

1. **Javelin Missile** : Recently, in a major step to enhance indigenous defence capabilities, India formally submitted a Letter of Request (LoR) to the United States for the co-production of **Javelin Anti-Tank Guided Missiles (ATGMs)** within the country.



- o Aligned with the 'Make in India' and 'Atmanirbhar Bharat' initiatives, the proposal seeks to boost operational readiness and reduce reliance on foreign military suppliers.
- **About Javelin Missile**: A man-portable, fire-and-forget anti-tank guided missile system developed jointly by U.S. defence giants Raytheon and Lockheed Martin.
 - o It is specifically designed to destroy heavily armoured vehicles such as main battle tanks, as well as lighter military vehicles.
 - o In addition to its primary anti-tank role, the missile is also effective against a range of other targets, including bunkers, fortifications, and even low-flying helicopters.
 - o **Key Features** : **Range**: It has an effective operational range of up to 2.5 km.
 - ✓ **Fire-and-forget capability**: The missile locks onto the target before launch and guides itself automatically, allowing the operator to take cover immediately after firing.
 - ✓ **Guidance System**: It employs an advanced infrared imaging system for automatic target tracking.
 - ✓ **Top-Attack Capability**: Equipped with a High-Explosive Anti-Tank (HEAT) warhead, it can destroy modern tanks by striking them from above where armour is weakest.
 - ✓ **Versatility**: It can also be used for direct attacks on fortifications and hardened positions.

2. **Pradhan Mantri Divyasha Kendra (PMDK)** : Recently, the 75th Pradhan Mantri Divyasha Kendra (PMDK) was inaugurated at the Government Medical College in Badaun, Uttar Pradesh. The announcement was made by the Union Ministry of Social Justice and Empowerment.

- **About PMDK**: A flagship initiative to provide **integrated services under one roof** for **Divyangjan (persons with disabilities)** and **senior citizens**.
 - o Services include **assessment, evaluation, counselling, distribution, and post-distribution care** of assistive devices.

- Implemented through **ALIMCO (Artificial Limbs Manufacturing Corporation of India)**, a Central Public Sector Enterprises (CPSE) under the **Department of Empowerment of Persons with Disabilities (DEPwD)**.
 - Assistive devices will be distributed **free of cost** under the following government welfare schemes: **Assistance to Disabled Persons for Purchase/Fitting of Aids and Appliances (ADIP) Scheme** – for persons with disabilities (**Divyangjan**)
 - ✓ **Rashtriya Vayoshri Yojana (RVY)** – for senior citizens
 - The initiative has already **benefited over 1.40 lakh individuals** by providing them with essential assistive devices and support services.
- 3. Genome Sequencing Project :** Recently, Gujarat became the first state in India to launch a dedicated **genome sequencing project** for its **tribal population**.
- **About Genome Sequencing Project :** The project, titled "**Creation of Reference Genome Database for Tribal Population in Gujarat**"
 - Aims to sequence the genomes of **2,000 individuals** from various tribal communities across **17 districts**.
 - **Objectives :** Identify **genetic predispositions** to hereditary diseases such as **sickle cell anemia** and **thalassemia**
 - ✓ Detect **genetic markers** for conditions like **cancer**, **innate immunity**, and other **inherited disorders**
 - ✓ Enable **early diagnosis** and **targeted healthcare** services based on genetic profiles
 - ✓ Facilitate **personalised health strategies** and **preventive public health policies**
 - **About Genome Sequencing :** Process of determining the **entire DNA sequence** of an organism's genome.
 - A **genome** refers to the **complete set of DNA**, including all of an organism's **genes**.
 - The process involves identifying the precise **order of four DNA bases**:
 - **Adenine (A)** → **Cytosine (C)**
 - **Guanine (G)** → **Thymine (T)**
 - Enabled by **automated sequencing technologies** and advanced **computer software**, which help assemble and interpret the large volumes of sequence data.

4. **Prime Minister Dhan-Dhaanya Krishi Yojana (PMDDKY):** Recently, the Union Cabinet approved the launch of the **Prime Minister Dhan-Dhaanya Krishi Yojana (PMDDKY)**, a transformative initiative aimed at strengthening India's agricultural sector.
- **About PMDDKY :** Announced in the **Union Budget 2025–26**, to be implemented over **six years** with an **annual outlay of ₹24,000 crore**.
 - Expected to directly benefit **over 1.7 crore farmers** across India.
 - One of the largest integrated agricultural missions through **convergence of 36 schemes** from **11 Central Ministries/Departments**.
 - **District-Centric Approach :** Targets **100 districts**, selected based on: Low crop productivity, Low cropping intensity and Low agricultural credit disbursement
 - ✓ At least **one district per State/UT**; number varies based on **Net Cropped Area** and **operational land holdings**.
 - ✓ Aims to focus efforts on areas with **maximum agricultural potential yet underperformance**.
 - **Institutional Mechanism for Implementation:** Formation of **District-level Dhan-Dhaanya Samitis**, involving **progressive farmers** and local stakeholders.
 - **State and National Steering Committees** for strategic direction and coordination.
 - Preparation of a **District Agriculture and Allied Activities Plan (DAAAP)** tailored to: Crop diversification, Soil and water conservation, Organic/natural farming, Self-sufficiency in inputs and outputs.
 - **Monthly monitoring** to ensure real-time evaluation and adaptive governance.
5. **Zographetus Mathewi :** Recently, in a remarkable discovery highlighting India's rich biological heritage, a team of lepidopterists identified a new butterfly species named **Zographetus Mathewi** in the **Western Ghats**, one of the world's most critical biodiversity hotspots.
- **About Zographetus Mathewi :** A newly described species of skipper butterfly in the family **Hesperiidae**.
 - It is the **15th species globally** and the **5th from India** in the genus **Zographetus Watson**.



- o Proposed common name: **Sahyadri Spotted Flitter**, paying tribute to the Western Ghats (Sahyadri Hills).
 - o **Scientific Features and Classification:** Belongs to the **Zographetus satwa** species-group, recognized by:
 - ✓ Distinctive **wing venation patterns**
 - ✓ **Swollen forewing veins** in males (a secondary sexual trait)
 - ✓ **Basal hair tuft** on the underside of the forewing
 - ✓ **Yellow-ochre scaling** on the hindwing underside
 - ✓ Unique **genital structures** in both sexes
 - ✓ Differentiated from the similar-looking **Zographetus ogygia** through these traits.
 - o **Endemic to Kerala**, specifically the **low-elevation forests (<600 m)** of the southern Western Ghats.
6. **Cysteine:** Recently, a groundbreaking study revealed that removing just one **amino acid—cysteine**—from the diet of mice resulted in an astonishing **30% reduction in body weight** within a single week. This striking outcome highlights the vital role of **cysteine** in regulating metabolism and maintaining energy balance.
- **About Cysteine :** A **sulfur-containing, non-essential amino acid** crucial for various biological functions. Though less abundant, it is often found in key protein sites due to its regulatory and catalytic roles.
 - o **Key Functions of Cysteine: Structural Support:** Found in beta-keratin, it strengthens **nails, skin, and hair**.
 - ✓ **Collagen Formation:** Enhances **skin elasticity**.
 - ✓ **Antioxidant Role:** Precursor to **glutathione**, which protects cells from oxidative damage.
 - ✓ **Taurine Production:** Supports **digestion, heart, and brain health**.
 - ✓ **Detoxification:** Helps eliminate toxins from the body.
 - o **Deficiency lead to: Fatigue, weakness, Stunted growth** in children & **Weakened immunity**
 - ✓ **Sources:** Meat, eggs, and dairy products.
 - **About Amino Acids :** Fundamental units of proteins, with 20 standard types used by the body. Of these, 9 are **essential** (from diet), while 11 are **non-essential** (synthesized by the body).

7. Agricultural Outlook 2025–2034 : Recently, the **Organisation for Economic Co-operation and Development–Food and Agriculture Organization (OECD–FAO)** released their **Agricultural Outlook 2025–2034**, highlighting key trends shaping global food and agricultural markets over the next decade.

- **Key Highlights :** By **2034**, only **40%** of global cereal production will be used directly for **human consumption**.
 - **27%** will be diverted to **biofuel and industrial uses**, up from **23%** in the 2023 projection and remaining **33%** will be used as **animal feed**.
 - **Biofuel demand** is projected to grow at **0.9% annually**, led by **India, Brazil, and Indonesia**.
 - Despite sustainability concerns, **food-based feedstocks** will continue to dominate biofuel production.
 - **Advanced biofuels** (e.g., from crop residues or woody biomass) will remain marginal.
 - **Global cereal production** will grow by **1.1% annually** over the next decade.
 - **Harvested area expansion:** Slows to just **0.14% annually** (down from 0.33%).
 - **Regional Shifts in Cereal Demand:** **India and Southeast Asia** will contribute **39%** of global cereal consumption growth by 2034 (up from 32%).
 - ✓ **China's share** will drop to **13%**, from 32% in the previous decade.
- **About OECD:** Established in 1948 as the Organisation for European Economic Co-operation (OEEC); renamed OECD in 1961 with the inclusion of the USA and Canada
 - **HQ :** **Paris, France**
 - **Membership:** Primarily high-income, democratic countries with high Human Development Index and market economies.
 - **Role:** Acts as a global statistical agency and a UN observer; publishes comparable international statistics.
- **About FAO :** Specialized agency of the **United Nations**, leading global efforts to defeat hunger.
 - **Established:** **October 1945**; the **oldest permanent specialized UN agency**.
 - **Mandate:** Improve **nutrition**, boost **agricultural productivity**, uplift **rural livelihoods**, and support **global economic growth**.
 - **HQ:** **Rome, Italy**.