1. **Mycorrhizal Fungi :** Recently, a groundbreaking digital atlas released by the Society for the Protection of Underground Networks (SPUN) revealed that over 90% of the world's regions rich in **mycorrhizal fungi** are located outside designated conservation areas.
   - **About Mycorrhizal Fungi :** Play a crucial role in nutrient cycling, carbon sequestration, and ecosystem regeneration, making them essential allies in maintaining ecological balance.
     - **Widespread Symbiosis**: These fungi form symbiotic associations with over **80% of plant species**, helping them absorb key nutrients especially phosphorus, and improving water uptake.
     - **Massive Soil Presence**: **Up to 30% of the living microbial biomass** in soils, highlighting their vast underground influence.
     - **Climate Role**: They **sequester approximately 13 billion tonnes of CO_2 annually**, which is **nearly one-third of global fossil fuel emissions**, contributing significantly to climate mitigation.
     - **Consequences of Disruption**: Leads to **slower forest regeneration, reduced crop yields, and a breakdown in aboveground biodiversity**, as emphasized by Toby Kiers, Executive Director of SPUN.
     - **Policy Urgency**: Their critical ecological functions have prompted global calls for their **inclusion in climate change and biodiversity conservation policies**.
   - **About Atlas :** Charts the global distribution of two key types of mycorrhizal fungi:
     - **Arbuscular Mycorrhizal (AM)** – Predominantly found in tropical forests and savannas, including the **Brazilian Cerrado**, **Southeast Asia**, and **West Africa**.
     - **Ectomycorrhizal (EcM)** – Common in **temperate and boreal regions** such as **Siberia**, **Canada's boreal forests**, and mountain ranges in **North America and Europe**.
   - Developed using over **25,000 geo-located soil samples** and **2.8 billion fungal DNA sequences**, making it the **most comprehensive global map** of underground fungal biodiversity ever created.
2. **Palna Scheme :** Recently, under the **Palna Scheme,** the Central Government approved the establishment of **+14k Anganwadi cum Crèche (AWCC) centres** across the country to enhance early childhood care and provide support to working mothers.

- **About Palna Scheme : Centrally Sponsored Scheme** launched by the **Ministry of Women and Child Development** under the **Samarthya vertical of Mission Shakti**, applicable across all States and Union Territories.
  - **Objective**: To provide **quality crèche facilities** in a **safe and secure environment** for children aged **6 months to 6 years**, focusing on: Nutritional support, Growth monitoring, Immunization, Health and cognitive development
  - **Universal Access**: Crèche services are available to **all mothers**, regardless of their **employment status**.
  - **Types of Crèches**: Standalone Crèches and Anganwadi-cum-Crèches (AWCCs)
  - **Flexible Timings**: Crèches must operate for **26 days a month**, with **7.5 working hours per day**, tailored to the **local needs of mothers**.
  - **Funding Pattern**: General States: 60 : 40 (Centre : State)
    - ✓ NE & Special Category States: 90 : 10
    - ✓ UTs with Legislature: 60 : 40
    - ✓ UTs without Legislature: 100% Central assistance
  - **Key Services Offered**: **Daycare facilities**, including sleeping arrangements
    - ✓ **Early stimulation** for children under 3 years
    - ✓ **Pre-school education** for children aged 3–6 years
    - ✓ **Supplementary nutrition** (to be locally sourced)
    - ✓ **Regular health check-ups**, **growth monitoring**, and **immunization**

3. Atal Pension Yojana (APY) : Recently, the **Atal Pension Yojana (APY)** crossed a significant milestone by surpassing 8 crore total gross enrolments, with 39 lakh new subscribers added in the current financial year alone.

  - This achievement coincides with the scheme marking its 10th anniversary.
- **About APY :** Launched on **9th May 2015** and administered by Pension Fund Regulatory and Development Authority (PFRDA)
  - **Objectives of APY:** To establish a universal social security system for all citizens
    - ✓ To ensure financial security during old age
    - ✓ To promote long-term savings among informal sector workers

- **Eligibility Criteria:** Must be an Indian citizen aged between **18 and 40 years**
  - Must have a **savings bank account or post office account**
  - **Aadhaar and mobile number** are optional but recommended for updates and communication
  - **Government co-contribution** (2015–2020) applicable only for: Non-taxpayers
    - ✓ Individuals not covered under other statutory social security schemes
- **Key Features : Guaranteed Minimum Pension:** Ranges from ₹1,000 to ₹5,000, depending on age of entry and contribution
  - **Flexible Contributions:** Monthly, quarterly, or half-yearly via auto-debit.
  - **Spouse Benefit:** Pension continues to spouse after subscriber's death.
  - **Nominee Benefit:** Corpus paid to nominee after death of both subscriber and spouse.

4. **ULPGM-V3 :** Recently, the Defence Research & Development Organisation (DRDO) successfully conducted flight trials of the latest version of its **Unmanned Aerial Vehicle Launched Precision Guided Missile (ULPGM-V3)** at the **National Open Area Range (NOAR)** in Kurnool, Andhra Pradesh.



- **About ULPGM-V3 :** An advanced **air-to-surface precision-guided missile**, UAVs, designed to **engage both static and moving targets** with high accuracy and **minimal collateral damage**.
  - **Developed By**: **DRDO**, in collaboration with **Bharat Dynamics Limited (BDL)**, **Adani**, and multiple **MSMEs and start-ups** under the **Make in India** initiative.
  - **Primary Objective**: To **enhance India's autonomous strike capability**, enabling drones to deliver **pinpoint attacks without risking pilots or manned aircraft**.
  - **Variants of ULPGM**: **ULPGM-V1**: Baseline prototype
    - ✓ **ULPGM-V2**: Production-ready standard issue
    - ✓ **ULPGM-V3 (ULM-ER)**: **Extended-range** and **enhanced variant**
- **Key Features :** Equipped with a **fire-and-forget mechanism** and **high-definition dual-channel imaging infrared (IR) seeker**, ensuring precise targeting **day and night**.
  - Operational range up to **4 km in daylight** and **2.5 km at night**
  - Powered by **dual-thrust solid propulsion**

- Two-way datalink enables **mid-course updates** and **real-time communication**, improving hit accuracy.
- Destroys modern tanks with Rolled Homogeneous Armour (RHA) and Explosive Reactive Armour (ERA) protection.
- Ideal for fortified bunkers and hardened targets
- Effective in **anti-personnel** and **soft target** operations
- Weighs just **12.5 kg**, allowing integration with lightweight Indian drones like **Rustom** and **TAPAS-BH UAVs.**



5. **Long-Billed Bush Warbler :** Recently, the elusive **Long-Billed Bush Warbler** was spotted in India for the first time in 46 years, with a confirmed sighting by a team of birders in **Ladakh's Suru Valley**.
   - **About Long-Billed Bush Warbler :** Medium-sized **bush warbler (songbird)** with a **long tail and long bill**
     - **Scientific Name**: Locustella major
     - **Distribution**: Found in **Central Asian mountain ranges** and recorded in **China, India, Pakistan, and Tajikistan**
     - **Distinct Features**: Long tail and long bill and size is **15–17 cm in length**
       - ✓ **Brownish-olive plumage** with fine streaking on the back
       - ✓ **Whitish or buff underparts**
       - ✓ Both sexes look similar
       - ✓ Extremely **skulking and elusive** in behavior, prefers to **run rather than fly**
       - ✓ Known for a **dull clicking song**, often compared to a grasshopper
     - **Habitat**: Prefers **grassy slopes** with **bushes, weeds, and grass**
       - ✓ Found around **upland terraced cultivation**, **alpine meadows**, and **forest clearings**
       - ✓ Altitude range: **2400–3600 meters**
     - **Conservation Status**: Listed as **Near Threatened** on the **IUCN Red List**
6. **Chikungunya** : Recently, the World Health Organization (WHO) issued a warning about the potential for a major global outbreak of the **chikungunya virus**, urging immediate action to avert it.

- The WHO noted that it is observing the same early warning signs that preceded a significant outbreak two decades ago and emphasized the need to prevent history from repeating itself..

- **About Chikungunya** : A viral disease spread by mosquitoes and caused by the Chikungunya virus (CHIKV).
  - It is marked by fever, skin rash and intense joint pain.
  - The word "chikungunya" comes from the Makonde language of Africa, meaning "**bent over in pain."**
  - First recorded during an outbreak in southern Tanzania in 1952.
  - The virus has now spread to over 110 countries across Asia, Africa, the Americas, and Europe.
  - Transmitted through the bite of infected female **Aedes aegypti and Aedes albopictus** mosquitoes.
  - These mosquitoes also spread dengue and **Zika viruses**.
  - No specific antiviral treatment or vaccine is available for chikungunya.

7. Free Trade Agreement (FTA) : Recently, the second round of negotiations for the proposed India–New Zealand **Free Trade Agreement (FTA)** concluded successfully, marking a major step toward enhancing bilateral trade and economic cooperation between the two countries.

- **About FTA :** Are comprehensive trade arrangements between two or more countries designed to reduce or eliminate trade barriers such as tariffs, quotas, and import/export restrictions.
  - These agreements aim to provide **preferential market access** by offering tariff concessions and easing non-tariff barriers.
  - **Key Features :** Cover trade in both **goods** (agricultural and industrial) and **services** (e.g., banking, IT, construction).
  - Advanced FTAs may also include provisions on: **Investment**, **Intellectual Property Rights (IPRs)**, **Government procurement** & **Competition policy**
  - **Major Trade Agreements Involving India: India–ASEAN FTA** and **India–South Korea CEPA**
    - ✓ **Proposed Agreements:** India–UK FTA and India–EU FTA