

1. **North Eastern Region (NER) District SDG Index** : Recently, NITI Aayog, in collaboration with the Ministry of Development of North Eastern Region (MoDoNER) and with technical support from UNDP, released the 2nd edition of the North Eastern Region (NER) District SDG Index 2023-24.
  - o The report assesses **district-wise progress on the Sustainable Development Goals (SDGs)** across all **eight northeastern states** of India.
  - **Key Highlights**: **85% of districts** showed an **increase in their composite SDG scores**.
    - o Scores range from **58.71 (Longding, Arunachal Pradesh)** to **81.43 (Hnahthial, Mizoram)**.
    - o **Top Performing Districts**: **Hnahthial (Mizoram)** emerged as the **best-performing district**.
      - ✓ Three districts from **Nagaland** broke into the **Top 10 performers**.
    - o **Front Runner States**: All districts of **Mizoram, Sikkim, and Tripura** achieved **Front Runner status** (score 65–99).
    - o **No districts** in the NER fell into the **Aspirant (<50)** or **Achiever (=100)** categories.
    - o **Good Health & Well-being (SDG 3)**: Improved scores in **93 districts**.
    - o **Assam** saw district-wide improvement in **Zero Hunger (SDG 2)**, **Quality Education (SDG 4)**, **Clean Water and Sanitation (SDG 6)**, and **Decent Work & Economic Growth (SDG 8)**.
  - **About NER District SDG Index** : A **data-driven tool** designed to assess and monitor the progress of **121 districts** across the eight northeastern states: **Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura**.
    - o Evaluates district-level performance on **selected SDG indicators**.
    - o Modeled after the national SDG India Index methodology developed by NITI Aayog.
    - o Enables **evidence-based policymaking, decentralized planning, and targeted development interventions**. Aims to promote **inclusive and sustainable development** by identifying progress, gaps, and priority areas at the local level.
2. **Plant Treaty** : Recently, concerns have intensified across India over proposed changes to the **International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)**, known as **Plant Treaty**. Farmer groups, seed custodians, and biodiversity advocates fear the move could weaken protections for traditional seed systems and open access to multinational corporations.
  - **Key Highlights** : New system allows two access models: **Subscription model**: Fixed fee for broad access and **Single-access model**: Pay only upon commercialization.

- Critics say this gives **corporations flexibility to avoid fair compensation**.
- Raises concern over loss of control over India's **digital genetic resources**.
- Experts argue reforms could **erode farmers' ability to save, breed, and share seeds**.
- Could violate India's Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, **Biodiversity Act**, and **Article 9 of the Plant Treaty** on farmers' rights.
- **About ITPGRFA** : Adopted by the **Food and Agriculture Organization (FAO)** of the United Nations in **2001**, during its **31st session**.
  - **Signed in Madrid** in 2001 and **entered into force in 2004**.
  - It is the **first legally-binding international treaty** to formally recognize the vital role of **indigenous peoples and smallholder farmers** as traditional custodians of global food crop diversity.
  - **Objectives** : Acknowledge the significant **contribution of farmers** to the genetic diversity of food crops.
    - ✓ Establish a **global system** to facilitate access to plant genetic materials for **farmers, plant breeders, and scientists**.
    - ✓ Ensure **equitable benefit-sharing** with countries of origin when these genetic materials are used.
- 3. **Plasma Loops** : Recently, a team of Indian and international astronomers detected **tiny, short-lived plasma loops** in the lower layers of the **Sun's atmosphere**. This discovery could offer crucial insights into one of solar science's longstanding mysteries — **how the Sun stores and explosively releases magnetic energy**.
- **About Plasma Loops** : These loops are **3,000–4,000 km long** but **less than 100 km wide**, making them hard to detect.
  - The loops last only a few minutes, making them difficult to observe.
  - Despite their size, they provide important insights into **solar magnetic energy storage and release**.
  - **First Clear Detection in H-alpha Line**: Loops were observed as bright arcs in the **redder part of the H-alpha spectral line** (used to study the chromosphere). Seen clearly for the first time in this part of the spectrum.

- **Observations were made using:** Goode Solar Telescope (BBSO), NASA's IRIS (Interface Region Imaging Spectrograph) and NASA's SDO (Solar Dynamics Observatory)
  - ✓ These tools helped capture loop behavior in **visible, UV, and extreme-UV wavelengths.**
- 4. **National Green Tribunal (NGT):** Recently, the Union Ministry of Environment, Forest and Climate Change (MoEFCC) submitted a sealed report by the High-Powered Committee (HPC) to the **National Green Tribunal (NGT)**, marking a significant development in the controversial **Great Nicobar Island mega infrastructure project.**
  - **About Great Nicobar Island Project :** Spearheaded by the Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO), is a large-scale infrastructure initiative spread across 166 sq km. Its major components include:
    - Development of an international container transshipment terminal to enhance maritime trade.
    - Construction of a dual-use airport serving both civilian and military purposes.
    - Establishment of a 450 MVA gas and solar-based power plant to meet energy needs.
    - Creation of a township with housing and amenities for residents and project workers.
  - **Environmental Concerns:** The project requires the diversion of 130 sq km of untouched tropical forest.
    - Over one million trees are expected to be cut down raising major ecological concerns.
    - Potential damage to fragile coral ecosystems in the project area.
    - The project's location within critical and biodiverse habitats raised red flags.
    - The original environmental assessments lacked sufficient baseline data.
  - **About NGT:** Established in 2010 under the National Green Tribunal Act, 2010.
    - **Purpose:** Fast-track resolution of cases related to environmental protection, forest conservation, and natural resource management.
    - **Procedure:** Not bound by the Civil Procedure Code, 1908; guided by principles of natural justice.
    - **Composition: Chairperson:** Retired Supreme Court judge ; **Judicial Members:** Retired High Court judges. **Expert Members:** Professionals with a minimum of 15 years of experience in environmental or forest-related fields.

5. **Vera C. Rubin Observatory** : Recently, the **Vera C. Rubin Observatory**, perched high in the **Chilean Andes**, released its first test images—marking a major milestone in astronomy.
- o This achievement paves the way for groundbreaking discoveries about the universe, including the evolution of the Milky Way, the possible existence of **Planet Nine**, the nature of dark energy, and the detection of potentially hazardous asteroids near Earth..
  - **About Vera C. Rubin Observatory** : Will conduct the **Legacy Survey of Space and Time (LSST)** for 10 years.
    - o **Goal**: To build a detailed, multi-color, time-based catalogue of the southern night sky.
    - o **Why is it powerful** : **LSSTCam**: Equipped with the world's most powerful digital camera (3.2 gigapixels).
    - o **Wide Field of View**: Captures an area equivalent to 40 full Moons in a single image.
    - o **Rapid Scanning**: Can image the entire southern sky every few nights.
    - o **High Sensitivity**: Detects faint and fast-changing celestial objects with unmatched precision.
    - o Utilizes a three-mirror system for maximum sky coverage and clarity: **Primary mirror**: 8.4 metres, **Secondary mirror**: 3.5 metres and **Tertiary mirror**: 5 metres (integrated into the primary).
  - **About Planet Nine**: A **hypothetical planet** believed to exist in the outer reaches of the solar system. Proposed based on the **unusual orbital clustering** of several extreme trans-Neptunian objects (ETNOs).
    - o Thought to exert a **gravitational influence** that shapes the orbits of these distant, icy bodies.
6. **“3 by 35” Initiative** : Recently, the World Health Organization (WHO) launched the **“3 by 35” initiative** to curb harmful consumption and enhance global public health outcomes.
- **About “3 by 35” Initiative** : Urges countries to **increase real prices** of tobacco, alcohol, and sugary drinks by **at least 50% by 2035**.
    - o Targets the generation of **US \$1 trillion** in additional revenue over the next decade.
    - o **Purpose**: Promote **health taxes** as an effective tool to discourage unhealthy consumption, save lives, and raise critical public funds.
      - ✓ Help countries **mobilize domestic resources** while advancing public health goals.

- **Three Key Actions Under the Initiative: Mobilizing Countries:** Engage heads of state, finance and health ministries, and civil society. Offer **peer learning, strategic support, and global recognition** to participating nations.
  - **Supporting Country-Led Policies:** Provide **direct technical assistance** to develop tailored, evidence-based health tax strategies. Share **tools, guidance, and best practices** through a knowledge platform.
  - **Building Commitment and Partnerships:** Foster **inclusive dialogue**, cross-sector collaboration, and strong civil society engagement. Aim to reshape public and political perceptions around health taxation and sustainable health financing.
7. **Impacts of Climate Change on Global Agriculture Accounting for Adaptation :** Recently, a new study published in the journal Nature, titled “**Impacts of Climate Change on Global Agriculture Accounting for Adaptation**”, has warned of severe consequences for global food systems if greenhouse gas emissions remain unchecked.
- **Key Highlights :** Conducted by the **Climate Impact Lab**, a collaborative of 16 climate and agricultural economists.
    - **Each 1°C rise** in global temperature could reduce average food availability by **120 calories per person per day** (~4.4% of current daily intake).
    - **Average yield losses by 2100:** 41% in high-income regions and 28% in low-income regions.
    - **Six staple crops analyzed:** **Rice, wheat, maize, soybean, sorghum, cassava** — together account for **two-thirds of global cropped calorie production**.
    - **Wheat shows 40–100% yield loss in northern and central India** under high emissions.
    - Losses also projected in: **30–40% in China, Russia, USA, and Canada.**
      - ✓ **15–25% in Eastern/Western Europe, Africa, and South America.**
    - **Rice may see yield increases** due to its **tolerance to high minimum temperatures**.
    - **Adaptation benefits for rice** are high: **79% under high emissions, 86% under moderate emissions.**
    - Regions with **moderate current temperatures** will suffer the **greatest yield losses**.