UPSC Daily Current Affairs| Prelimbits 10-07-2025

Effects of particulate matter (PM2.5)

Prelims: Current events of National and international importance | General issues on Environmental ecology, Biodiversity & climate change.

Why in News?

A new study reveals the damaging effects of air pollution extend far beyond the lungs and heart, affecting people before they are even born.

- **Published in** - PLoS Global Public Health.
- **Carried out by -** Researchers from institutions in India, Thailand, Ireland, and the UK.
  - Data collected from the National Family Health Survey (NFHS), along with satellite data.
- **Assessment criteria -** The team assessed the influence of ambient air quality on birth outcomes, specifically ***Preterm births (PTB)*** and low birth weight (LBW).
- The dataset included children ***aged 0 to 5 years***; 52% were female and 48% male.

Findings of the study

- **Particulate Matter (PM2.5)** - The results suggest that exposure to fine particulate matter (PM2.5) during pregnancy significantly increases the likelihood of these adverse outcomes.

PM2.5 consists of airborne particles less than 2.5 micrometres in diameter.

- **Regional disparity** - Specifically, Delhi, Punjab, Haryana, Uttar Pradesh, and Bihar bear the brunt of the consequences of air pollution.
  - **Reasons** - Heavily industrialised with high vehicular emissions and the widespread use of solid fuels for cooking.
- **Pre-Term Births (PTB)** - Prevalent in Himachal Pradesh (39%) and Delhi (17%).
- **Low Birth Weight (LBW)** - Common in Punjab (22%) and Delhi (19%).
- Female children were more likely to be born with LBW compared to males (17%), although both conditions were found to be more frequent among children of illiterate and poorer mothers.
  - **Contributing Factors -** Households that used solid fuel to cook also reported higher rates of both LBW and PTB.
  - Higher levels of PM2.5 during pregnancy significantly increased the likelihood of both LBW and PTB.
- **Higher temperatures -** Linked to maternal dehydration, heat stress, and increased cardiovascular strain, all of which impair placental function and disrupt foetal growth.
- **Excessive Rainfall -** Especially during the monsoon, raises the risk of waterborne

infections, which can further hinder foetal growth.
- Flooding and displacement associated with heavy rains can also disrupt healthcare access, leading to delayed medical interventions and increasing the likelihood of pregnancy complications.

National Air Quality Index (AQI)
• The Air Quality Index (AQI) is a measurement of air pollutant concentrations in ambient air and their associated health risks. • **Launched in-** 2014. • **Categories** -There are 6 AQI categories, namely Good, Satisfactory, Moderately Polluted, Poor, Very Poor, and Severe. • **Included pollutants-** Particulate matter (PM2.5 and PM10), Ozone (O3), Carbon Monoxide (CO), Nitrogen Dioxide (NO2), Sulphur Dioxide (SO2), Lead (Pb) and Ammonia (NH3)

Reference

The Hindu| Air pollution and effects of birth

BRICS Declaration

Prelims: Current events of National and International Importance

Why in the news?

The BRICS Leaders' Declaration, adopted at the recent summit in the Brazilian city, reflected India's key concerns.

- **Theme** - "Strengthening Global South Cooperation for a More Inclusive and Sustainable Governance".
- The summit urged "zero tolerance" for "terrorism" and rejected any "double standards" in counterterrorism efforts.
- **Coverage -** Global governance, finance, health, artificial intelligence, climate change, and other strategic areas.
- **Initiatives** - Adoption of the BRICS Leaders' Framework Declaration on Climate Finance
- BRICS Leaders' Statement on the Global Governance of Artificial Intelligence.
- Launch of the BRICS Partnership for the Elimination of Socially Determined Diseases.
- **Key Outcomes of the declaration -** Condemned the Pahalgam terror attack in Jammu and Kashmir.
- **Supports Palestinian rights -** described the Gaza Strip as an "inseparable" part of the Occupied Palestinian Territory.
- **Attack on Iran violated international law –** Termed Israel-U.S. attack on Iran as a "violation of international law and the Charter of the United Nations"
- **Advocates UNSC reform –** Support from Russia and China for the "aspirations of Brazil and India to play a greater role in the United Nations, including its Security Council".

BRICS – An overview
• **BRICS** - Brazil, Russia, India, China, South Africa. • **Formation** - Initially formed as "BRIC" in 2006, South Africa joined in 2010. • Indonesia, Egypt, Ethiopia, Iran and the United Arab Emirates joined the group in 2024. • **Objectives** - Promote peace, development, and economic cooperation among major emerging economies. • **Key Areas of Focus** -Trade and investment, Multilateral reform (e.g., UN, IMF), Sustainable development, Innovation and digital economy. • **Institutions** - New Development Bank (NDB), also known as BRICKS bank, which finances infrastructure and sustainable projects. • **Global Role -** Represents over 40% of the world's population and around 25% of global GDP.

- **Potential benefits of the declaration** - The *new guarantee fund and the shift toward local-currency trade* could reduce borrowing costs and mitigate currency risks for Indian exporters and infrastructure developers.
- **Expansion of AI** – As AI governance is an agenda of BRICS, it will help nations enhance their expansion across software, AI, and e-commerce markets.
- **Increase Global participation** – It will ease wider representation of key global nations and enhance effective cooperation.
- **India's relevance** – The initiatives could attract further foreign investment and reinforce the goals of Atmanirbhar Bharat.

Reference

The Hindu | Brics Summit

PIB | BRICS Summit

Purchasing Managers' Index (PMI)

Prelims : Current Events of National and International Importance

Why in News?

According to the Purchasing Managers' Index (PMI), Indian services sector growth touched a 10-month high in June 2025 on a sharp upturn in new business.

Purchasing Managers' Index (PMI)
• **Released by** – S&P Global (usually released every month). • **Key Indicators -** New orders, production, employment, supplier deliveries, and inventory levels. • Each of them was weighted and combined into a single index number. • **Significance** - Helps businesses, investors, and policymakers gauge economic conditions, future demand as an economic indicator. • Provides early signals of forward trends in a broader economy. • Key sectors like manufacturing, services, and construction will be compared and analysed by global economies.

- **Findings** - The HSBC India Services Index indicating a sharp increase in the services sector.
- A PMI score above 50 signifies growth, and June's figure marked a ten-month high in sector expansion.
- **Surge in New Business Orders** - Significant rise in domestic orders and a moderate increase in export orders.
- Growth in exports came primarily from markets in ***Asia, the Middle East, and the U.S..***
- **Increase in Job Growth** - Employment rose for consecutive months, with job creation continuing above its long-run average, though slowing slightly from May's record levels.
- **Margin Improvements** - Input costs rose at a slower pace compared to the output charges, leading to improved margins.
- Consumer services saw the highest cost pressures, while the finance and insurance sectors noted the fastest increase in output charges.
- **Outlook and Confidence** - 18% of service providers remain optimistic about future growth in the next year, though this was the lowest level of confidence since mid-2022.
- Overall, service sector confidence dipped below the long-run average.
- **Composite PMI Index** - The index combines manufacturing and services data, showing a slowdown in both price increases and cost burdens.

Reference

The Hindu | Purchasing Managers' Index (PMI)

Tribhuvan Cooperative University

Prelims: Current events of National and International Importance

Why in the news?

Union Home Minister and Minister of Cooperation lay the foundation for first national level cooperative university "Tribhuvan" Sahkari University at Anand, Gujarat.

- **Aim** - To prepare ***professional and trained manpower*** to meet the growing needs of the cooperative sector.
- **Focus** - To provide education, training and research opportunities in management, finance, law and rural development to meet growing needs of the cooperatives.
- This university will prove to be an important step towards realizing the ***Triveni of cooperation, innovation and employment***.
- **Multidisciplinary programmes** - University will offer a various flexible programme, including PhD,
    - Degrees at the managerial level,
    - Diplomas at the supervisory level,
    - Certificates at the operational level.
- **Organized networking** – It will set up national network to standardise the quality of

cooperative education, training and establish *subject specific schools in its campus.*

- It will coordinate with national and international reputed institutions to establish the world's best practices in India.
    - University will try to connect more than 200 existing cooperative institutions in the next four years.
- **Significance** - It will help India meet skill development and capacity building needs, estimated about 40 lakh cooperative personnel and 80 lakh board members.
    - University will train about 20 lakh personnel of cooperative societies like Primary Agricultural Credit Societies (PACS), Dairy, Fisheries, etc. in the next five years.
- University will *develop a strong teacher base* through PhD programmes based on cooperative studies, which will address gap in qualified teachers.

Reference

PIB | Tribhuvan Cooperative University

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