Prelim Bits 16-04-2024 | UPSC Daily Current Affairs

Meningitis Vaccine

Nigeria makes history with rollout of new 5-in-1 Men5CVmeningitis vaccine

- Meningitis is a serious infection or inflammation of meninges, the three-membrane thin lining that lie over the brain and spinal cord.
- **Cause-** It can be caused by several species of bacteria, viruses, fungi and parasites.

Types of meningitis	Causal agents
Bacterial meningitis	Streptococcus pneumoniae, Listeria monocytogenes, Haemophilus influenzae, Neisseria meningitides
Viral meningitis	Herpes simplex virus and HIV
Fungal meningitis	Cryptococcal meningitis
Parasitic meningitis	Amoeba

- **Prevalence-** African Meningitis Belt in sub-Saharan Africa is known for a high incidence of meningitis, particularly epidemics of meningococcal and pneumococcal meningitis.
- **Transmission-**
  - Meningococcus, pneumococcus, and Haemophilus influenza-These bacteria reside in the human nose and throat and are transmitted through *respiratory droplets or throat secretions*.
  - Group B streptococcus- Typically found in the *human gut or vagina*, this bacterium can be transmitted from mother to child during childbirth.
- **Health related risks**- Conditions like HIV infection, complement deficiency, immunosuppression, and habits such as active or passive smoking can increase susceptibility to various types of meningitis.
- **Symptoms-** The common symptoms are neck stiffness, fever, confusion or altered mental status, headaches, nausea and vomiting. Less frequent symptoms include seizures, coma and neurological deficits like hearing or vision loss, cognitive impairment etc.,
- **Vaccination-** The primary prevention method for bacterial meningitis is through vaccination, it is available for Meningococcus, Pneumococcus and Haemophilus influenzae type b (Hib)

The introduction of the meningococcal A conjugate vaccine in the African meningitis belt has significantly reduced epidemics

- Preventive measures- Practice good hygiene and avoid close contact with meningitis.

- **Global roadmap Defeating Meningitis by 2030**- It was developed by World Health Organisation with the support of many partners, it is the first ever resolution on meningitis endorsed unanimously by WHO member states.

The roadmap sets a comprehensive vision "Towards a world free of meningitis"

Men5CV Vaccine

- Nigeria has taken a historic step in the fight against meningitis, becoming the first country in the world to introduce a new, highly effective vaccine.
- The vaccine, called Men5CV, is recommended by the World Health Organization (WHO) and offers protection against five strains (A,C,W,Y and X) of the meningococcus bacteria in a *single shot*.
- All five strains cause meningitis and blood poisoning. This provides broader protection than the current vaccine used in much of Africa, which is only effective against the A strain.
- Nigeria is one of the *26 meningitis hyper-endemic countries* of Africa, situated in the area known as the ***African Meningitis Belt***, it aims to support WHO's goal of eliminating meningitis by 2030.
- The Africa Union Commission emphasizes the importance of school feeding programs to improve nutrition and learning among children in Africa.

References

1. WHO- Meningitis
2. Down To Earth- Nigeria makes history with new vaccine
3. WHO- Men5CV vaccine

Operation Meghdoot

India commemorates the 40th anniversary of 'Operation Meghdoot'

- **Launch year**- 13th April, 1984
- **Aim-** To secure Siachen glacier and dominate Northern Ladakh by airlifting Indian Army soldiers via Indian Air Force (IAF).
- **Chetak helicopters -** IAF helicopters were already operating in the Siachen Glacier since 1978, flying the Chetak helicopters which was the first IAF helicopter to land in the Glacier.
- **Exercise Walnut Cracker-** It is a war game conducted approximately 17 days prior to the launch of Operation Meghdoot which was pivotal in planning the operational and logistical aspects of the operation.
    - **Blue land force-** It represented India, they would focus on defending its positions, securing key strategic locations, and maintaining control over the Siachen Glacier.

    - **Red land force-** It represented the opposing side, Pakistan their objectives were to occupy strategic locations like Bilafond La and Sia La, and patrol up to Indira Col, which is the northernmost point of India.
- **Significance-** Indian Army took pre-emptive action to occupy the Siachen Glacier, strategically located on the Saltoro Ridge above the Nubra Valley in the Karakoram Range.

IAF continues to set records in human endurance and technical proficiency, operating in the world's highest battlefield under extreme conditions.

- **Helicopter operations**- Mi-17, Mi-8, Chetak, and Cheetah helicopters played a crucial role in ferrying men and material to the glacier.
- **Strategic advantage**- Despite a ceasefire, the operation and the Indian military presence continue to this day, underscoring the enduring importance of the region.

Siachen Glacier

- Siachen Glacier, known as the ***"land of roses"*** in the Balti language, is the world's highest and coldest battlefield.
- **Geopolitical location-** It sits at a critical juncture with Pakistan to the left and China to the right, this makes it a focal point for regional geopolitical and military strategy.

It is the longest glacier in the Karakoram and second-longest in the world's non-polar areas.

- **Legacy of partition**- Siachen's status stems for legacy of the Partition between India and Pakistan, while the Line of Control was delineated up to NJ-9842, the glacier itself remained unmarked leading to conflicting territorial claims.
- **India's stand**- India claims the Siachen area based on historical agreements like the Jammu and Kashmir Accession Agreement of 1947 and the Karachi Agreement of 1949. These agreements define the ceasefire line beyond NJ-9842 as running "Northwards to the glaciers."
- **Pakistan's stand**- However, Pakistan interprets it as "North-Eastwards," aiming to extend its claim beyond the Saltoro Ridge, posing a direct threat to India's strategic interests.
- **Current status**- The entire Siachen Glacier, with all major passes, has been under the administration of India as part of the union territory of Ladakh, located in the Kashmir region since 1984

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1. Indian Express- Remembering operation meghdoot
2. The Hindu- 40 years of op Meghdoot

UN Permanent Forum on Indigenous Issues

The 23rd session of UN Permanent Forum on Indigenous Issues in New York highlights slow progress in protecting indigenous territories, crucial for meeting biodiversity targets.

- **Established year-** 2000.
- **Secretariat-** New York, USA
- **Origin-** It is as an outcome of the UN's International Year for the World's Indigenous People in 1993, within the first International Decade of the World's Indigenous People (1995–2004).
- **Advisory body-** It is an advisory body within the framework of the United Nations System that reports to the UN's Economic and Social Council
- **Mandate-** To deal with indigenous issues related to economic and social development, culture, the environment, education, health and human rights.
- **Members**- It is composed of 16 independent experts, functioning in their personal capacity.
- **Tenure**- Appointed for 3-year terms. At the end of their term, they can be re-elected or re-appointed for one additional term.
- **Sessions**- The first meeting of the Permanent Forum was held in 2002, with yearly sessions thereafter.
- **Indigenous people issues**- The Permanent Forum is one of three UN bodies that is mandated to deal specifically with indigenous peoples' issues. The others are
    - Expert Mechanism on the Rights of Indigenous Peoples
    - Special Rapporteur Rights of Indigenous Peoples.

23rd session of UN Permanent Forum on Indigenous Issues

- **2024 theme**- "Enhancing Indigenous Peoples' right to self-determination in the context of the United Nations Declaration on the Rights of Indigenous Peoples: emphasizing the voices of Indigenous youth".
- **Indigenous Territories**- It covers 22% of land and home to 80% of remaining biodiversity, these areas are vital but receive less than 1% of climate finance.
- **Amazon protection**- The "Amazonia for Life: Protect 80% by 2025" initiative urges for rapid action to prevent ecological tipping points in the Amazon.
- **Slow recognition** - Between 2021-2023, only around 7 million hectares of Indigenous Territories were recognized, falling far short of the target needed to protect biodiversity.
- **Kunming Montreal Global Biodiversity Framework**- Failure to protect land means the world might not be able to meet the targets set under the framework. Including indigenous territories in this framework is crucial for meeting conservation goals.

Target 3 of this framework proposes that 30 per cent of land and water on the earth is protected by 2030.

References

1. Down To Earth- UN Permanent Forum on Indigenous Issues
2. UNDESA- UNPFII

Mahad Satyagraha

The Mahad Satyagraha is considered to be the 'foundational event' of the Dalit movement.

- **Launch year-** March 20, 1927
- It is also called as Chavdar Tale Satyagraha.
- **Aim-** It was launched against Hindus who were opposing the decision of the Municipal Board to throw open the tank to all communities.
- **Bole resolution**- It was named after the member who proposed it in the Bombay legislature in 1923 which had a called for the opening of public places and public water reservoirs to untouchables.
- **Municipal Board-** In 1926, Municipal Board of Mahad, Maharashtra passed orders to throw open the famous tank of Mahad city to all communities, it was opposed by high caste Hindus.
- **Conference-** Ambedkar organised a conference of ten thousand untouchable delegates at Mahad on March 20, 1927 to support the decision of Municipal Board.
- Ambedkar, in his presidential address, stressed the necessity of rooting out ideas of highness or lowness and inculcating self-elevation through self-help, self-respect and self-knowledge.
- After the conference all delegates marched to the tank and asserted their right to drink and take water from the tank.
- **Ambedkar's leadership-** Dr. Ambedkar's visionary leadership served as the driving force behind the Mahad Satyagraha, by mobilizing ten thousand untouchable delegates for a conference in Mahad on March 20, 1927, he galvanized the marginalized community to assert their rights with unwavering determination.
- **Manusmriti Dahan Din-** On 25th December Shastrabuddhe under the guidance of Ambedkar, burnt Manusmriti, a Hindu law book as a protest

  In December 1937, the Bombay High Court ruled that untouchables have the right to use water from the tank

- **Significance-** Every year, March 20 is observed as Social Empowerment day in India to commemorate the Mahad Satyagrah.

Dr. Bhim Rao Ambedkar

- **Born-** 14th April 1891 in Mhow, Central Province (now Madhya Pradesh).
- He was ***India's first Law Minister*** and was Chairman of the Drafting Committee for the new Constitution.
- **Education-** He was the first Dalit to study at Bombay's Elphinstone College, and he went to Columbia University on a Baroda State Scholarship and then to the London School of Economics.

- **Mahad satyagraha**- He led the Mahad Satyagraha in March 1927 against Hindus who were opposing the decision of the Municipal Board to throw open the tank to all communities.
- **Kalaram temple movement**- It was organised by Ambedkar in 1930 outside the Kalaram Temple in *Nasik, Maharashtra*, in order to allow lower caste people or untouchables to enter the temple
- **Poona pact**- In 1932 Dr. Ambedkar signed the Poona pact with Mahatma Gandhi, which abandoned the idea of separate electorates for the depressed classes (*Communal Award*).
- He participated in *all three Round Table Conferences*.
- **Central bank** - Reserve Bank of India was formed on the concept presented by Babasaheb to the *Hilton Young Commission*.
- **Father of Indian Constitution-** He is the chairperson of the Drafting Committee of the Constitution, his pivotal role in drafting and shaping the Constitution serves as the foundational law for India

Constitution is not a mere lawyer's document, it is a vehicle of life, and its spirit is always the spirit of age.

- **Bodhisattva-** He was conferred with the title of "Bodhisattva" by the Buddhist monks at *"Jagatik Buddhism Council"* in 1954 in Kathmandu, Nepal.
- **Organisations** - Bahishkrit Hitkarini Sabha (1923), Independent Labor Party (1936), Scheduled Castes Federation (1942).
- **Books** - Annihilation of Caste, Buddha or Karl Marx, The Untouchable: Who are They and Why They Have Become Untouchables, Buddha and His Dhamma, The Rise and Fall of Hindu Women, Who were Shudras?, Thoughts on Linguistic States, Waiting for a Visa (Autibiography).
- **Thesis**- 'National dividend for India — A Historic and Analytical Study', "Provincial Decentralization of Imperial Finance in British India,' 'Problem of Rupee its Origin and Solution',
- **Journals** - Mooknayak (1920), Bahishkrit Bharat (1927), Samatha (1929), Janata (1930)
- **December 6, 1956-** Dr. B.R. Ambedkar's death anniversary is observed as Mahaparinirvan Diwas across the country.

In 1990, the Bharat Ratna, India's highest civilian award, was posthumously conferred on Ambedkar.

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1. Indian Express- Mahad satygaraha
2. PIB- Journey of Baba Saheb Ambedkar

Heat islands

Recent studies have clearly established that Bengaluru's average temperature rose by nearly a degree over the last 42 years.

- **Urban heat island** – Cities tend to get much *warmer than their surrounding* rural landscapes, particularly during the summer.
- It occurs when cities' unshaded roads and buildings *gain heat during the day and radiate* that heat into the surrounding air.

- Thus, urban areas can experience mid-afternoon temperatures that are 15°F to 20°F warmer than surrounding, vegetated areas.
- **Causes** – *High concentration of buildings, roads and other concrete* infrastructure that absorb and re-emit the sun's heat more than green expanses and water bodies
- **Reduced natural landscapes** – Hard, dry surfaces in urban areas provide *less shade and moisture*.
- **Urban material properties** – Pavements or roofing tend to reflect less solar energy, and absorb and emit more of the sun's heat. **Urban canyons & urban geometry** – Tall buildings can *block wind flow* that would otherwise provide ventilation and cool the streets below as well as speed up evaporation.
- Tall buildings also can *block emissions of heat energy* from being released to the atmosphere and away from the Earth's surface.
- **Usage of heat-emitting devices** – More cars and air conditioners will releases heat which adds up and contributes to higher air temperatures.
- **Impacts** – It will *enhance ambient temperature and humidity* levels and lead to *heat stress and heat-related illnesses* including behavioural changes.

Vegetation and water infiltration
• In areas with vegetation of native species, about 55 to 60% of the rainwater gets infiltrated. • When vegetation cover is less than 30%, only about 25% of the water gets infiltrated. • Concretisation completely stops infiltration.

- **Measures** – Creation of *mini forests* in urban areas.
- *Decongesting* the city so that its infrastructure is not stretched.
- To plan for *water urbanism* by making the city's landscape porous.
    - Follow the success of Sarakki Lake that was rejuvenated 3 years ago, which raised groundwater table and also reduced temperatures than surrounding areas.

Heat Island of Bengaluru

• **Causes** – Increased *concretisation with white-topping* of roads and *vehicular pollution*.
• A rapid *change in land uses* resulted in decline of forest cover, agricultural lands while paved surfaces increased.
• Most makeshift houses in slum areas have *tin roofs*, which absorb heat and emit radiation both inside and outside.
• **Water crisis** – Increased temperatures had spiked the evaporation rate of water bodies.
• Reduced rainfall over the last 3 years has directly impacted groundwater recharge and replenishment of reservoirs.
• White-topping of roads has impacted infiltration of rain water leading to a further drop in the groundwater table.

References

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