parties along with their symbols in the Gazette of India.

**5. Recognised Political party symbol allotment-** **Exclusive symbols** are allocated to recognized national and state parties.

**6- Unrecognized registered parties symbol allotment-** Candidates from unrecognized registered parties can select from **free** and **non-exclusive symbols**.

**Note-** Rule 10B of the Symbols Order states that a **'registered unrecognized party'** can use a **common free symbol for two general elections**.

### Are political parties allowed to express their preferences?

1. The 1968 order gives the Election Commission power to handle symbol selection and allocation for parliamentary and assembly elections, aiming to recognize political parties.

2. **Unregistered parties need to provide ten preferred symbols from the commission's list.** They can also propose three new symbols with designs and names for consideration by the Commission.

3. These new symbols must meet certain criteria, avoiding similarity to existing symbols and steering clear of religious or communal connections or animal depictions.

4. **If a recognized political party splits, the Election Commission decides on symbol allocation.**

## State vs. Centre: Control Over Industrial Alcohol Excise Duty

### Why in the News?

The Supreme Court **Constitution Bench** started hearing arguments on whether states or the Centre holds exclusive control over regulating industrial alcohol excise Duty.

### Excise Duty Levied on Alcohol

Excise duty on alcohol is a major part of a state's income. **States often raise additional excise duty** on alcohol to boost their revenue. **For example**, in 2023, Karnataka increased the Additional Excise Duty (AED) on Indian Made Liquor (IML) by 20%.

**Note**– Currently, excise duty applies only on petroleum and liquor.

However when it comes to 'industrial alcohol,' do states have the authority to regulate and tax it?

#### Industrial alcohol

1. It is also known as denatured alcohol or ethanol, is alcohol that is **not meant for human consumption**.
2. It is typically used for industrial purposes such as solvent extraction, fuel, antifreeze, and as a precursor in the production of chemicals and pharmaceuticals.

### What are the arguments presented before the bench?

**1. States**– They argue that they possess authority under **Entry 8 of the State List** in the Constitution, which pertains to "**intoxicating liquors**," to regulate all types of alcohol, including industrial varieties.

**2. Centre**– The Centre asserts exclusive control over it through the **Industries (Development and Regulation) Act, 1951 (IDRA)**. **Entry 52 of the Union List** and **Entry 33 of the Concurrent List** pertain to industries regulated by Parliament in the interest of the public.

**Note**– Subjects in the Concurrent List can be legislated upon by both states and the Centre. However, if there is a central law, state laws cannot contradict it.

### Supreme Court previous judgements

**1. In the case of Synthetics & Chemicals Ltd. v. State of Uttar Pradesh (1989)**, it was established that **states do not have the authority to levy taxes on industrial alcohol**. However, they retain the power to regulate its usage to prevent misuse for drinking purposes.

**2. In the case of Ch Tika Ramji v State of UP (1956)**, it was affirmed that **states possess the authority to regulate industries listed in the Concurrent List (Entry 33)**, even if the Centre holds some level of control.

## Subject: Indian Economy

### Shrimp farming in India

#### Why in the News?

Recently, a human rights organization based in Chicago has accused India of human rights and environmental violations in the shrimp farming sector.

#### Shrimp farming

Shrimp farming is the **practice of cultivating shrimp in controlled environments** such as ponds, tanks, or enclosures, typically in marine or freshwater settings. This is done through aquaculture methods to produce shrimp for human consumption.

#### About Shrimp Farming in India

##### Top countries farming whiteleg shrimp

(Percent of global production)

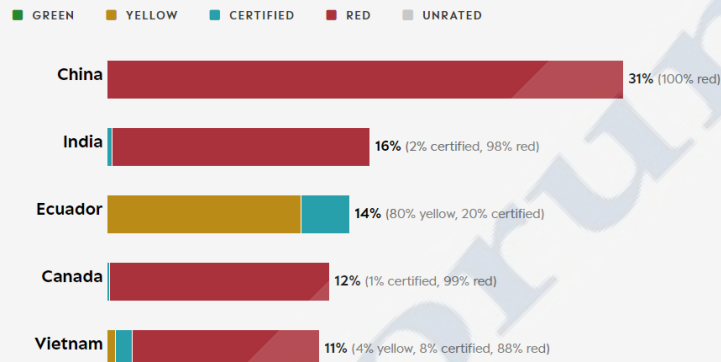


Figure 3. Source- Seafood watch

**1. Second Largest producer-** India is the second-largest producer of **Whiteleg Shrimp** (*Litopenaeus vannamei*).

**2. Top Exporter to US-** India has become one of the world's top shrimp exporters. Its share in the U.S. market increasing from 21% to 40% in 2022-23.

**3. Shrimp dominates seafood exports-** In 2022-23, Out of the \$8.09 billion exported seafood, shrimp's share was \$5.6 billion.

**4. Top producing State-** **Andhra Pradesh** alone account for almost 70% of India's shrimp output.

### RBI proposed two new UPI features

#### Why in the News?



Figure 4. Source- The Hindu

RBI recently announced two new features for **Unified Payments Interface (UPI)** users, aiming to enhance ease of transactions and cash deposits.

#### What are the new UPI features?

**1. Cash deposit facility through the use of UPI-** Customers will now have the option to **deposit cash at cash deposit machines (CDMs) in banks and ATMs using the UPI app**. Presently, cash deposits at CDMs typically necessitate the use of a debit card, whether at banks or ATMs.

**2. Allowing third-party apps to access UPI for Prepaid Payment Instruments (PPIs)**– Currently, UPI payments from **Prepaid Payment Instruments (PPIs)** require using the web or mobile app provided by the PPI issuer. It's now suggested to allow using third-party UPI apps for making UPI payments from PPI wallets.

#### **Other measures announced by RBI**

**1. Permit FPIs to invest in Sovereign Green Bonds (SGrBs)**– To encourage broader participation of non-residents in **Sovereign Green Bonds (SGrBs)**, the RBI has decided to **authorize eligible foreign investors in the International Financial Services Centre to invest in these bonds.**

Currently, **foreign portfolio investors (FPIs)** registered with SEBI can invest in Sovereign Green Bonds (SGrBs) through various investment routes available for FPIs in government securities.

**2. Mobile app for Retail Direct scheme**– The RBI will introduce a mobile app for its Retail Direct scheme, launched in November 2021. This **scheme allows individual investors to hold gilt accounts with the RBI and invest in government securities.**

**Note**– Gilt Account means an account opened and maintained for holding Government securities.

## **Subject: Science & Technology**

### **125 years of Kodaikanal Solar Observatory**

#### **Why in the News?**

This year (2024) marks the 125th Year of the Kodaikanal Solar Observatory (KoSO).

#### **What is Kodaikanal Solar Observatory (KoSO)?**



Figure 5. Source- Wikipedia

**1. About**– It is a **solar observatory owned and operated by the Indian Institute of Astrophysics.**

**2. Origin**– The concept of an Indian solar observatory began in the late 19th century, and the government approved the establishment of the Solar Physics Observatory in Kodaikanal in August 1893.

**3. Location**– **Kodaikanal in the Palani hills of Tamil Nadu** was picked for the observatory because of its good atmospheric conditions, **based on surveys by Charles Michie Smith** (a Professor of Physics at the Madras Christian College).

**4. Foundation**– **Lord Wenlock**, the **Governor of Madras** at the time, laid the foundation stone for KoSO in 1895.

**5. Systematic observations** at KoSO commenced on March 14, 1901.

**6. Instruments at KoSO**– Initially, KoSO had telescopes to study sunspots, prominences, and solar radiation. Now, it has advanced instruments like the **H-alpha telescope** and the **White Light Active Region Monitor (WARM) for high solar imaging.**



### What is the need for such observatory?

1. **Great Drought of 1875-1877**– The event, caused by low rainfall, highlighted the need for thorough solar studies to understand its effects on weather patterns.
2. **India's Geographical significance**– India's drought was part of a broader global issue, impacting multiple countries and resulting in widespread famine.

### Significant achievements of KoSO

1. The observatory played a crucial role in solar physics, such as identifying the radial motion of sunspots, referred to as the **Evershed Effect**.
2. Over the years, KoSO broadened its research scope to encompass cosmic rays, radio astronomy, ionospheric physics, and stellar physics.

## Unstructured Supplementary Service Data (USSD)

### Why in the News?

The Department of Telecom has **directed telecom operators to deactivate USSD-based call forwarding by April 15** and transition to alternative methods for reactivation.

The DoT noted that USSD-based call forwarding, particularly the \*401# service for unconditional call forwarding, is being misused for inappropriate activities.

### What is Unstructured Supplementary Service Data (USSD)?



Figure 6. Source- PNGWING

1. **About**– It is a **communications protocol utilized in Global System for Mobile Communications (GSM) networks for sending short text messages**. USSD is similar to Short Message Service (SMS).
2. **USSD format:**
  - a. A USSD message **usually begins with either an asterisk (\*) or a hash symbol (#) and ends with a hash symbol (#)**.
  - b. These messages consist of digits for commands or data, often separated by additional asterisks.
  - c. USSD messages **can contain up to 182 alphanumeric characters**.
3. **Advantage over SMS**– In contrast to SMS messages, USSD **establishes a real-time connection throughout a session**, enabling a two-way exchange of data sequences. This real-time connection makes USSD faster than SMS-based services.
4. **Applications:**
  - a. Wireless Application Protocol (WAP) browsing, mobile money services, prepaid callback service, menu-based information services, and location-based content services.
  - b. It is **used to show balance deductions on mobile phones, with a notification appearing on the screen after a call or outgoing SMS**.
  - c. It is also employed for checking IMEI numbers of mobile devices.

## Mother of Dragons Comet

### Why in the News?

The “Mother of Dragons” comet, formally designated as Comet 12P/Pons-Brooks, is currently making a rare appearance in the skies of the Northern Hemisphere.

### About Mother of Dragons Comet

- 1. Type**– It is as a ‘**Halley-type**’ comet, orbiting roughly every 71 years.
- 2. Naming**– It is named by the **European Space Agency (ESA)**.
- 3. Classification**– It falls under the classification of a **Jupiter-family comet**. Its orbit is affected by the gravitational force of Jupiter.
- 4. Composition**– It is made up of ice, dust, and rocky elements. When it approaches the Sun, the heat transforms the comet’s ice from solid to gas.
- 5. It’s Nearest approach to Earth** will occur in **June 2024**.

## Punnett square

### Why in the News?

This article explains Punnett squares, which **predict the genetic combinations of offspring from two individuals with known genotypes**.

### About Punnett square

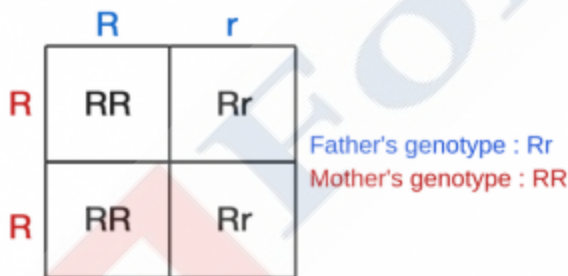


Figure 7, Source- The Hindu

1. The name “Punnett Square” originates from the British geneticist **Reginald Punnett** who devised the approach in 1905.

2. Biologists use this diagram to figure out the chance of an offspring having a specific genotype.

### How does it work?

1. The **potential genetic traits of one parent listed on one side**, and the traits of the other parent listed on the other side.

2. Each square is filled by combining the traits from each parent. **Each square represents a potential combination of traits that their offspring might inherit.**

3. It provides a straightforward method for visualizing the likelihood of various traits appearing in the offspring.

### Applications

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1. It finds frequent **applications in biology to understand inheritance patterns**, such as the study of dominant and recessive genes typically encountered in school settings.
2. This valuable tool aids in forecasting the potential variations and probabilities arising from crossbreeding.

### Shallow fakes

#### Why in the News?

With Lok Sabha elections starting on April 19, social media is flooded with misinformation, mostly in shallow fakes forms.

#### What are Shallow fakes?

**1. About-** Shallowfakes, similar to deepfakes, involves altering people's images, videos, and voice clips for malicious purposes. However, **unlike deepfakes, which requires advanced AI software, shallowfakes can be made using basic editing software like Photoshop.**

**2. Why term "shallow"?** – Shallow Fakes are called so because **they involve lower-quality image and video editing** compared to the sophisticated techniques used in Deep Fakes.

#### 3. Used for:

**a.** To **fabricate false proof of identity or address, such as photo ID documents** like passports and driver's licenses.

**b.** To produce **counterfeit supporting evidence for claims or transactions**, such as contracts, agreements, invoices for services, no claims discount certificates, etc.

**c.** **Spreading political narratives and defaming opponents**, for example, a video depicting AIMIM leader Asaduddin Owaisi singing Shiv Tandav stotra.

**4. Impact-** Due to their simpler creation process, many **experts see shallowfakes as posing greater threats than deepfakes.**

### India achieves target to eliminate 'Kala-Azar'

#### Why in the News?

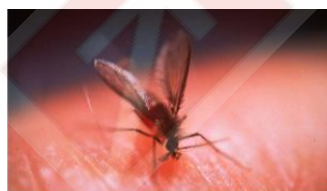


Figure 8. Source- Research Matters

According to data from the **National Centre for Vector Borne Diseases Control (NCVBDC) Programme**, India has successfully met its goal of eradicating visceral leishmaniasis, commonly referred to as kala-azar.

The National Vector Borne Disease Control Programme (NVBDCP) **started in 2003-04** to prevent and control diseases like Japanese Encephalitis (JE), Dengue, **Kala-azar**, Lymphatic Filariasis, Malaria, and Chikungunya.

#### Decline in Kala Azar Cases in India

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1. According to the most recent data from NCVBDC, India recorded a total of 520 cases of kala-azar in 2023 nationwide, thus fulfilling the elimination criteria established by the World Health Organization (WHO).
2. WHO criteria stipulates that no area within the country should report more than one case per 10,000 people.
3. According to WHO, in 2020, India represented 18% of the world's kala-azar cases.

### What is Kala-Azar?

Aspect	Details
About	<ol style="list-style-type: none"><li>1. Kala-azar, also known as visceral leishmaniasis, is a parasitic disease caused by Leishmania parasites (Leishmania donovani in India).</li><li>2. It is a neglected tropical disease and is the second-largest parasitic killer in the world (after malaria).</li></ol>
Transmission	It is transmitted through the bite of infected sandflies.
Symptoms	Fever, weight loss, enlargement of the spleen and liver, and anemia
Impact	Kala-azar primarily affects the spleen, liver, and bone marrow.
Fatality rate	95%, if left untreated.
Treatment	<ol style="list-style-type: none"><li>1. Injectable liposomal amphotericin B is administered.</li><li>2. 12-week course of Oral Miltefosine is prescribed for PKDL (Post Kala-Azar Dermal Leishmaniasis).</li></ol>

**Note- Post Kala-Azar Dermal Leishmaniasis (PKDL)**- It occurs when Leishmania donovani invades and multiplies in skin cells, causing skin lesions. PKDL typically appears after kala-azar treatment.

### Strategies Adopted to Eliminate Kala Azar in India

1. **Spraying:** Intensive indoor residual spraying to target and reduce sandfly breeding grounds.
2. **Wall Plastering:** Coating walls with a specific soil (Gerrard Soil) to deter sandflies from nesting.
3. **Treatment Compliance:** Engaging the ASHA (Accredited Social Health Activist) network to oversee treatment completion for PKDL patients.

### Three main forms of the Kala-azar

1. **Visceral leishmaniasis (VL)**- Impacts multiple organs and represents the most severe illness.
2. **Cutaneous leishmaniasis (CL)** is the most common form, causing skin ulcers, mainly on exposed body parts, which can result in lifelong scars and disability or stigma.
3. **Mucocutaneous leishmaniasis** destroys mucous membranes in the nose, mouth, and throat, leading to severe damage.

## Subject: Environment

### Clean Energy Transitions Programme

#### Why in the News?

Recently, the International Energy Agency (IEA) launched the Clean Energy Transitions Programme annual report 2023.

#### About the Clean Energy Transitions Programme

1. It is the **flagship programme** launched by **IEA in 2017** for taking action **to achieve a clean energy transformation worldwide**.
2. The program utilizes the Agency's expertise and influence to offer analysis, technical assistance, and capacity building to developing countries for Clean Energy transition.
3. The CETP's work is structured across **three pillars of activity**:
  - a) supporting emerging and developing countries to establish clean energy transition goals, in line with the objectives of the 2015 Paris Agreement and the Sustainable Development Goals established by the United Nations.
  - b) facilitating coordination among multilateral organisations such as the Group of 20 (G20) and UN-affiliated collaborations.
  - c) to enable and accelerate clean energy transitions at global level.

### Caracals

#### Why in the News?

It has been observed that caracal is on the verge of extinction and thus needs conservation.

#### About caracal



Source: Down to Earth

Aspects	Description
About	1) It is a medium-sized wild cat native to <b>Africa, Middle East, Central Asia, and South</b>

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	<p>Asia including India.</p> <p>2) In India, Caracal is called <b>Siya gosh</b>, a Persian name that translates as 'black Ear'.</p> <p>3) A Sanskrit fable (short story) exists about a small wild cat named <b>deergha karn</b> or 'long-eared'.</p>
<b>Characteristics</b>	<p>1) The caracal has <b>long legs, a short face, long canine teeth</b>. It has distinctive ears that are long and pointy with tufts of black hair at their tips.</p> <p>2) It is an <b>elusive, primarily nocturnal animal</b>. Its sightings are not common.</p> <p>3) It is a <b>carnivore</b>. It typically preys upon small mammals, birds, and rodents.</p> <p>4) It has traditionally been <b>valued for its flexibility and its extraordinary ability to catch birds in flight</b>.</p>
<b>Habitat</b>	<p>1) Earlier they could be found in <b>arid and semi-arid scrub forest</b> regions of 13 Indian states.</p> <p>2) The most significant potential habitat for caracals is in <b>Rajasthan, followed by Gujarat, Madhya Pradesh, Haryana, Uttar Pradesh and Maharashtra</b>.</p>
<b>Threats</b>	<b>Large-scale hunting, illegal trading and loss of natural habitats are major threats.</b>
<b>Conservation status</b>	<p><b>IUCN Red List:</b> Least Concern</p> <p><b>Wildlife Protection Act, 1972:</b> Schedule I</p> <p><b>CITES:</b> Appendix I</p>

## Criollo: Cattle breed capable of withstanding climate change

### Why in the News?

Recently, Irish researchers found that Criollo cattle have adapted well to climate change by thriving in hot and humid conditions, a trait they have developed over many years.

### About Criollo cattle



Source- DownToEarth

Aspect	Details
<b>Origin</b>	<p>1. Originating in the Americas, <b>Criollo cattle descended from cattle introduced by Spanish explorers</b> during colonization.</p> <p>2. The First cattle in the Americas, from La Gomera in the Spanish Canary Islands, were transported to Hispaniola (now Haiti and the Dominican Republic) during <b>Christopher Columbus's</b> second voyage in 1493.</p>
<b>Physical attributes</b>	<p>1. Compact-bodied cattle of small to medium size.</p> <p>2. <b>Sporting short, glossy coats</b>, typically found in shades like black, brown, or red.</p>

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<b>Adaptability</b>	Capable of thriving in various climates, including tropical and subtropical regions, as well as hot and humid areas, and arid, rugged terrains.
<b>Disease Resistance</b>	Developed natural immunity to common diseases like ticks and parasites in their native habitats.
<b>Significance</b>	Criollo cattle serve as a sustainable food source, providing meat and dairy for local communities, while also contributing to sustainable agriculture and conservation efforts in the Americas.

### Subject: History and Art & Culture

#### Vaikom Satyagraha

##### Why in the News?

This article talks about Vaikom Satyagraha, which began on March 30, 1924. Lasting for over 600 days, it was the first of many temple entry movements in India.

##### About Vaikom Satyagraha



Figure 9. Source- The Indian Express

##### 1. First anti-caste movement:

- a. The Vaikom Satyagraha in Travancore, now part of Kerala, is recognized as the first anti-caste movement.
- b. This campaign aimed to challenge the caste system by opposing restrictions that barred students from depressed classes and untouchables from entering the temple.

2. **Origin**– The movement began and centered around Vaikom, which was part of the princely state of Travancore, near the Mahadev temple in the Kottayam district of Kerala during 1924-1925.

##### Background of Vaikom Satyagraha

1. During the AICC (All India Congress Committee) meeting in Kakinada in 1923, T. K. Madhavan, alongside Sardar Panikkar and KP Kesava Menon, presented a petition to the Travancore legislative council.
2. The petition advocated for granting the right to temple entry and worship of gods to all members of society, regardless of caste, creed, or community.

3. **Beginning of the Movement**– It was launched on 30th March 1924.

4. **Prominent Satyagrahis**– Kunjappu, Venniyil Govinda Panicker, and Bahuleyan

##### 5. Support to the movement:

- a. 'Periyar' E.V. Ramasamy was asked to lead the campaign.

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- b. Sikhs from Punjab, known as Akalis, supported by opening a community kitchen (langar) for the volunteers.
- c. **Chattampi Swamikal** and **Sree Narayana Guru** supported the movement.
- d. Mahatma Gandhi arrived at Vaikom in March 1925 to negotiate a compromise and resolve the issue definitively.

### Significance of Vaikom Satyagraha

1. The movement **set the stage for the significant Temple Entry Proclamation (1936)** by the Maharaja of Travancore, which abolished the longstanding prohibition on marginalized castes entering temples in Travancore.
2. The Vaikom Satyagraha was a testing ground for the Gandhian principles of Satyagraha. It was tested and proved as the most effective means for the first time.
3. This movement were **helped in establishing equal rights and curbing discrimination against Scheduled Castes in Indian Society.**

## Subject: Geography & Places in news

### Paradip Port

#### Why in the News?

Paradip Port has become the **country's highest cargo-handling major port**, surpassing Deendayal Port, Kandla, for the first time in 56 years **during the financial year 2023-24.**

#### About Paradip Port

Aspect	Details
Type	Paradip Port is a natural, deep-water port.
Location	<ol style="list-style-type: none"><li>1. It is located on the East coast of India in <b>Jagatsinghpur district of Odisha.</b></li><li>2. It is <b>located at the confluence of the Mahanadi river and the Bay of Bengal.</b></li></ol>
Port Administration	The port is managed by the <b>Paradip Port Trust (PPT)</b> , an autonomous corporation operating under the Ministry of Shipping through the Major Port Trusts Act, 1963.
Significance	<ol style="list-style-type: none"><li>1. Paradip is one of India's major ports and the sole major port in Odisha.</li><li>2. It holds the distinction of being the <b>first major port on the East Coast to be commissioned after independence.</b></li></ol>

#### Port Administration in India





Figure 10. Source- ResearchGate

1. In India, there are three types of ports: major, minor and intermediate.

2. Major ports are managed by the Central Government, while minor and intermediate ports are overseen by nine coastal states of Andhra Pradesh, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Tamil Nadu and West Bengal.

3. India has 205 minor and intermediate ports, along with 13 major seaports (12 government-owned and one private), collectively handling substantial business.

**Difference between Major and Minor ports**

Major Port	Minor Port
They are overseen by port trusts and the central government.	They are controlled, managed by the state government.
They handle international trade	They handle coastal and fishing trade
Example - Mumbai, Paradip	Example- Kannur (Kerala)

## Kallakkadal: A phenomenon leading to floods in Kerala

### Why in the News?

Recently, numerous homes in Kerala's coastal regions have been flooded due to high sea waves, which are referred to as swell waves. These flooding incidents are termed swell surge or Kallakkadal in Malayalam.

### What is Kallakkadal?



Figure 11, Source- The Hindu

**1. About-** Kallakkadal refers to **coastal flooding caused by swell waves during the pre-monsoon season (April-May) and sometimes during post monsoon** along the southwest coast of India.

#### 2. Meaning:

**a.** The term "Kallakkadal," coined by local fishermen, combines two Malayalam words: "Kallan," meaning thief, and "Kadal," meaning sea. When spoken, these words were combined as "Kallakkadal," signifying the sea arriving like a

thief.

**b.** In 2012, **UNESCO** formally approved this term.

### What causes Kallakkadal?

#### 1. Ocean swell and distant storms:

**a.** It is **caused by waves formed by ocean swells**, which originate from distant storms such as hurricanes or prolonged periods of intense gale winds.

**b.** These storms transfer significant energy from the air into the water, resulting in the formation of extremely high waves.

**c.** These waves can travel vast distances from the storm centre until they reach the shoreline.

**2. Formation-** Typically, Kallakkadal **occurs due to strong winds in the southern Indian Ocean**, where ocean swells are generated. These waves then travel northward, taking around two to three days to reach the coastline.

### Challenges in its Preparedness

**1.** Kallakkadal **happens suddenly without local wind activity**, making it hard for coastal residents to receive advance notice.

**2.** Yet, systems like the **Swell Surge Forecast System**, initiated by the **Indian National Centre for Ocean Information Services (INCOIS)** in 2020, provide a seven-day warning.

### How it is different from Tsunami?

Kallakkadal	Tsunami
Kallakkadal is a sudden flash flood event that happens without any apparent change in local winds.	A tsunami is a massive wave series caused by underwater disturbances.

It is caused by strong winds.

It is caused by earthquakes.

## Leap Second

### Why in the News?

According to a recent study, Earth's changing rotation, influenced by factors such as climate change and geological shifts, may result in clocks skipping a second, potentially leading to the need for a "negative leap second" around 2029.

### What is Leap Second?



Figure 12. Source- Time and Date

**1. About-** It is a **one-second adjustment** used to address the gradual slowdown of Earth's rotation, caused by the continuous melting and refreezing of ice caps.

**2. Introduced by-** International Earth Rotation and Reference Systems Service in 1972.

**3. Addition of leap second-** It is **periodically added to Coordinated Universal Time (UTC)** to keep clocks worldwide synchronized with atomic time and to compensate for the Earth's

gradually slowing rotation. **So far, 27 positive leap seconds have been added.**

**4. Reason for addition-** Earth's rotation on its axis is not consistent; it can speed up or slow down due to factors like the moon's gravitational pull, which leads to ocean tides.

**5. Usual date of addition-** A leap second is typically added either on **June 30th** or **December 31st**.

### What is Negative leap Second?

**1. About-** It is a **second that is removed from our clocks to maintain synchronization with the Earth's rotation**. So far, **no negative leap second has been needed** because the Earth's rotation has generally been slightly slower over the past few decades.

**2. Administration-** The International Earth Rotation and Reference Systems Service (IERS) oversees Earth's rotation and determines when to add or subtract a leap second.

**3. Recent impact-** Recently, because the **Earth has been spinning faster than usual**, timekeepers thought about using **negative leap seconds for the first time**.

## Africa's Afar Triangle

### Why in the News?

Recent geological discoveries indicate that the **Afar Triangle in Africa may become the origin of a new ocean within the next 5 to 10 million years**.

## About Africa's Afar Triangle

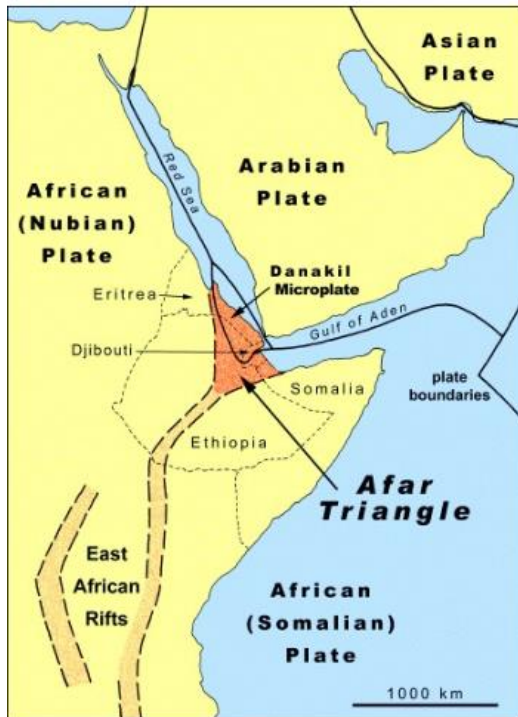


Figure 13. Source- ResearchGate

1. The Afar Triangle, located in the Horn of Africa, is a geological depression where three tectonic plates- the Nubian, Somali, and Arabian plates- meet.
2. In addition to its geological importance, the Afar Triangle has a rich palaeontological history, revealing fossils of some of the earliest hominins.
3. It is part of the Great Rift Valley in East Africa.
4. It spans across Eritrea, Djibouti, and the Afar Region of Ethiopia.
5. It contains Lake Assal, which is Africa's lowest point.
6. It is bordered by the Ethiopian Plateau, the Danakil block, the Somali Plateau, and the Ali-Sabieh block.

### What are the causes for the rift in Afar region?

#### Tectonic movements and rift expansion:

1. The Afar region has undergone gradual tectonic shifts over millions of years. In 2005, a big crack appeared in the Ethiopian desert, showing how Africa is still splitting apart due to these forces.
  2. A significant contributor to the rifting process is thought to be a massive plume of superheated heated rocks ascending from the mantle beneath East Africa.
  3. The presence of magma in the area, especially around the Erta Ale volcano, provides insights into the tectonic shift.
- Note**- Rifting is a geological process when the Earth's outer layer gets stretched and thinned, creating rift valleys or basins. This happens mostly at divergent plate boundaries, where tectonic plates move apart.

## Katchatheevu Island

### Why in the News?

PM Narendra Modi recently criticized the Congress for giving away the strategic Katchatheevu island to Sri Lanka in the 1970s.

### About Katchatheevu Island



Figure 14. Source- The Indian Express

**1. Location**– Katchatheevu is a small, **uninhabited island** covering 285 acres **located in the Palk Strait, between India and Sri Lanka**. Katchatheevu lies 33 km northeast of Rameswaram and about 62 km southwest of Jaffna.

**2. Sole Structure on Island**– The island’s sole structure is **St. Anthony’s Church**, built in the early 20th century. Every year, during a festival, Christian priests from India and Sri Lanka jointly conduct services, drawing pilgrims from both countries.

**3. Lack of potable water source**– Katchatheevu is not suited for permanent settlement as there is no source of drinking water on the island.

### What is the history of the Island?

**1. Formation**– It originated from volcanic activity during the 14th century.

#### 2. Administration:

a. During the early medieval era, the Jaffna kingdom of Sri Lanka governed it.

b. By the 17th century, control shifted to the **Raja of Ramnad** (present-day Ramanathapuram, Tamil Nadu), who owned Katchatheevu island. Later, it became part of the Madras Presidency.

**3. Dispute**– In 1921, both India and Sri Lanka, at the time British colonies, claimed Katchatheevu in order to determine fishing boundaries.

### What is 1974 Indo-Sri Lankan maritime agreement?

1. In 1974, an agreement signed by Prime Ministers Indira Gandhi of India and Sirima R.D. Bandaranaike of Sri Lanka **acknowledged Katchatheevu as part of Sri Lanka’s territory**, leading to a change in ownership.

2. The agreement allowed Indian fishermen to access Katchatheevu as before, but **didn’t settle fishing rights**. Sri Lanka understood that **Indian fishermen could only access Katchatheevu for resting, drying nets, and visiting the Catholic shrine without needing a visa**.

3. Another treaty signed in 1976 restricted fishermen from both nations from fishing in each other’s **exclusive economic zones**. However, uncertainty about fishing rights has persists till date.