Prelim Bits 27-11-2023 | UPSC Daily Current Affairs

Kambala

More recently, the Kambala Samithi hosts weekly events from the end of November till the 1st half of April across Dakshina Kannada and Udupi districts in Karnataka.

- A folk sport practised in ***coastal Karnataka districts***, especially in regions where ***Tulu speakers*** form a majority.
- **Harvest festival** – It will be organised in the slushy *paddy fields*, in the *days after the harvest* from November to March.
- Pairs of buffaloes are groomed by ***Bunt community*** in the coastal regions around the year.
- **4 categories**
  - **Negilu (plough)** – Lighter ploughs are used to tie buffaloes which is for entry-level buffalo pairs.
  - **Hagga (rope)** – Buffaloes are raced by jockeys with just a rope tied to both buffaloes.
  - **Adda Halage** – Participants stand over a horizontal plank which is dragged by buffaloes.
  - **Kane Halage** – Participants stand over a wooden plank which has 2 holes through which water gushes out.
- **Ban** – Supreme Court ruled to ban Jallikattu, Kambala and bullock cart racing in 2014.
- Later, the Environment Ministry and State governments made provisions to exempt these events in recognition of the *customs and cultural heritage of various communities*, which was upheld by the Supreme Court bench in 2023.

> ***Article 29 (1)*** *of Indian constitution is a fundamental right guaranteed under Part III to protect the educational and cultural rights of citizens.*

Reference

The Indian Express| Kambala Race

Basic Animal Husbandry Statistics 2023

The Basic Animal Husbandry Statistics 2023 was released during National Milk Day in 2023.

- It is a survey of milk, egg, meat and wool production in India based on ***Animal Integrated Sample Survey (ISS)*** conducted between March 2022-February 2023.

- The survey is conducted in 3 seasons - summer (March-June), monsoon (July-October) and winter (November-February).

- **Key finding** - Production of milk, egg and meat has significantly gone up in 2022-23 over the past five years, although wool output in the same period has witnessed a negative growth.

India celebrates National Milk Day on November 26th, to commemorate the efforts of Dr Verghese Kurien, the father of White Revolution.

Reference

PIB| Basic Animal Husbandry Statistics 2023

Amaterasu

Recently, astronomers have detected a rare and extremely high-energy particle falling to Earth.

- It is one of the *most powerful cosmic rays* slamming into Earth and has been named "Amaterasu" after the *Japanese sun goddess.*
- These ultra-high energy particle passes atmosphere smoothly without any deflection by magnetic fields.
- **Spotted by – *Telescope Array observatory in Utah*,** a collaboration of the United States, Japan, Korea, Russia, and Belgium to observe cosmic rays.
- **Energy** – It ***exceeds 240 exa-electron volts (EeV),*** millions of times more powerful than the particles produced by the *Large Hadron Collider*, which is the most powerful accelerator ever built.
- It is ***2nd only to the 'Oh-My-God' particle***, another high-energy cosmic ray at 320 EeV that was detected in 1991.
- **Source** – Only the most powerful cosmic events, on scales far exceeding the explosion of a star, are thought to be capable of producing such energetic particles.
- But Amaterasu appears to have emerged from the ***Local Void***, an empty area of space bordering the Milky Way galaxy.

Cosmic Rays

• A radiation that is constantly rains down on Earth from space.
• **Properties** – They are *electrically charged* and so *deflected by various magnetic fields* throughout the galaxy.
• **Detection** - The rays *don't point directly back to their sources*.
• **Composition** – They are *mainly protons (89%)* but also includes nuclei of helium (10%) and heavier nuclei (1%).
• **Impact** – When they crash into our atmosphere, they are broken up and fall to Earth in even smaller fragments.
• **Significance** – Helps in understanding the chemical evolution of the universe.

- **Reasons for non-detection**
  - It could be from a source that we have not yet identified.
  - It might have been magnetically deflected much higher than current models predict.
  - Scientists might need to rewrite their incomplete understanding of high-energy particle physics.

References

1. The Indian Express| High Energy Particle from Space
2. CERN| Cosmic Rays

Mangroves as Carbon Sink

Volunteers in Chargheri village of Sunderbans help in planting lakhs of mangroves which offer a dense forest cover and a rich carbon sink.

> *The Sunderbans is a complex network of islands set in the delta on the Bay of Bengal and spread across West Bengal and Bangladesh.*

- **Blue carbon** – It is coined in 2009, a term for *carbon captured by and stored in the world's ocean and coastal ecosystems*.
- **Key ecosystems of blue carbon** - Mangroves, salt marshes and seagrass meadows
- These ecosystems sequester and store *more carbon per unit area* than terrestrial forests.

- **Mangroves as carbon sink** – After seagrass, mangroves are the most efficient carbon trapping systems which can ***remove 10 times more carbon*** from the air than other forests.
- While other trees release the stored carbon back to atmosphere when they die, *mangroves transfer the carbon to the soil*, where it stays unaffected even if the tree is destroyed.

Mangrove Initiatives

• **Mangrove Initiative for Shoreline Habitats and Tangible Incomes (MISHTI) –** It was launched by India in 2023 to protect and revive mangrove ecosystems on the Indian coast.
• **Mangrove Alliance for Climate (MAC)** – It was launched at CoP-27 (Egypt, 2022) to unite countries to scale up, accelerate conserve and restore the mangrove ecosystems.
• After the devastation caused by ***Cyclone Amphan*** in 2020, West Bengal Chief Minister had announced that 5 crore mangroves would be planted in the Sunderbans under the *Mahatma Gandhi National Rural Employment Guarantee Act.*

Related link - The Budget Push to Mangroves

Reference

The Indian Express| Mangroves as carbon sink

Compulsory Blending Obligation (CBO) of CBG

The National Biofuels Coordination Committee (NBCC) gave its nod to mandatory blending of compressed biogas (CBG) with compressed natural gas (CNG) and piped natural gas (PNG) from 2025-26.

- **Biogas** - It is an *energy-rich gas produced by anaerobic decomposition of biomass*.
- Sources include Agriculture residue, cattle dung, sugarcane press mud, municipal solid waste, and sewage treatment plant waste, among others.
- It can be *burnt directly as a fuel*, or purified and upgraded by removing carbon dioxide, hydrogen sulfide, and then *compressed to make compressed Biogas (CBG).*
- **CBG** – It has ***more than 90% of methane***, which is similar to commercially available natural gas in composition and energy potential.

  Sustainable Alternative Towards Affordable Transportation (SATAT) scheme was launched in 2018, under which 5,000 CBG plants were envisaged by 2023 to produce 15 million tonnes of CBG.

- **Compulsory blending obligation –** It will be
  - 1 % of total CNG and domestic PNG consumption for FY26
  - 3 % for FY27
  - 4 % for FY28
  - 5 % blending from FY29
- *A Central Repository Body (CRB)* will be responsible for monitoring and implementing the blending mandate.
- **Objectives –** It aims to
  - Stimulate demand for CBG in city gas distribution sector
  - Import substitution for liquefied natural gas (LNG) thus saving forex
  - Promote circular economy for achieving the target of net-zero emission, etc

Picture of India's Gas Sector

• India is a major consumer of natural gas and depends on imports to meet around half of its requirement.
• It aims to increase the share of natural gas in the primary energy mix to 15% by 2030 from a little over 6% at present.

Reference

The Indian Express| Compulsory Blending Obligations of CBG

Other Important News

Guru Nanak

• Guru Nanak Dev (1469–1539) was the ***founder of Sikhism***.
• He was born in Talwandi (now Nankana Sahib, near Lahore).
• Nanak was a Bhakti saint who preached that the most important form of worship is Bhakti, or devotion to Waheguru.
• **Guru Nanak Jayanti,** also known as Gurpurab, is the birth anniversary of Guru Nanak.

NATPOLREX-IX

• The 9th **Nat**ional Level **Pol**lution **R**esponse **Exe**rcise (NATPOLREX-IX) was conducted by the Indian Coast Guard off Vadinar, Gujarat recently.
• It demonstrates the level of preparedness and coordination between various resource agencies to respond to a marine oil spill invoking provisions of the National Oil Spill Disaster Contingency Plan (NOSDCP).
• The ***Indian Coast Guard*** functions as the Central Coordinating Authority for response to Oil spills in Indian waters.

1st Night Sky Sanctuary

• South East Asia's 1st Night Sky Sanctuary will be setup in Ladakh with the help of Indian Institute of Astrophysics, Bengaluru.
• It will be located within the Changthang Wildlife Sanctuary and adjacent to the Indian Astronomical Observatory (2nd-highest optical telescope in the world).

Leh Berry

• Leh Berry is a juice made from the ***sea buckthorn fruit of Leh, Ladakh***.
• The sea buckthorn fruit is known as the "King of Vitamin C".
• It contains over 100 nutrients, 8 vitamins, 24 minerals, 18 amino acids, and antioxidants.
• It got Geographical Indication (GI) tag recently.

YANTRA platform

• The Union Minister of AYUSH has recently participated in the Yoga and Ayurveda in Neurosciences, Therapeutics and Research Approaches (YANTRA) conference, 2023 recently.
• YANTRA, 2023 is an international conference on Integrative Medicine with a theme on models of integration in healthcare.
• It was held at the National Institute of Mental Health and Neurosciences (NIMHANS) in association with Jignasa, which provides a common platform to address all aspects related to AYUSH systems.

National Cadet Corps (NCC)

• NCC celebrated its 75th Anniversary on November 26, 2023.
• It was established in 1948 as a ***largest uniformed youth organization*** of Indian Armed Forces with its headquarters in ***New Delhi.***
• It aims at developing character, comradeship, discipline, secular outlook, the spirit of adventure and ideals of selfless service amongst young citizens.
• It is open to school and college students on voluntary basis as a ***Tri-Services Organization***, comprising the Army, the Navy and the Air Force.

Ayushman Arogya Mandir

• The Union Government has decided to rename the existing Ayushman Bharat Health and Wellness Centres (AB-HWCs) as 'Ayushman Arogya Mandir'
• The new tag line will be ***Arogyam Parmam Dhanam***.
• National Health Policy, 2017 envisioned the Health and Wellness Centres.

Solar flares

• Recently scientists have detected disturbances in Earth's magnetic field called ***G1 geomagnetic storms***, which are temporary disturbances in the planet's magnetic field due to solar sparks.
• As a result of this geomagnetic storm, people living in northern and southern latitudes can witness more beautiful northern and southern lights, also known as aurorae.
• Solar flares are categorised into 4 different classes
  - **B** (Too small to harm Earth),
  - **C** (Noticeable consequences on the planet),
  - **M** (Bit more serious and can cause limited radio blackouts),
  - **X** (Most dangerous, potentially causing planet-wide radio blackouts with strong radiation emissions).

Yuva Sangam

• Ministry of Education has recently launched the 3rd phase of Yuva Sangam under the ***Ek Bharat Shreshtha Bharat*** campaign.
• Under the programme, the students within the age group of ***18 to 30*** will get multi-dimensional exposure in 5 broad areas.
  - Paryatan (tourism), Parampara (traditions), Pragati (development), Prodyogik (technology) and Paraspar sampark (people-to-people connect) in the host States.
• **Ek Bharat Shreshtha Bharat (EBSB)** is a government initiative that promotes cultural exchange and national integration between India's states and union territories.

India-EU Semiconductor Pact

• India and the European Union has recently signed a Memorandum of Understanding on semiconductors.
• It will help in building a "robust supply chain" and support innovation between the two countries.

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