

1. **Indus Valley Script:** Recently, in a major effort to solve one of the oldest mysteries of ancient civilization, the Archaeological Survey of India (ASI) announced a three-day international conclave.
  - The event will bring together global experts to focus on deciphering the Indus Valley script.
  - **About The Indus Script:** First unearthed in 1921 at Harappa and formally introduced by archaeologist **John Marshall in 1924**, the Indus Valley Civilization is recognized as one of the most advanced yet least understood ancient cultures.
    - **Un-deciphered Script:** The greatest obstacle to understanding this civilization is its script, which remains un-deciphered to this day.
    - **Documented Signs:** Over 400 unique symbols have been recorded, primarily on seals, terracotta tablets, copper tools, and pottery.
    - **Key Challenges to Decipherment:** Absence of bilingual inscriptions, such as a Rosetta Stone equivalent. Extremely short texts, often comprising only a handful of characters, limiting linguistic analysis.
  - **About Conclave :** Announcement of a \$1 million reward for successfully deciphering the Indus script, sparking global academic and public interest.
    - The event, titled '**Decipherment of the Indus Script: Current Status and the Way Forward**', will be conducted in both online and offline modes to ensure wide participation.
2. **World Investment Report 2025 :** Recently, the World Investment Report 2025 released by the **United Nations Conference on Trade and Development (UNCTAD)** revealed that **Foreign Direct Investment (FDI)** inflows into India declined by 1.8% in 2024, dropping to \$27 billion — less than half the amount received in 2020.
  - **About FDI :** The investment through capital instruments by a person resident outside India (a) in an unlisted Indian company; or (b) in 10% or more of the post issue paid-up equity capital on a fully diluted basis of a listed Indian company.
    - **Role of FDI:** It fosters stable and enduring connections between economies, serving as a fundamental element in international economic integration.
    - **Indicators and Measurements :** Inward and outward values for stocks, flows, and income, delineated by partner countries and industries, as well as FDI restrictiveness measures.

- **About World Investment Report** : It focuses on trends in FDI worldwide, at the regional and country levels, and emerging measures to improve its contribution to development (**Released by:** UNCTAD).
  - It also provides analysis on global value chains and the operations of multinational enterprises, with special attention to their development implications.
- **About UNCTAD:** A permanent intergovernmental body established by the United Nations General Assembly
  - **Established: 1964** ; **HQ:** Geneva, Switzerland
  - **Objective:** Supports developing and least developed countries in integrating into the global economy
  - **Focus Areas:** →Trade & development →Investment & enterprise →Technology & innovation →Macroeconomics & development policies

3. **One-Stop Centres (OSCs)** : Recently, a total of **802 One-Stop Centres (OSCs)** have become operational across India, reflecting the steady expansion of this initiative over the past decade.

- **About OSC Scheme:** A Centrally Sponsored Scheme under the Ministry of Women and Child Development (MWCD), launched to support women affected by violence.
  - **Main Objectives:** To provide integrated support and services to women facing violence in both private and public spaces.
    - ✓ To ensure immediate and easy access to medical, legal, psychological, and counselling services — all under one roof.
  - **For whom:** Women and girls of all ages, regardless of caste, class, religion, region, marital status, or sexual orientation.
    - ✓ Girls under 18 are supported in coordination with agencies under the Juvenile Justice Act and POCSO Act.
  - **Implementation:** Managed locally by the **District Collector or District Magistrate**, who oversees daily operations

#### Key Reports by UNCTAD:

- World Investment Report
- Technology and Innovation Report
- Review of Maritime Transport
- Economic Development in Africa Report
- The Least Developed Countries Report
- Commodities and Development Report
- Digital Economy Report

- **Funding:** Fully funded by the Central Government through the **Nirbhaya Fund**.
- **Services Offered at OSCs:** Emergency response and rescue, Medical aid, Assistance in filing FIRs/NCRs/DIRs, Legal aid and counselling, Psycho-social support, Temporary shelter and Video conferencing for legal proceedings and police interaction.

**4. Rice Yellow Mottle Virus (RYMV) :** Recently, a new genomic study published in *PLOS Pathogens* has raised concerns about the rapid spread of Rice Yellow Mottle Virus (RYMV) across large parts of East and West Africa.

- **About RYMV :** A viral disease that weakens rice plants, turning green paddy fields yellow and significantly reducing yields.
- **Historical Spread:** The virus has been silently spreading across Africa for over a century, with its origins traced back to the mid-1800s in the Eastern Arc Mountains (now part of Tanzania).
- **Initial Ecosystem:** It likely originated from wild grasslands where rice was grown using slash-and-burn agriculture before spilling into cultivated rice fields.
- **Geographic Spread:** RYMV has spread from the Indian Ocean coast to Lake Victoria and reached Madagascar by the 1970s, following human movement through trade, colonial routes, and wartime transport.
- **Impact:** RYMV poses a severe threat to food security, rural economies, and farmer livelihoods, especially in regions where rice has replaced maize as a staple.
- **Contributing Factors to Spread:** Unregulated seed movement , Weak or collapsing farming biosecurity systems, Conflict zones and unstable governance and Unpredictable weather patterns and shifting farming seasons.

**5. Fourier Transform Infrared (FTIR) Spectroscopy:** Recently, the Aryabhata Research Institute of Observational Sciences (ARIES) in Nainital hosted a major international gathering of atmospheric scientists.

- The meeting focused on tracking changes in atmospheric composition, with a special emphasis on the use of Fourier Transform Infrared (FTIR) spectroscopy to enhance understanding of climate change.

- **About FTIR Spectroscopy:** Also known as FTIR Analysis, it is a powerful technique used to identify chemical substances and study the structure of compounds.
  - **How It Works:** Uses infrared (IR) light to scan a sample.
    - ✓ Analyzes how molecules vibrate to identify chemical bonds and functional groups.
    - ✓ Provides detailed information about molecular composition and structure.
  - **Sample Suitability:** Effective for analyzing both small particles (10–50 microns) and larger surface areas.
  - **Applications:**
    - **Industrial Use:** Widely used in quality control of manufactured materials.
    - ✓ **Environmental Monitoring:** Helps assess air, water, and soil quality, especially in the context of pollution.
    - ✓ **Material Identification:** Used to detect organic, polymeric, and sometimes inorganic materials.
  - **Climate Relevance:** Plays an important role in atmospheric studies by helping track changes in air composition and pollutants, aiding climate change research.
- **Why Himalayan Observations Are Crucial**
  - **Ecological Sensitivity:** The Himalayas are a climate-sensitive and ecologically fragile region, making them vital for climate monitoring efforts.
  - **Lack of Ground-Based Data:** Despite their importance, the region has limited ground-based atmospheric monitoring systems, creating major data gaps.
- 6. **Rinderpest Holding Facility (RHF) :** Recently India has achieved a major milestone in global animal health with the **ICAR-National Institute of High Security Animal Diseases (NIHSAD)** in Bhopal being designated as a Category A Rinderpest Holding Facility (RHF).
  - This recognition was granted by the **World Organization for Animal Health (WOAH)** and the **Food and Agriculture Organization (FAO)**.
- **About Rinderpest:** Also known as **cattle plague**, it is a highly contagious viral disease affecting cloven-hoofed animals like cattle and buffalo.
  - Caused by a virus from the **Paramyxoviridae family (genus Morbillivirus)**.
  - While wild species (like antelopes and giraffes) may show mild symptoms, it can cause up to **100% mortality** in unprotected cattle and buffalo herds.

- Symptoms include fever, mouth lesions, nasal and eye discharge, severe diarrhea, and dehydration — often leading to death within 10–15 days.
- **No risk to humans**; the virus does **not infect people**.
- Historically present in Europe, Africa, and Asia, **rinderpest was officially eradicated in 2011**.
- The virus spreads through direct contact — mainly via nasal secretions and body fluids of infected animals, even before visible symptoms appear.
- **About WOAH** : An international organization that promotes **animal health and transparency in reporting animal diseases**. It works to improve **veterinary services**, control outbreaks, and ensure safe trade in animals and animal products.
  - Released its Annual Report on Antimicrobial Agents Intended for Use in Animals.
  - **Headquarters**: Paris, France
  - **Established in** : 1924 as the Office International des Epizooties (OIE); renamed **WOAH** in 2003.

7. **Spartaeus Karigiri**: Recently, a fascinating discovery has added to India's growing list of spider species — a new jumping spider named **Spartaeus karigiri** has been identified in southern India by a team of researchers.

- **About Spartaeus karigiri**: The species is named after **Karigiri (Elephant Hill)** in **Devarayanadurga, Karnataka**, where it was first spotted.
  - **Scientific Significance**: This marks the **first time** that the spider genera **Spartaeus** and **Sonoita**, previously known only from **Southeast Asia and Africa**, have been found in India.
    - ✓ Another species, *Sonoita cf. lightfooti*, earlier thought to exist only in Africa, has also been identified in Karnataka.
  - **Unique Traits**: These spiders are part of the **Spartaeinae** subfamily, known for their **sharp eyesight and clever hunting techniques**.
    - ✓ *Spartaeus karigiri* uses smart tactics to invade webs and mimic prey to deceive other spiders.
  - **Broader Impact**: With this discovery, India now has **15 known species** of jumping spiders in the **Spartaeinae** subfamily, spread across **10 different genera**.

