Prelim Bits 02-05-2024 | UPSC Daily Current Affairs

River Basins of Afghanistan

A new study has revealed interesting insights about water in Afghanistan, which has suffered recurrent droughts since the 1990s.

- Afghanistan is *multi-ethnic landlocked country* located in Central Asia with Iran to the west and Pakistan to the east.
- **Capital-** Kabul
- **Physiographic region**- The central highlands is actually a part of the Himalayan chain including the main *Hindu Kush range*.
- **Major pass**- Shebar pass, *Khyber pass* (It leads to Indian subcontinent)
- **Drinage system**- It is enclosed within the country, only the rivers in the east reach the Arabian Sea.
- The researchers divided Afghanistan into five river basins and found that two of the five are the major water sources for the country.

Major river basin	Location	About
Harirod-Murghab River Basin	Afghanistan, Iran and Turkmenistan.	• The basin is named after two major rivers, the Hari River and the Murghab River, which flow through this region. • **Hari river-** It originates in the mountains of central Afghanistan and flows southwestward into Turkmenistan, where it is known as the Tejen River. • **Murghab River**- It originates in Afghanistan and flows through Turkmenistan before eventually draining into the Karakum Desert.
Helmand River Basin (HRB)	Afghanistan and Iran	• Covering 51% of the country, HRB is the *longest river basin* in Afghanistan. • **Historical significance**- The Helmand valley region is mentioned in ancient texts such as the Avesta, highlighting its significance since early civilization. • The river originates in Hindu-Kush mountains of central Afghanistan and flows southwestward and reaches Sistan Basin in Iran.

Kabul River Basin	Afghanistan and Pakistan	• Kabul river is the largest drainage system in the south-eastern region. • The river is also known as *Cophen*, it originates in the Paghman Range and flows eastward to join the Indus river in Pakistan. • **Major cities**-It passes through the cities of *Kabul and Jalalabad* in Afghanistan.
Northern River Basin (NRB)	Afghanistan	• Unlike other river basins NRB is *not transboundary*, it remains within Afghanistan's borders. • Shirin, Sarepul, and Balkh are the notable rivers. • The basin supplies the *least water* compared to other basins.
Panj- Amu River Basin	Afghanistan, Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan and to lesser extent shared by China and Pakistan	• The Panj-Amu River Basin is part of the Amu Darya, which is the *largest river* in Central Asia. • **Amu Darya**- It is also known as the *Oxus River*, and one of the longest rivers in Central Asia that originates in Pamir mountains and flows into *Aral Sea*. • **Panj river**- It is one of the major tributaries of the Amu Darya that originates in the Pamir Mountains, near the borders of Afghanistan, Tajikistan, and China.

- **Higher yields**- Researchers found *Kabul and Panj-Amu Basins yields are higher* compared to other basins primarily due to higher precipitation and partly due to low evapotranspiration loss.
- **Acute water scarcity**- Central Asia faces acute water scarcity, with approximately 80% of the population experiencing water stress.
- The study emphasizes the need to find alternative sources for irrigation and domestic use during the dry period.

References

1. Down To Earth- Major sources of water for Afghanistan
2. World of Atlas- Longest rivers in Afghanistan

Kankesanthurai Port

India to grant full renovation cost of Kankesanthurai Port in northern Sri Lanka

- **Location**- It is in Jaffna near *Point Pedro*, the northernmost point in Sri Lanka.
- **Strategic significance**- The port is located at a distance of 104 km from *Karaikal port, Pondicherry*.
- **Origin**- The port's harbour has served as an arrival and departure point for pilgrims since classical antiquity and is named after the Sri Lankan Tamil god Murugan.

Historical sites	About
Naguleswaram temple	It is one of the Pancha Ishwarams dedicated to Lord Shiva
Keerimalai springs	It is adjacent to Naguleshwaram temple, they believed to possess healing properties.
Maviddapuram Kandaswamy Temple	It is located south of the harbor.
Kankesanthurai fort	It was built by Dutch and is a testament to the colonial history of the region.
Kankesanthurai lighthouse and beach	The lighthouse is damaged due to Sri Lankan civil war.

- **Port**- In 2011, India and Sri Lanka signed an agreement to revive the port by clearing sunken ships and deepening the harbour.
- **Connectivity-** This should significantly lower the transit time of goods to and from the east coast of India, Bangladesh, and Myanmar, and propel economic activity in the north.
- **Passenger ship service-** It connects *Nagapattinam in Tamil Nadu* to Kankesanthurai port to resume operations from May 13, 2024.
- **Aim**- To bolster bilateral ties, boosts tourism, and increasing people-to-people relations.
- **Cheriyapani**- It is a *High Speed Craft vessel* which is designated for the ferry service.
- **Implementation by**- Tamil Nadu Maritime Board and Shipping Corporation of India.
- **Capacity**- 150 passengers.
- **Time taken**- 110 km in 3.5 hours.
- **Renovation project**- Sri Lanka has decided to renovate the port with India agreeing to fund the entire project.

References

1. The Hindu- India to grant renovation cost of Kankesanthurai port
2. Sri Lanka Port Authority- Kankesanthurai port

SMART System

DRDO successfully flight tested the Supersonic Missile-Assisted Release of Torpedo (SMART) system from Dr APJ Abdul Kalam Island off the coast of Odisha.

- **About-** Supersonic Missile Assisted Release of Torpedo (SMART) is a *next generation missile*, canister-based, long-range supersonic anti-submarine missile.

  Canister-based missiles are a type of missile system where the missiles are stored and launched from canisters or tubes

- **Developed by**- Defence Research and Development Organization ***(DRDO)*** for Indian Navy.
- **Objective**- To enhance the anti-submarine warfare capability of the Indian Navy far beyond the conventional range of lightweight torpedo.
- **Features-** The missile consists of *two-stage solid propulsion system*, an electromechanical actuator system and a precision inertial navigation system.
- **Launch**- SMART system can be launched from surface ship or a truck-based coastal battery.
- **Propellant-** Solid fuel and silver zinc battery.
- **Range-** The missile has a range of 643 km carrying a light weight torpedo of range 20 km with 50 kg high explosive warhead.

It is light weight torpedo delivery system that extends the conventional range of torpedoes.

- **Sea skimming**- It is a technique used by the missile to avoid radar, infrared detection, and to lower probability of being shot down during their approach to the target.
- **Acoustic huming**- It is the process in which a system uses the *sound or acoustic signals* of a target or destination to guide a moving object.
- **Guidance system**- The missile uses a inertial navigation system (INS), and allows real-time course correction and target updating via datalink.
- **Testing**- The missile is successfully tested by DRDO from a ground based launcher at Integrated Test Range, Balasore, Odisha.

References

1. The Hindu- DRDO tests missile assisted torpedo delivery system
2. PIB- SMART successfully tested by DRDO

Eggshell skull rule

Recently the Supreme Court in a judgment delivered in a medical negligence case, explained the applicability of 'Eggshell Skull Rule'.

- **Eggshell skull rule**- It is a legal principle stating that an offender is liable for all injuries caused, even if the victim has a pre-existing condition that makes the injury worse.
- **Civil litigation**- The rule states that defendant would be held responsible for injuries caused to a person when he hit him on the head, even if the victim had a particularly delicate skull or an 'eggshell' for a skull.
- **Origin**- The rule's origin traces back to the *1891 Vosburg v. Putney case*, it emphasizes that one is responsible for the harm caused by their actions, regardless of the victim's vulnerabilities.

- **Need-** The rule is applied for claiming an *enhanced compensation* — for damage that is more than what could have been ordinarily anticipated to be caused by the defendant.
- **Jyoti Devi vs Suket Hospital & Ors**- The petitioner underwent surgery to remove her appendic but later experienced prolonged abdominal pain, a needle has been left in her abdomen during the surgery leading to further complications.
- **Compensation-** Initially, the district consumer forum awarded her Rs 5 lakhs for medical negligence. However, subsequent appeals resulted in the compensation being reduced to Rs 1 lakh and then increased to Rs 2 lakhs by *National Consumer Dispute Redressal Commission*.
- **Supreme Court verdict**- The court reinstated the original compensation awarded by the district forum and criticized the lower courts for incorrectly applying the "eggshell skull" rule.
- The court ruled that this principle did not apply in Jyoti's case because there was no evidence of a pre-existing vulnerability or medical condition that would have made her more susceptible to the harm caused.
- The court emphasized that Jyoti's prolonged suffering and the lengthy legal process warranted higher compensation.

Quick facts

National Consumer Dispute Redressal Commission
• **Establishment-** It is a quasi-judicial commission established in 1988 under the *Consumer Protection Act of 1986*. • **Head office**- New Delhi. • **Composition**- It is headed by a sitting or retired Judge of the Hon'ble Supreme Court of India or a sitting or retired Chief Justice of an Hon'ble High Court. • **Jurisdiction-** It entertain complaints valued at *more than two crore.* • **Appellate jurisdiction**- It exercise Appellate and Revisional jurisdiction from the orders of State Commissions or the District fora, as applicable. • **Appeal**- The Consumer Protection Act, 1986 allows any person aggrieved by an NCDRC order to prefer an appeal to the Supreme Court of India within a period of 30 days.

References

1. Indian Express- Explained eggshell skull rule
2. NCDRC- About us

Indian Space Situational Assessment Report (ISSAR), 2023 & IS4OM

Recently ISSAR for 2023 has revealed that more space objects were placed in orbit last year as compared to 2022.

- **Compiled by**- ISRO System for Safe and Sustainable Space Operations Management (IS4OM)

- **Global scenario**- The report indicates a rise in the number of space objects placed in orbit in 2023 compared to 2022 it suggests improved accessibility to space and the broadening applications of space technology in everyday life.
- **Indian scenario-** For India, the year saw the s*uccessful launch* of seven ISRO missions, placing 5 Indian satellites, 46 foreign satellites, and 8 rocket bodies into orbit.
- **Spacecraft decommissioning**- One of the major highlights of 2023 was the controlled *re-entry of Meghatropiques-1* into the Earth's atmosphere over an uninhabited area in the South Pacific Ocean.
- **Indian space operations**- The report outlined India's role in space operations, including the number of satellites re-entering the atmosphere and rocket bodies placed in orbit.
- **Close approach alerts**- ISRO receives close approach alerts from *USSPACECOM* and conducts assessments using accurate orbital data.
- **Collaborative efforts**-While numerous close approaches were detected, coordination with international agencies helped mitigate risks, and no critical incidents warranted collision avoidance manoeuvres (CAM).
- **Space congestion**- The report notes an increasing trend in CAMs, reflecting the growing congestion in outer space. However, no concerning close approaches were detected for specific missions like Chandrayaan-3 and Aditya-L1.

IS4OM

- **Location-** Bengaluru
- **Aim**- To ensure safety of India's space assets and sustaining the utilization of outer space for national development.
- **Observation**- It observes and monitors space objects and the space environment.
- **Orbit determination-**It processes observations to determine the orbits of space objects.
- **Object characterization**- It characterizes and catalogs space objects.
- **Space environment analysis**- It analyzes the evolution of the space environment.
- **Risk assessment** - It assesses risks and implements mitigation strategies.
- **Data exchange**- It facilitates data exchange and collaboration.
- **Compliance with International guidelines**- IS4OM adheres to international guidelines on post-mission disposal and satellite end-of-life operations.

References

1. The Hindu- More space objects placed in 2023 than 2022
2. ISRO- Dedication of IS4OM

SHANKAR IAS PARLIAMENT
Information is Empowering