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Current affairs summary for prelims

12 June, 2024

Notified Disasters

Context: *The ongoing extreme heat has reignited discussions on including heatwaves as a notified disaster under the Disaster Management (DM) Act, 2005.*

Definition: The DM Act defines a disaster as a "catastrophe, mishap, calamity, or grave occurrence" from natural or man-made causes, leading to significant loss of life, property destruction, or environmental damage. It must be beyond the community's coping capacity.

Funds:

- **National Disaster Response Fund (NDRF):** Fully funded by the central government.
- **State Disaster Response Fund (SDRF):** States contribute 25% (10% for special category states); the rest is funded by the central government.
- **Usage:** Funds are exclusively for notified disasters.

Current Notified Disasters:

- Cyclones
- Drought
- Earthquakes
- Fire
- Floods
- Tsunami
- Hailstorm
- Landslide
- Avalanche
- Cloudburst
- Pest attack
- Frost and cold waves

Heatwaves and Non-Inclusion

Historical Context

- Heatwaves were common and not considered unusual weather events when the DM Act was enacted in 2005.

Recent Developments

- **Increased Severity and Frequency:** Notable increase in the past 15 years.
- **Exposure Risk:** More people exposed due to increased economic activity.
- **Heat Action Plans (HAPs):** Implemented by 23 vulnerable states, involving:
  - Creation of shaded spaces
  - Availability of cool water in public places
  - Distribution of oral solutions
  - Adjusted schedules for schools and offices
- **Funding Issues:** State governments need to fund these measures but cannot use SDRF, prompting the call for heatwave inclusion.

Reasons for Non-Inclusion by the Centre

Finance Commission Reluctance

- **States' Requests:** Submitted to the last three Finance Commissions.
- **15th Finance Commission's Stance:** Current disaster list suffices; endorsed using up to 10% of SDRF for local disasters like heatwaves.
- **State Actions:** Haryana, Uttar Pradesh, Odisha, and Kerala declared heatwaves as local disasters.

Practical Difficulties

Financial Implications:

- **Compensation requirements:** Rs 4 lakh per death.
- **Increased deaths:** Over 500 heat-related deaths reported this year.

Attribution Challenges:

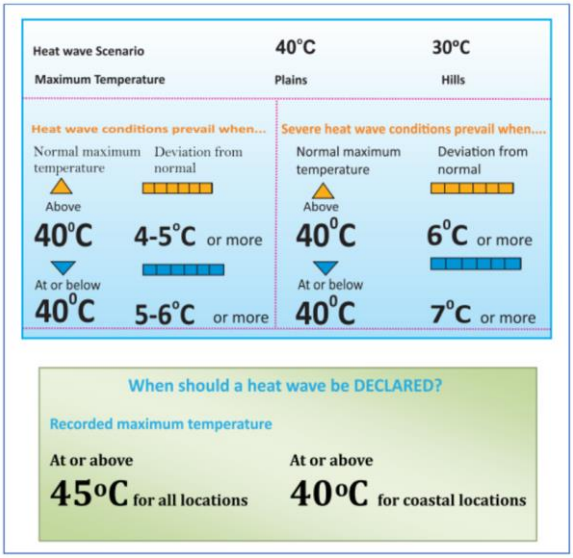
- Heat exacerbates pre-existing conditions, complicating death attribution.

Funding Strain:

- 15th Finance Commission allocated Rs 1,60,153 crore to SDRFs for 2021-26.
- Potential insufficiency if heatwaves and lightning are included.

Potential Benefits of Inclusion

- **Improved Management:** Better reporting and governmental response.
- **Increased Alertness:** Authorities more vigilant in mitigating heatwave impacts.



135 million premature deaths due to PM2.5

Context: *Fine particulate matter (PM 2.5) caused a staggering 135 million premature deaths worldwide between 1980 and 2020, according to a new study.*

Role of Climate Variability in PM2.5 Pollution

- **Climate Phenomena:** The study highlights the impact of climate variability phenomena like El Nino-Southern Oscillation, Indian Ocean Dipole, and North Atlantic Oscillation on exacerbating PM2.5 pollution levels.
- **Research Publication:** Conducted by Nanyang Technological University (NTU) in Singapore, the study was published in Environment International.

Key Findings

Premature Deaths:

- **Total Deaths:** 135 million premature deaths attributed to PM2.5.

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➢ **Disease Breakdown:**
- **Stroke:** 33.3%
- **Ischemic heart disease:** 32.7%
- **Other causes:** Chronic obstructive pulmonary disease, lower respiratory infections, lung cancer.

➢ **Geographical Disparity:**
- **Asia:** Most affected, with 98.1 million deaths.
- **China and India:** Leading with 49 million and 26.1 million deaths, respectively.
- **Other Affected Countries:** Pakistan, Bangladesh, Indonesia, Japan.
- India was the third-most polluted country in 2023, behind Bangladesh and Pakistan.
- Climate change is worsening air pollution, affecting 131.2 million Americans with unhealthy air.

➢ **Air Pollution Episodes**
- 363 major air pollution episodes identified, averaging nine per year.
- Episodes lasted between two and nine months.
- Peak Year: 2002 with 15 episodes.

Particulate Matter Pollution

Definition: Tiny pieces of solids or liquids suspended in the air, including dust, dirt, soot, smoke, and drops of liquid.

➢ **Types of Particulate Matter:**
- **PM 10:** Inhalable particles ≤10 micrometers, from sources like construction dust, pollen, and vehicle emissions.
- **PM 2.5:** Fine particles ≤2.5 micrometers, from combustion processes like fossil fuel burning and vehicle emissions. These can penetrate deep into the lungs and bloodstream.

➢ **Sources of Particle Pollution**
- **Primary Sources:** Directly cause particle pollution, e.g., wood stoves, forest fires.
- **Secondary Sources:** Release gases that form particles, e.g., power plants, coal fires.
- **Mixed Sources:** Can be either primary or secondary, e.g., factories, cars, trucks, construction sites, and emissions from power plants.

➢ **Health Impacts of Particulate Pollution**
- **Respiratory Problems:** Worsen conditions like asthma, bronchitis, and respiratory infections.
- **Cardiovascular Effects:** Increases risk of heart attacks, strokes, and other cardiovascular diseases.
- **Reduced Lung Function:** Long-term exposure leads to decreased lung function.
- **Allergies and Irritation:** Triggers allergic reactions and irritates eyes, nose, and throat.
- **Premature Death:** Linked to higher mortality rates, especially in those with pre-existing conditions and the elderly.
- **Cancer Risk:** Some PM types are carcinogens linked to lung cancer.
- **Developmental Issues:** High PM exposure in pregnant women can cause preterm birth, low birth weight, and developmental issues in children.
- **Impaired Lung Growth in Children:** Exposure leads to reduced lung development and long-term respiratory problems.
- **Aggravation of Existing Conditions:** Exacerbates symptoms in those with respiratory and cardiovascular conditions.

➢ **Government Measures**
- **National Clean Air Programme (NCAP):** Aims for a 20%-30% reduction in PM10 and PM2.5 by 2024, targeting 102 non-attainment cities.
- **Graded Response Action Plan (GRAP):** Implemented in 2017 to manage air pollution in Delhi and NCR.
- **National Air Quality Index (AQI):** Launched in 2014, it simplifies air quality assessment using eight pollutants: PM10, PM2.5, Ozone (O3), Sulphur dioxide (SO2), nitrogen dioxide (NO2), carbon monoxide (CO), lead (Pb), and ammonia (NH3).

Superbugs

Context: *Researchers from IIT-Madras and NASA's Jet Propulsion Laboratory (JPL) are conducting a pivotal study on a multidrug-resistant 'superbug' found on the International Space Station (ISS).*

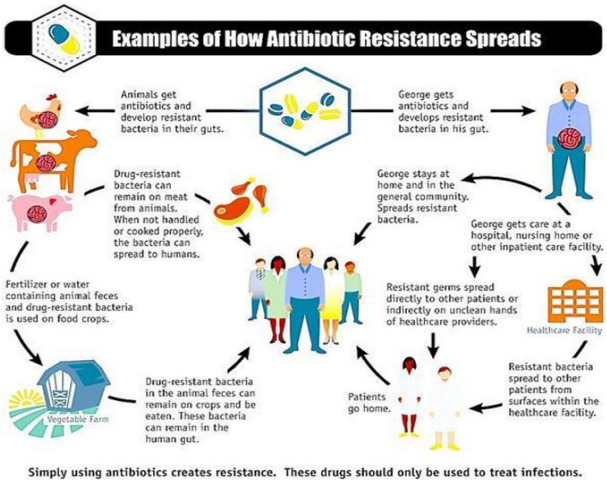
➢ **Enterobacter bugandensis**
- **Pathogen:** Enterobacter bugandensis
- **Nature:** Common nosocomial bacterium
- **Resistance:** Multidrug-resistant
- **Infection Potential:** Can infect the respiratory system
- **Adaptation:** Adapted to the closed environment of the ISS, becoming more potent and challenging to manage
- **Space Conditions:** Unique conditions like microgravity, radiation, and elevated carbon dioxide levels contribute to the rapid evolution and persistence of the pathogen

➢ **Definition of Superbugs**
- **Nature:** Strains of bacteria, viruses, parasites, and fungi resistant to most antibiotics and other medications commonly used for treatment.
- **Degree of Resistance:** Varies from resistance to one or two antibiotics to multiple drugs, determining the severity of the superbug.
- **Simplified Definition:** Microorganisms resistant to commonly used antibiotics.

Categories of Superbugs

➢ **MDR (Multi-Drug Resistant) Bacteria:**
- Resistance to at least one antibiotic in three or more categories.
- Standard treatments often become ineffective.

- **XDR (Extensively Drug-Resistant) Bacteria:**
  - Non-susceptible to all but one or two categories of antibiotics.
  - Very few treatment options remain.
- **PDR (Pan-Drug Resistant) Bacteria:**
  - Resistant to nearly all or all commercially available antibiotics.
  - Infections are particularly severe and require highly specialized treatments.
- **Horizontal Gene Transfer:**
  - Superbugs can share genetic material with other bacteria, even of different species.
  - Accelerates the spread of resistance traits and complicates efforts to control infectious diseases.



NEWS IN BETWEEN THE LINES

Uniform Civil Code

Recently, the Union Law Minister Arjun Ram Meghwal stated that the implementation of the Uniform Civil Code (UCC) was part of the Narendra Modi government's agenda.

About the Uniform Civil Code:

- The Uniform Civil Code (UCC) refers to the **formulation of one law for India,** which would be applicable to all religious communities in matters such as **marriage**, **divorce**, **inheritance**, **adoption** and maintenance.
- **Article 44** of the Directive Principles of State Policy in the Indian Constitution directs the state to strive for the implementation of a UCC throughout the territory of India.
- **Dr. B R Ambedkar**, while **formulating the Constitution** had said that a Uniform Civil Code is desirable but for the moment it should remain voluntary and thus the **Article 35** of the draft Constitution was added as a part of the Directive Principles of the State Policy in part IV of the Constitution of India as **Article 44**.
- The concept of the Uniform Civil Code (UCC) traces its origins back to colonial India during the **British rule.**
- **In 1835**, the British government submitted a report emphasizing the need for uniformity in Indian law, particularly in areas like **crimes**, **evidence** and **contracts**.
- As legislative activity addressing personal issues increased towards the end of British rule, the government formed the **B N Rau Committee in 1941 to codify Hindu law**.
- **The Hindu Law Committee's** task was to assess the necessity of common Hindu laws.
- The committee's recommendations led to a **review of the 1937 Act**, and it suggested a civil code covering **marriage and succession for Hindus.**
- The Supreme Court of India has, in various judgments, emphasized the need for a UCC, notably in cases like **Shah Bano (1985**) and **Sarla Mudgal** (1995).
- **Goa is the only state in India** that has a form of a Uniform Civil Code applicable to all its residents, regardless of religion.

Malampuzha Dam

Recently, it has been seen that the water level in the Malampuzha dam is rapidly receding due to the absence of rainfall this ongoing monsoon.

About the Malampuzha Dam:

- The Malampuzha Dam is a **masonry** and **earthen dam** in the Palakkad district of **Kerala**.
- It is the **second largest dam** and **reservoir** in Kerala and is located in the Western Ghats.
- The dam was built in **1955** by the Madras state after India's independence.
- It is **355 feet high**, with a masonry section that's **1,849 meters long** and an earthen section that's 220 meters long.
- The dam impounds the **Malampuzha River,** a tributary of the **Bharathappuzha (Kerala's second longest river)** and has a reservoir of 42,090 hectares.
- The dam also has a **network of canals** that irrigate 21,349 hectares of land.

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Personality in News

Rajeev Taranath

Rajeev Taranath (17 October 1932-11 June 2024)

Rajeev Taranath, an Indian classical musician who played the sarod was born in Bangalore, Karnataka.

Contributions:

- He composed music for many **internationally acclaimed Kannada films** including **Samskara**, **Kanchana Sita** and **Kadavu**.
- He **served as the head of the Indian music programme** at the World Music department of the California Institute of the Arts.

Awards & Honours:

- He received **Padma Shri award in 2019**.
- He was honoured with **Central Sangeet Natak Academy award**, **the state Sangeet Vidwan award**, **Chowdiah award**, **Kannada Rajyotsava Award** for his valuable contribution to Indian classical music.

Place in News

Malawi

Recently, Malawian President Lazarus Chakwera confirmed that Vice President Saulos Chilima and nine others perished in a military plane crash.

Malawi (Capital: Lilongwe)

Location: Malawi is a landlocked country in southeastern Africa.

Political Boundaries: Malawi shares its borders with **Mozambique** (East, West and South), **Tanzania** (Northeast) and **Zambia** (Northwest).

Physical Features:

- Lake Malawi (also known as Lake Nyasa) is the **third-largest lake in Africa**.
- The **Shire River** flows from Lake Malawi and is a major river in the country.
- The **Mulanje Massif**, also known as Mount Mulanje, is the highest point in Malawi.
- Malawi has a tropical climate.
- Malawi is rich in mineral resources including **uranium** (Kayelekera Mine), **coal** (Shire Highlands), **bauxite** (Mulanje Mountain), **niobium** (Kanyika), **limestone** (Bwanje Valley), **granite**, **gemstones** (Chimwadzulu Hills), **gold** (central and southern regions) and **graphite**.

Historical Context:

- Malawi gained independence from British colonial rule on **July 6, 1964.**
- It was **formerly known as Nyasaland** during the colonial period.

POINTS TO PONDER

- What is the main objective of the 'Duty Drawback Scheme'? **– To rebate Customs and Central Excise duties on materials used in exported goods.**
- In which state is the Suhelwa Wildlife Sanctuary located? **– Uttar Pradesh.**
- The recent discovery of animals like transparent sea cucumbers and pink sea pigs is associated with which ecosystem? **– Abyssal Plains.**
- Where was the recent East Asia Summit (EAS) and ASEAN Regional Forum (ARF) Senior Officials' Meeting (SOM) held? **– Vientiane, Lao.**
- What does the term "sticky inflation" refer to? **– A phenomenon where prices do not adjust quickly to changes in supply and demand.**

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