



18 April, 2024

Long COVID

Context: The World Health Organization uses "Long COVID" for symptoms persisting over three months without other cause.

➤ Challenges in Measuring Long COVID:

- Difficulty in tracking chronic illness and disability due to COVID-19.
- Binary outcomes like deaths and ICU admissions are easily counted, but slow-onset health issues are harder to track.
- New health problems can arise even without SARS-CoV-2 infection.
- Studies using different methodologies report varied Long COVID incidence rates.

➤ Study Methodology:

- Utilized U.S. blood donor data from 238,828 individuals.
- Leveraged antibody test results from the pre-Omicron era to identify individuals with past COVID-19 infection.
- Identified individuals with anti-nucleocapsid (anti-N) antibodies, distinguishing natural infection from vaccination.
- Categorized participants into those with and without anti-N antibodies or confirmed COVID-19 diagnosis.

➤ Key Findings:

- 43.3% of individuals with confirmed SARS-CoV-2 infections experienced new symptoms lasting four weeks or longer.
- Among those without infection, 22.1% reported new-onset symptoms.
- 21.2% had long-term health problems genuinely resulting from SARS-CoV-2 infection.
- Neurological symptoms (23.6%) and changes in taste or smell (23.1%) were common long-term symptoms.
- Mental health problems slightly higher among those with prior infection (11.9%) compared to those without (9.8%).

➤ Impact on Mental Well-being:

- Pandemic impacts mental well-being of the entire population, not just those who got COVID.
- Loneliness, fear, bereavement, and financial worries contribute to mental health issues.

➤ Resolution and Persistence of Long COVID:

- Symptoms lasting over a year are common, but Long COVID resolves in a significant number of cases.
- Household pulse surveys indicate around 10% of adults with prior COVID-19 still affected by Long COVID.
- Risk of Long COVID heightened with repeated infections.

➤ Variations in Long COVID:

- Long COVID less common following Omicron infection compared to previous variants.
- Risk of Long COVID found to increase with repeated infections.

Heat Action Plans (HAPs)

Context: The IMD forecasts a rise in both maximum temperatures and the occurrence of heatwave conditions in the upcoming days across eastern and southern India.

➤ Definition of Heatwave:

- The definition of a heatwave varies depending on the physiography of regions, as per the IMD.
- A heatwave is officially declared by the IMD when the maximum temperature recorded at a station reaches certain thresholds:
 - 40 degrees Celsius or higher in the plains.
 - 37 degrees Celsius or higher in coastal regions.
 - 30 degrees Celsius or higher in hilly areas.
- The severity of a heatwave is determined by its departure from normal temperature or by the actual maximum temperature recorded.

➤ Tackling Heatwaves:

- To address the increasing severity and frequency of heatwaves, governments at various levels (State, district, and city) have developed Heat Action Plans (HAPs).
- These plans aim to enhance preparedness and mitigate the adverse impacts of extreme heat by outlining strategies and measures for prevention, response, and recovery.
- Collaboration between the National Disaster Management Authority and IMD is crucial in this effort.
- At present, there are at least 23 HAPs at both State and city levels, each focusing on vulnerability assessment and response planning.

➤ Recommendations in HAPs:

- HAPs typically recommend a combination of measures, including:
 - Utilizing forecasts and early warning systems to alert the public and relevant authorities.
 - Conducting public education campaigns to raise awareness about heatwave risks.
 - Establishing heat shelters and cooling centers to provide relief during extreme heat events.
 - Ensuring access to clean drinking water to prevent dehydration.
 - Equipping hospitals with necessary supplies and trained staff to handle heat-related illnesses.

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- Long-term strategies suggested in HAPs include urban planning initiatives such as tree planting and the implementation of cool roofing technologies.
- **Challenges in Addressing Heatwaves:**
 - One of the primary challenges is the lack of disaggregated heatwave thresholds at the local level.
 - Inconsistent methods used in vulnerability assessments hinder the effectiveness of HAPs.
 - There is a need for targeted interventions that cater to the specific needs of vulnerable populations.
 - Adequate allocation of resources, including dedicated budgets for HAPs, is essential for effective implementation.
 - Integration of HAPs with broader urban resilience and climate adaptation plans is necessary for comprehensive heatwave mitigation.
 - Greater emphasis on nature-based solutions is required to effectively address the challenges posed by heatwaves.



Primary plastic polymers

Context: In the ongoing negotiations within the United Nations Environment Assembly (UNEA) to combat plastic pollution, the term "primary plastic polymers" has been mentioned.

- Primary plastic polymers are solid materials containing one or more high-molecular-mass

polymers, forming the essential ingredient shaped during manufacturing or fabrication using heat and/or pressure.

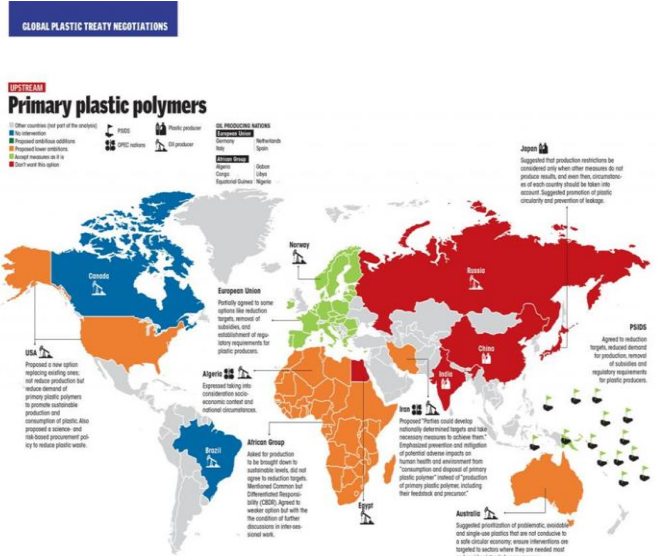
- They represent the foundational building blocks of most plastic items commonly used in daily life.
- Negotiations surrounding primary plastic polymers are pivotal as they target the root causes of plastic pollution.
- These negotiations aim to address specific types of plastics that significantly contribute to environmental degradation and marine litter.

Plastics in use in 2019, by polymer and application

Sr. no.	Polymer type	Million metric tonnes	Percentage
1	Linear low-density polyethylene (LLDPE) and low-density polyethylene (LDPE)	54	12
2	High-density polyethylene (HDPE)	56	12
3	Polypropylene (PP)	73	16
4	Polystyrene (PS)	21	5
5	Polyvinyl chloride (PVC)	51	11
6	Polyethylene terephthalate (PET)	25	5
7	Others (including applications like marine coatings, road markings and fibres)	179.5	39
	Total	459.5	

Source: OECD 2022, *Global Plastics Outlook: Economic Drivers, Environmental Impacts and Policy Options*, OECD Publishing, Paris

- Policymakers and stakeholders focus on identifying and regulating primary polymers to implement targeted measures in plastic production and consumption.



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NEWS IN BETWEEN THE LINES

UN Conference on Trade and Development



Recently, the UN Conference on Trade and Development (UNCTAD) reported that India grew by 6.7% in 2023 and is projected to expand by 6.5% in 2024, maintaining its status as the world's fastest-growing major economy.

About the UN Conference on Trade and Development:

- The United Nations Conference on Trade and Development (UNCTAD) is a **permanent intergovernmental body** within the United Nations Secretariat.
- It was **established by the United Nations General Assembly in 1964** to promote the interests of developing countries in world trade.
- It **aims to assist developing countries** in equitable integration into the **global economy, maximize their development opportunities, investments and trade**, foster a global partnership for development, enhance coherence in global economic policymaking and ensure that trade benefits all in terms of development gains.
- The reports published by UNCTAD, including the **Trade and Development Report, World Investment Report, The Least Developed Countries Report, Information and Economy Report, Technology and Innovation Report** and **Commodities and Development Report**.
- Its headquarter is in **Geneva, Switzerland**.

Athletics Federation of India



Recently, it was announced that the 27th National Federation Cup athletics championships will be held at Bhubaneswar's Kalinga Stadium from May 12 to 15 and it will be organized by the Government of Odisha with the Odisha Athletics Association, under the supervision of the Athletics Federation of India.

About the Athletics Federation of India:

- The Athletics Federation of India (AFI) **serves as the apex body responsible** for managing athletics in India and was **established in 1946**.
- It is affiliated with **prominent international bodies** such as **World Athletics, the Asian Athletics Association (AAA)** and the **Indian Olympic Association**.
- Comprising **32 affiliated state units and institutional units**, AFI oversees the organization of National Championships and the selection and training of Indian teams for international competitions like the **Olympics, Asian Games, Commonwealth Games** and **World Championships**.
- In addition to its regulatory functions, **AFI actively promotes athletics** through the organization of international and national championships, aiming to popularize the sport and foster its growth.
- It **supports grassroots development through initiatives** such as **coaching camps, coach training programs** and **developmental projects across India**.
- Indian athletics has a rich legacy, contributing significantly to India's medal haul at the Asian Games and producing renowned athletes like **Milka Singh, PT Usha and Anju Bobby George**.
- It **conducts programs** like the **National Inter-District Juniors Athletics Meet (NID-JAM)** and **IAAF-AFI Kids Athletics** to identify and nurture young talent across the country.

Leaf Litter Frog



Researchers recently discovered that a Leaf Litter Frog in the Brazilian Atlantic rainforest emits ultrasonic sounds as a defense mechanism.

About the Leaf Litter Frog:

- The Leaf Litter Frog is **scientifically known as Haddadus binotatus** and it is **endemic to the Brazilian Atlantic rainforest**.
- This species of frog is **exceptionally small**, measuring smaller than an **inch in size**, distinguishing it as **one of the smallest frog species globally**.
- It employs an **intriguing defense mechanism by emitting ultrasonic screams** when faced with predators, showcasing unique defensive behaviors such as **raising the upper portion of its body, opening its mouth wide, and throwing its head back**, all aimed at deterring potential threats.
- Notably, the ultrasonic screams emitted by the Leaf Litter Frog are **beyond the audible range for humans, ranging from 20 kHz to 44 kHz**.
- Brazilian scientists from the Institute of Biology, **São Paulo and Project Dacnis Preserve** conducted studies on this frog species, recording its ultrasonic screams in the rainforest environment.
- The primary purpose of these ultrasonic calls is speculated to be **either deterring predators or attracting other animals for protection**, underscoring the **intricate ecological roles** played by such seemingly small creatures.

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B Virus



Recently, a 37 year old man infected with the B virus from a wild monkey in Hong Kong is in critical condition, with most cases involving laboratory workers handling captive animals or monkey tissues.

About the B Virus:

- B virus, also known as **herpes virus B**, was first identified in 1932 when Dr. William Brebner, a young doctor, was bitten by a macaque monkey while researching poliovirus.
- This virus primarily **infects humans through bites, scratches** or contact with bodily fluids of infected monkeys, particularly macaques.
- Cases of B virus infection have been **documented worldwide**, with the US Centers for Disease Control and Prevention recording 50 cases since its discovery.
- B virus infection can **lead to severe neurological illness and respiratory failure**, with a **mortality rate of 70% if left untreated**.
- Prompt treatment with antiviral drugs is crucial for B virus infection, as there is **no vaccine available against the virus**.

Place in News

Aral Sea

A recent study by the Leibniz Institute for Tropospheric Research (TROPOS) and Freie Universität Berlin reveals that the drying of the Aral Sea has increased dustiness in Central Asia by 7% over the past three decades.

About the Aral Sea:

- Aral Sea is positioned at the boundary **between Kazakhstan to the north and Uzbekistan to the south**, lying in the heart of **Central Asia**, east of the **Caspian Sea**.
- Aral Sea, once acclaimed as the **world's fourth-largest inland water body**, held significant importance as a **saltwater lake in Central Asia**.
- It is situated in Soviet Central Asia and was **fed by the Amu Darya and Syr Darya** rivers originating from the **Pamir and Tien Shan** mountain ranges.
- Commencing in the **1960s**, **extensive Soviet irrigation projects** diverted water from these rivers for agriculture, resulting in diminished inflow into the Aral Sea.
- This reduced water inflow led to a **drastic shrinkage** of the lake, causing severe environmental degradation and the emergence of the **Aralkum Desert**.
- The Aral Sea's **desiccation has elevated salinity levels**, depleted biodiversity, and adversely impacted local climate and ecosystems.
- The environmental degradation of the Aral Sea basin has **prompted international concern**, fostering collaborative endeavors to address water management challenges and alleviate the effects of desertification on local communities and ecosystems.



POINTS TO PONDER

- When was the Bretton Woods Committee (BWC) organization established with a focus on global economic and financial cooperation? – **1983**
- Where was a 5,200-year-old Harappan settlement recently discovered through archaeological excavation? – **Kachchh, Gujarat**
- What significant discovery did researchers make regarding nitrogen fixation in marine algae Braarudosphaera bigelowii? – **They discovered a type of organelle, nitroplast, capable of fixing nitrogen.**
- What recent decision did the Reserve Bank of India (RBI) make regarding Sovereign Green Bonds (SGRBs)? – **Permitting Foreign Institutional Investors (FIIs) to invest in SGRBs**
- What is the name for the body of water bordered by India, the Maldives, and Sri Lanka? – **Laccadive Sea**

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