

Factly Weekly

Compilation

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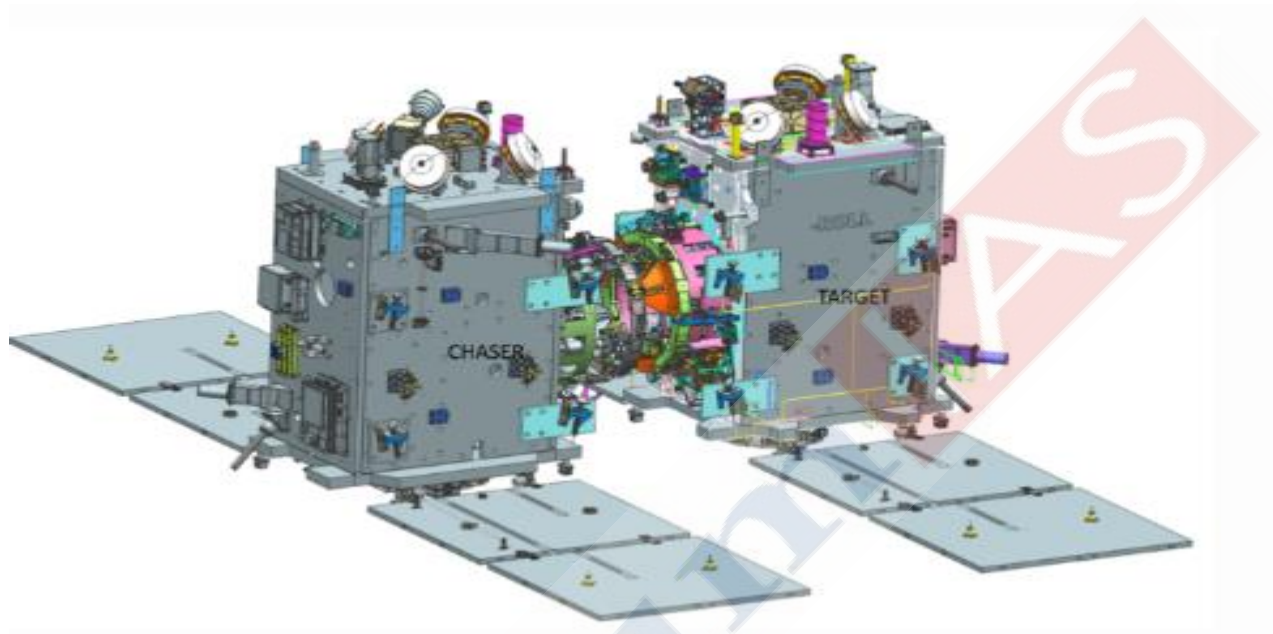
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SpaDeX Mission Explanation

News: India's **SpaDeX mission explanation**, designed to develop and demonstrate the technology necessary for docking and undocking spacecraft in space, is set to launch aboard PSLV-C60 on December 30.

About SpaDeX Mission



Source- ISRO

- It is a cost-effective technology demonstrator mission for the *demonstration of in-space docking* using two small spacecraft launched by PSLV.
- PSLV-C60 will carry two spacecraft, *Chaser (SDX01)* and *Target (SDX02)*, into a low-Earth circular orbit (470 km).
- **Objectives:**
 - **Primary:** Demonstrate rendezvous, docking, and undocking of two spacecraft.
 - **Secondary:**
 - Enable the transfer of electric power between docked spacecraft to support future robotic applications.
 - Composite spacecraft control, and Payload operations after undocking.
- In addition to its docking objectives, the SpaDeX mission will conduct microgravity experiments using PSLV's spent fourth stage, known as *POEM-4 (PSLV Orbital Experimental Module)*.
- **New Technologies:** The indigenous technologies developed for enabling this docking mission are as follows:
 - **Docking Mechanism:** It is a low-impact androgynous docking system with two motors.
 - **Sensor Suite:** It includes advance sensors like *Laser Range Finder (LRF)*, *Proximity and Docking Sensor (PDS)* and video monitors for precise docking.
 - **RODP processor:** A GNSS-based system for precise determination of inter-satellite position and velocity.
- **Significance of the Mission:**

- **Space Research and Exploration:** This will pave the way for India's space ambitions, such as Chandrayaan-4, lunar sample-return missions, establishment of the Bharatiya Antariksh Station etc.
- **Technological Milestone:** With this mission, India is on track to become the *fourth country in the world* to possess space docking technology.

Cephalopods Explanation

News: Cephalopods, such as octopuses and squids, are increasingly recognized for their intelligence. This has sparked calls for humane treatment regulations comparable to those for vertebrates. **Cephalopods Explanation**

About Cephalopods:



Figure 1. Source- The Hindu

- Cephalopods are a class within the *phylum Mollusca*, which includes *octopuses, squids, cuttlefish, and nautilus*.
- Cephalopods are *cold-blooded (ectothermic)*, meaning their body temperature is regulated by the temperature of their surrounding environment.
- **Characteristics:**
 - **Intelligence:** They are recognized for their remarkable cognitive skills, such as problem-solving, learning, and memory.
 - **Anatomy:** They possess *soft bodies, tentacles with suction cups*, a highly developed nervous system, and exceptional vision.
- **Camouflage Ability:** Many cephalopods can alter their color and texture to blend into their environment using specialized pigment cells known as *chromatophores*.
- **Movement:** They move quickly through water by expelling water through a siphon, utilizing *jet propulsion*.
- **Diet:** All cephalopods are *carnivorous*. Many are active hunters, while some passively feed on floating debris.
- **Habitat:** Cephalopods are marine animals found in oceans worldwide, from shallow coastal waters to deep seas.
- **Reproduction:** Cephalopods typically have short lifespans and *reproduce only once*, laying eggs before dying.

United Nations Disengagement Observation Force

News: UN Secretary General paid tributes to Brigadier General Amitabh Jha of India, who died serving as the Deputy Force Commander of the United Nations Disengagement Observation Force (UNDOF) in Golan Heights.

About UNDOF



Figure 2.Source- Wikipedia

- It was **established** in 1974 by the United Nations Security Council following the *Disengagement of Forces Agreement* between Israel and Syria.
- It **operates** in the *Golan Heights*, a rocky plateau strategically located in south-western Syria.
- Its **headquarters** is located at *Camp Faouar*.
- **Mandate:**
 - *Maintain ceasefire* between Israel and Syria
 - *Oversee the disengagement* of Israel and Syrian forces as per the 1974 Agreement on Disengagement
 - Supervise the *areas of separation and limitation*
 - **Area of separation** is a demilitarised zone, which is controlled by UNDOF
 - **Area of limitation** is an area where Israeli and Syrian troops and equipments are limited
- Its mandate is **reviewed after every 6 months**, recently being extended till June 2025.

UN Internal Justice Council

News: Madan B Lokur, retired judge of the Supreme Court of India, has been appointed as the chairperson of the United Nations Internal Justice Council (IJC) for a four-year term.

About UN Internal Justice Council



Figure 3.Source- The Hindu

- It was **established by** the UN General assembly to ensure *independence, professionalism and accountability* in the administration of justice system of the United Nations.
- **Composition:** It comprises of 5 members
 - Staff representative
 - Management representative
 - Two distinguished external jurists
 - Distinguished jurist, who acts as the chairperson
- **Appointment:**
 - Members are appointed by the *Secretary General*
 - Chairperson is chosen *by consensus* by four other members
- **Functions:**
 - Monitoring the *independence and impartiality* of the UN's Internal Justice System, which includes Office of

- Staff Legal Assistance, UN Disputes Tribunal (UNDT) and UN Appeals Tribunal (UNAT)
- *Recommends candidates* for the positions of judges in UNDT and UNAT
 - *Advises the General Assembly* regarding the administration of the justice system

UN Convention against Cybercrime



News: The UN General Assembly recently adopted the United Nations Convention against Cybercrime. **UN Convention against Cybercrime**

About UN Convention against Cybercrime

- It is a landmark global agreement adopted by 193 UN member states. Its goal is to strengthen international cooperation in the fight against cybercrime and protect societies from digital threats.
- The treaty will be *available for signature* at a formal ceremony in Hanoi, Vietnam in 2025.
- It is the *first legally binding UN instrument on cybercrime* and will *take effect 90 days after at least 40 member states have ratified it*.
- **Key provisions:**
 - **Domestic legislation:** The treaty requires states to enact domestic laws making unauthorized access to information and communication systems illegal.
 - **International cooperation:** It promotes international cooperation in cybercrime investigations and prosecutions while respecting state sovereignty.
 - **Human Rights:** States Parties must ensure that the implementation of the convention's obligations aligns with international human rights law.

- **Child Protection:** The treaty mandates that states criminalize the production, sale, distribution, and broadcasting of child sexual exploitation material.
- **Public Awareness:** The treaty encourages global educational initiatives and proactive steps to raise awareness and prevent cybercrimes.
- **Significance**– This treaty marks the first international criminal justice agreement in over two decades, reflecting a global commitment to strengthening cybersecurity.

No-Detention Policy

News: The Central Government has recently amended the Right to Education Act, 2009, *eliminating the no-detention policy* in schools governed by the Act. This includes Kendriya Vidyalayas, Jawahar Navodaya Vidyalayas, and other institutions under the Ministries of Defence and Tribal Affairs. **No Detention Policy**



Source- Indian Express

About No-Detention Policy

- The policy, introduced under Section 16 of the Right to Education Act, 2009, *prevented the detention of students until Class 8.*
- The no-detention policy was intended to ensure that children received at least a minimum level of education.

Key Clause in the RTE Act, 2009:

- **Section 16:** No child shall be held back in any class until completing elementary education (Classes 1-8).
- **Amended in 2019:** To include a clause that allowed the “*appropriate government*” to decide on holding back children in Classes 5 and 8 based on academic performance.
 - Since then, 18 states and union territories (UTs) have abolished the no-detention policy.

Reasons for Scrapping the No-Detention Policy:

- **Criticism of Academic Standards:** Experts argued that the policy led to lower academic standards and reduced student accountability. It was seen as turning schools into places for mid-day meals rather than centers for learning.
- **States’ Feedback:** Many states called for the removal of the policy to enhance quality and accountability in elementary education.

- **National Alignment:** The change aligns with the objectives of the National Education Policy (NEP) 2020, which focuses on holistic education.

About New rules

- Students who fail the annual exams in Classes 5 or 8 will receive extra help and be *allowed a re-examination within two months*. Failure in the re-exam may result in detention.
- Teachers and school leaders will offer targeted support, identify learning gaps, and closely monitor student progress.
- *No child can be expelled before completing Class 8*. Detailed records of detained students and their progress will be kept.

National Rainfed Area Authority

News: The National Rainfed Area Authority, in collaboration with other agencies, organised a workshop to stimulate discussions and policy discourse on rainfed areas.

About National Rainfed Area Authority



Figure 4. Source- PIB

- It was **established** in 2006 as an expert body to provide knowledge input regarding systemic upgradation and management of the country's dry land and rainfed agriculture.
- **Mission:** To promote *prosperity of farmers* and ensure *inclusive growth* in rainfed areas of the country on a sustainable basis.
- **Mandate:** Its mandate is wider than just water conservation and covers all aspects of *sustainable and holistic development of rainfed areas*. It also addresses issues related to *landless and marginal farmers*.
- **Governance Structure:** It has a *two tier structure*
 - **Governing Board:** It is the first tier that provides leadership and coordinates the implementation of the programmes.
 - It is chaired by the *Union Agriculture Minister*.
 - **Executive Committee:** It is the second tier that consists of technical experts and representatives from stakeholder Ministries.
 - It is headed by a *full-time Chief Executive Officer*, supported by five full-time technical experts.
- **Nodal Ministry:** Ministry of Agriculture and Farmers Welfare

As per the Ministry of Agriculture and Farmers Welfare, rainfed agriculture occupies about 51% of country's net sown area and accounts for nearly 40% of the total food production.

Key Facts about Greenland

News: US President-elect Donald Trump sparked controversy by proposing that the United States buy Greenland, calling it an "absolute necessity" for national security. **Key Facts about Greenland**



Figure 5. Source- WorldAtlas

About Greenland

- **Capital:** Nuuk
- **Highest Point:** Gunnbjorn's Fjeld
- Greenland is the *world's largest island*, lying in the North Atlantic Ocean.
- It is geographically part of the North American continent but politically associated with Europe as an *autonomous territory of Denmark*.
- **Borders:**
 - It is bordered by the Arctic Ocean to the north, the Greenland Sea to the east, the North Atlantic Ocean to the southeast, the Davis Strait to the southwest, Baffin Bay to the west, and the Nares Strait and Lincoln Sea to the northwest.
 - Greenland shares its maritime borders with Canada, Iceland and Norway.
- **National Park:** Northeast Greenland National Park is the *world's largest national park*.

- **Climate:**
 - Two-thirds of Greenland lies above the Arctic Circle, creating frigid climate year-round.
 - It experiences extreme weather, including *months of continuous daylight (midnight sun) and darkness (polar night)* due to its high latitude.
- **Strategic Importance:** During the Cold War, the United States established Thule Air Base, which remains operational.

Lesotho

News: Recently, India sent a consignment of 1,000 metric tonnes of rice to help Lesotho in addressing her food security and nutrition challenges.

About Lesotho



Figure 6. Source- Britannica

Location: It is a *landlocked country*, situated entirely within the territory of South Africa.

Capital: Its capital is *Maseru*, which is also the largest city of Lesotho.

Geography:

- It is situated in the *Maloti Mountains*, gaining the nickname '*The Mountain Kingdom*'.
- It features *Thabana Ntlenyana*, the highest peak in Southern Africa.
- *Orange River*, one of the longest rivers in Africa, rises in the Lesotho Highlands.

Key facts about Brahmaputra River

News: China has approved the construction of world's largest dam, costing US\$ 137 billion, on the Brahmaputra River in Tibet close to the Indian border.

About Brahmaputra River



Figure 7. Source- World Atlas

- It is a *transboundary river* in India, **originating** from the *Chemayungdung glacier* of the *Kailash range* near the Mansarovar lake.
- **Course**
 - From its source, it travels eastwards longitudinally for nearly 1200 kms in southern Tibet, where it is known as the *Tsangpo*.
 - The river *enters India west of Sadiya town in Arunachal Pradesh*. It receives its main left bank tributaries (Dibang and Lohit) to be known as *Brahmaputra*.
 - In Bangladesh it merges with the Ganga to form the *Sunderbans delta*.
- **Tributaries**
 - **Major Left Bank Tributaries:** Burhi Dihing, Dhansari, Lohit, Dibang, Kopili
 - **Major Right Bank Tributaries:** Subansiri, Kameng, Manas, Sankosh
- **Significance of Brahmaputra River**
 - **Economic Importance:** The fertile plains formed by the river support the cultivation of rice, tea, jute, contributing to the economy of Assam and surrounding areas. The river also facilitates trade and inland water transportation.

- **Ecological Importance:** It supports rich biodiversity of flora and fauna, such as the Gangetic dolphin, Indian rhinoceros and various migratory birds.
- **Hydropower Potential:** It holds significant potential for hydroelectric power generation, given its massive flow of water.

Kilauea Volcano

News: Kilauea, one of the most active volcanoes in the world, started erupting again.

About Kilauea Volcano



Figure 8.Source- BBC

- **Location:** Situated on the *southeastern part of the Hawaii's Big Island*, as a part of Hawaii Volcanoes National Park
- **Volcano Type:** It is an *active shield volcano*, formed by the eruption of highly fluid lava.
- **Features:**
 - Kilauea has covered around 90% of its surface in lava flows within the last 1,000 years.
 - It is an *elongated dome* built of lava eruptions from the central crater and features long, shallow slopes.
 - It has *two rift zones* stretching to the east and southwest.
- **Eruption History:** It has been *erupting regularly* since there have been written records, with the *exception of the quiet period* between 1924 and 1952.

Sea Otters

News: A new study reveals that sea otters at the Elkhorn Slough National Estuarine Research Reserve in California are consuming thousands of green crabs. This behavior plays a crucial role in preserving the ecosystem along the West Coast of the United States.

About Sea Otters



Figure 9.Source- BBC

- **Scientific Name:** *Enhydra lutris*
- They are aquatic members of the *weasel* family.
- **Habitat:**
 - They found along the *coasts of the Pacific Ocean*, particularly in North America (from Alaska to California) and parts of Asia (Russia and Japan).
 - They spend most of their time in the water but occasionally come ashore to sleep or rest.
- **Physical Characteristics:**

- They have webbed feet and water-repellent fur to stay dry and warm, with nostrils and ears that close in the water.
- Unlike other marine mammals, they *lack blubber* (a thick layer of fat) to shield them from hypothermia. As a result, they must consume a large amount of food daily to maintain their body heat.
- **Diet**– They are carnivorous and consume a variety of marine life, including *sea urchins, crabs, mollusks, clams, and fish*.
- **Ecological Role:**
 - They are a *keystone species in kelp forest ecosystems*, helping control populations of sea urchins and other species that can damage kelp forests.
 - Their presence promotes biodiversity and maintains ecological balance.
- **IUCN Status:** Endangered.

Coringa Wildlife Sanctuary

News: The Wildlife Institute of India-Dehradun is preparing to execute India's first Fishing Cat Collaring Project at Coringa Wildlife Sanctuary.

About Coringa Wildlife Sanctuary

- **Location**– It is part of the *Godavari estuary*, where the Coringa River merges with the Bay of Bengal in *Andhra Pradesh's Kakinada district*.
 - Between this area and the sea " *Hope Island* " blocks the direct confluence of the sea and Godavari.
 - As a result, about 40% of the sanctuary is only sea-backwaters and the rest of the area is intermingled with creeks and gets inundated with tidal waters.
- **Vegetation**– It has extensive *mangrove and dry deciduous tropical forest*. It is the second largest stretch of mangrove forests in India.
- **Flora**– Mangrove plants like *Rhizophora spp, Avicennia spp, Sonneratia spp, etc.*
- **Fauna**– It is home to rare and endangered mammals like *Smooth Indian otter, Fishing cat, Jackal, etc.* Mangroves offer excellent habitat for birds like *Black capped kingfisher, Brahminy kite, Sea gulls, Reef heron, Sand piper, etc.*

About Fishing Cat



Source- The Hindu

- The Fishing cat (*Prionailurus viverrinus*) is a medium-sized wild cat.
- It is a *solitary and nocturnal predator*, spending its days resting in dense vegetation and venturing out at night to hunt near water.
- It is known for its *exceptional swimming abilities*; this cat can cover long distances in water, often while chasing fish.
- **Habitat:** They primarily inhabit *wetlands*, including swamps, marshes, oxbow lakes, reed beds, tidal creeks, and mangrove forests.
- **Distribution:** They are predominantly found in *Southeast Asia*, ranging from Sri Lanka and parts of Pakistan to western India, southern China, Java, and Sumatra.
- **Conservation status**
 - IUCN: Vulnerable
 - CITES: Appendix II
 - Wildlife Protection Act 1972: Schedule I

Pangong Tso lake

News: The Indian Army has installed a statue of the Maratha warrior Chhatrapati Shivaji Maharaj on the banks of Pangong Tso Lake.

About Pangong Tso lake



Figure 10. Source- BBC

- It is an *endorheic lake* (landlocked) located in *eastern Ladakh*.
- It derives its name from the Tibetan word, "Pangong Tso", which means "high grassland lake".
- It lies *partly in India's Ladakh region* and *partly in Tibet*.
- It is the *world's highest saltwater lake*.
- The *Karakoram Mountain range* which crosses Tajikistan, Afghanistan, Pakistan, China and India ends at the north bank of Pangong Tso.
- Pangong Tso is also known to change colors, appearing blue, green and red at different times of a day.

Importance of the lake

- The importance of the lake is due to the fact that it lies in the path of the Chushul approach of China.
 - China uses *Chushul valley* for performing offensive activities into Indian-

held territory.

- The legendary 19th century *Dogra general Zorawar Singh* is said to have trained his soldiers and horses on the frozen Pangong lake before invading Tibet.
- LAC (Line of Actual Control) mostly passes on the land, but Pangong Tso is a unique case where it passes through the water as well.

Household Consumption Expenditure Survey 2023-24

News: The second survey of Household Consumption Expenditure Survey, conducted during August 2023 to July 2024, has been released by the Ministry of Statistics and Programme Implementation.

Key Findings of the Survey

- **Average Monthly Per Capita Consumption Expenditure:** The MPCE is estimated to be Rs. 4,122 in rural areas and Rs. 6,996 in urban areas.
- **Rural-Urban Gap:** The gap narrowed to 71% in 2022-23 from 84% in 2011-12, highlighting increased consumption in rural areas.
- **Consumption Pattern:** *Non-food items* dominate the household's average monthly expenditure, with rural and urban areas contributing 53% and 60% respectively.
 - *Rent* accounts for about 7% of urban household's non-food expenditure.
 - In *food items*, beverages, refreshments and processed foods constituted major expenditure in rural and urban areas.
- **Consumption Inequality:** *Gini coefficient* has declined for both rural and urban areas, indicating a reduction in consumption inequality.

- **State and Union Territory wise MPCE:**

- **States:** MPCE is highest in Sikkim, and it is lowest in Chhattisgarh.
- **UT's:** MPCE is highest in Chandigarh, and it is lowest in Dadra and Nagar Haveli and Daman and Diu and Jammu and Kashmir in rural and urban areas respectively.

Srisailam Temple

News: The Archaeological Survey of India has discovered several copper plates and other ancient inscriptions at the Srisailam Temple, Andhra Pradesh.

About Srisailam Temple



Figure 11. Source- srisailadevasthanam.org
Shahis.

- **Location:**

- It is located on the top of Nallamala Hills in Andhra Pradesh.
- It lies on the bank of the river Krishna.

- **History:**

- The inscriptional evidence date back the temple to 2nd century BCE, during the reign of the Satavahana King
- It has received patronage from various dynasties like Chalukyas, Kakatiyas, Vijayanagara Empire, Qutb

- **Religious Significance:**

- The temple is dedicated to Lord Shiva, who is worshipped as Mallikarjuna Swamy and is represented by the lingam. While Goddess Parvati is worshipped as Brahmaramba Devi.
 - Thus, the temple is also known as Sri Brahmaramba Mallikarjuna Swamy Temple.
- It is sacred to devotees of both Shaivism and Shaktism as it houses one of the 12 Jyotirlingas of Lord Shiva and is one of the 18 Shakti Peethas.

- **Architecture:**

- It is built in the Dravidian style, featuring lofty towers and sprawling courtyards.
- The temple houses many halls, the most notable being the Mukha Mandapa built during the Vijayanagar period.