UPSC Daily Current Affairs| Prelimbits 28-06-2025

Prelims Bits

Shanghai Cooperation Organization (SCO)

Prelims : Current events of National and International Importance | International Relations

Why in News?

Defence Minister recently refused to sign the draft statement at the SCO meeting, after the document omitted the reference to the Pahalgam terror attack, but mentioned the Jaffar Express hijacking in Pakistan.

- **SCO -** The SCO is a permanent intergovernmental organization consists of 10 countries, including **India**, China, Russia, Pakistan, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Iran, and Belarus.
- **Aim -** To promote regional peace, stability, and prosperity through cooperation in politics, economics, culture, and a coordinated effort to combat terrorism, extremism, and separatism.
- **Formed in -** 1996, consisting of China, Russia, Kazakhstan, Kyrgyzstan and Tajikistan.
- It is the ***world's largest regional organisation*** by geographical area and population.
- The SCO is one of the few international organisations with primarily Asian members that deals with security issues.
- Its ***Regional Anti-Terrorist Structure (RATS)*** regularly holds meetings and exchanges information.
- **2025 SCO Meeting –** Chaired by Beijing, and the meeting of defence ministers took place in the east China city of Qingdao.
- **India's reason behind rejection -** Russia and China have traditionally dominated the SCO.
- However, with Russia engaged in the Ukraine war since 2022, China's footprint has grown.
- Pakistan is a major ally of China, and Beijing provided aid to Pakistan in the military confrontation with India in the aftermath of Operation Sindoor.

- China has also long used its clout in international fora to shield Pakistan from adverse resolutions.
- In such a scenario, Rajnath refusing to sign the SCO draft document assumes more significance.
- No joint statement was issued for this year's SCO meeting as India refused to come on board.
- This shows India's sustained upholding of the 'no compromise on terrorism' position.
- India has long made it clear that terrorism and business as usual can't go together.

Reference

The Indian Express | What is the SCO?

Energy Institute Report (2025)

Prelims: Sustainable development | Current events of national and international importance

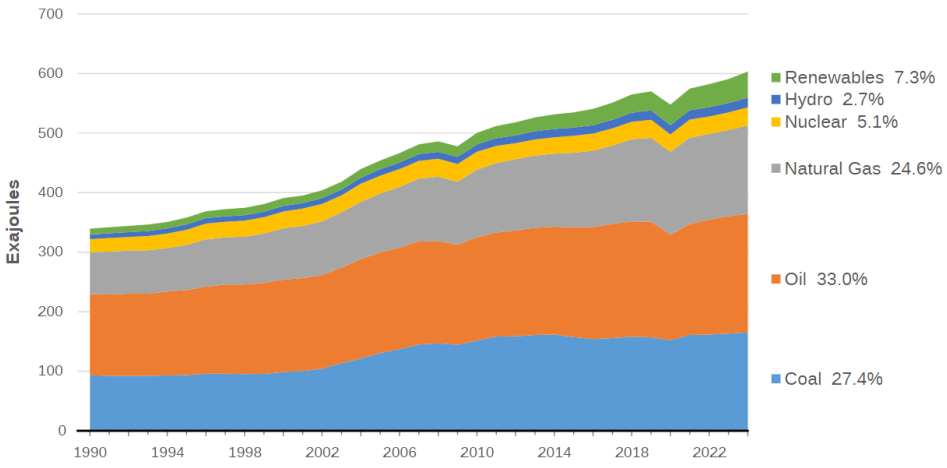
Why in news?

Recently, the Energy Institute (EI) released the 74th edition of the Statistical Review of World Energy which shows data on global energy.

Global Energy Consumption Breakdown

- **Increase in energy supply** – Total energy supply rose by 2% in 2024, with all energy sources—oil, gas, coal, nuclear, hydro, and renewables registering increase since 2006.
- **Fossil fuel growth** – Natural gas generation saw the largest increase among fossil fuels, growing by 2.5%.
- **Oil & Liquid fuels –** Largest global energy source largest global total primary energy in 2024 with 33% contribution.
- **Coal** – Remained the largest single source of global electricity generation, growing by 1.2% in 2024 to reach 10,613 TWh, despite record investments in renewables.
- **Surplus coal production in Asia Pacific –** For 3 years, coal production exceeded demand with 2024 surplus was a record.
- **Natural gas** – Meets 25% of total global energy demand and top producers are USA, Russia, Iran, China (53% of global production).

- **Renewable energy expansion –** Wind and solar energy expanded by 16%, growing nine times faster than total energy demand.
- Wind & Solar are fastest-growing energy sources with China contributed 57% of new capacity globally.
- Renewables (including hydro) met 32% of total electricity supply
- **Rare Earth metals** – Grew by 3.2%, reaching 0.4 million tonnes of total production and China accounts for 71% of global production and 48% of global reserves.



Global primary energy consumption, 1990-2024

Renewables include renewable power (solar, wind, geothermal, biomass, waste; excluding hydro) and biofuels

Other Key Findings related to global warming

- **Record high CO2 emissions –** Global carbon dioxide emissions from the energy sector reached a record high for the fourth consecutive year in 2024, increasing by around 1% to 40.8 gigatonnes of CO2 equivalent.
- **Global warming milestone** – 2024 was the hottest year on record, with global temperatures exceeding 1.5°C above pre-industrial levels for the first time.
- **Challenges in renewable energy goals –** Despite record growth in renewables, the world is not on track to meet the COP28 goal of tripling renewable energy capacity by 2030.

Reference

The Hindu| Global energy CO2 emissions reached record high last year

Impact of Warming of Yield of Staple Crops

Prelims: Environment and ecology| Current events of national and international importance

Why in news?

Recent research paper in Nature journal shows how warming will cut yield of staple crops even post-adaptation like using heat-resistant seeds, changing sowing dates, or altering irrigation.

Major findings of the report

For every 1°C rise in global temperature, per person calorie availability may fall by 4% by 2100.

- **Staple crops** — Rice, wheat, maize, sorghum, and soybean — will face **declining yields** by 2050 and 2100.
- **Specific crop impacts** – Wheat will face severe losses projected for Northern India, some of the worst globally.
- **Rice –** Sub-Saharan Africa, Europe, Central Asia faces up to 50% yield losses.
- **Maize, Soybean, Sorghum -** Similar declining trends globally, though exact figures vary.
- **Adaptation can help, but not fully** – Optimal global adaptation could alleviate 23% of losses by 2050 and 34% by 2100.
- But significant residual losses will persist, especially in wheat-growing regions.

Broader Implications

- **Global food security threatened –** It will lead to food security issues in developing and under developed countries.
- Innovation, cropland expansion, and further adaptation are crucial.
- **Modern breadbaskets at risk –** Losses may dominate in regions traditionally seen as food-secure (US, Europe, China).
- **Vulnerable populations still at risk –** Though the largest absolute losses occur in high-producing regions, the impact on low-income regions remains "substantial."

Reference

The Hindu| Warming will cut yield of staple crops even post-adaptation

Mobile BSL-3 'Laboratory on Wheels

Prelims: Current events of national and international importance

Why in news?

Recently, the Indian Council of Medical Research (ICMR) is expanding its fleet of Mobile Biosafety Level-3 (MBSL-3) laboratories to enhance India's response to disease outbreaks, particularly in remote and inaccessible areas.

- **Mobile BSL-3 laboratory –** Mobile Biosafety Level-3 (MBSL-3) is also known as RAMBAAN (Rapid Action Mobile BSL-3 Laboratory).
- **Field-deployable BSL-3 lab** – It is a fully indigenous, field-deployable laboratory designed for rapid diagnosis and investigation of high-risk pathogens like Nipah virus.
- **First deployed** – September 2023 during the onset of Nipah outbreak, Kozhikode, Kerala
- **Development** – It is developed under the Pradhan Mantri Ayushman Bharat Health Infrastructure Mission.
- Built in collaboration with Klenzaids Contamination Controls Pvt. Ltd., Mumbai.
- It is designed for operation in extreme temperatures and altitudes.

Key Features of Mobile BSL-3 Laboratory

- WHO classified as **Type-IV Rapid Response Mobile Laboratory** under the Global Outbreak Alert and Response Network.

As per WHO, laboratories are categorized into five types in that Type-IV indicates a large-scale, high-capacity deployable diagnostic unit.

- **Negative air pressure environment** – The air is continuously extracted from the room through exhaust systems to contain pathogens.
- **Advanced HVAC system (Heating, Ventilation & Air Conditioning)** – Maintains strict control over temperature, humidity, and air filtration.
- **Double door autoclave** – Safe decontamination of biological waste or lab equipment without breaking the containment barrier.
- **Biological Liquid Effluent Decontamination (BLED)** – Treats and neutralizes liquid waste generated inside the lab before disposal.

Significance

- It enhances on-site diagnostic capacity during outbreaks.
- it allows rapid detection of known and unknown high-risk pathogens.
- It strengthens India's Advanced Augmented Network for outbreak response.
- It is ideal for deployment in remote or inaccessible regions.
- It ensures strict biosafety protocols and protection for healthcare personnel.

Reference

The Hindu| ICMR increasing mobile lab capacity

Sickle Cell Anaemia Elimination Mission

Prelims: Current events of national and international importance

Why in news?

According to the Union Health Ministry National Sickle Cell Anaemia Elimination Mission has screened over 5.72 crore people, identifying more than 2.09 lakh sickle cell patients and 16.3 lakh trait carriers.

- **Sickle Cell Anaemia Elimination Mission** – It is launched under the National Health Mission (NHM).
- **Launched in** – 2023
- **Objective** – It focuses on universal screening, especially in high-prevalence tribal areas.
- **Target** – Screen 7 crore individuals under age 40 across **17 States** by 2025-26.
- **Key States with high prevalence:**
  - Madhya Pradesh
  - Maharashtra
  - Odisha
  - Jharkhand
  - Chhattisgarh
  - Uttar Pradesh, Bihar, Gujarat, Rajasthan (included under mission)
- **Importance of screening –** Early detection through screening of pregnant women and new-borns.
- It ensures timely treatment and reduces complications.

- Counselling families to overcome stigma and resistance to modern healthcare.
- **Challenges in tribal areas** – Deep-rooted reliance on traditional medicine.
- Fear or mistrust of modern healthcare.
- Difficult accessibility & lack of regular follow-ups.
- Social stigma leading to delayed diagnosis.
- **Treatment –** Hydroxyurea, a key medicine for SCD, being distributed via trained health workers.

Sickle Cell Disease (SCD)
• It is a genetic blood disorder causing abnormal haemoglobin. • Red blood cells become rigid & sickle-shaped. • it leads to severe pain, anaemia, organ damage and increased infection risk. • It is particularly prevalent among tribal populations, but not restricted to them.

Reference

The Hindu| Sickle Cell Mission identifies over two lakh patients

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