Prelim Bits 28-10-2023 | UPSC Daily Current Affairs

Earthquake Swarm

Recently, a seismic swarm has hit the Reykjanes peninsula in southwest Iceland with more than 5,500 small earthquakes raising the prospect of a volcanic eruption.

- **Earthquake Swarm** – It is a *series of many low magnitude earthquakes* without a noticeable main shock.
- **Causes –** It occurs when the piled up *seismic energy inside the earth is released in small amounts* from certain points.
- Seismic energy are related to the *movement of fluid gases and liquids* in the Earth's crust
- **Fluid movement** – When *fluids (e.g., water) migrate and interact with pre-existing faults,* it enables the fault to slip creating tremors.
- **Active volcanism** – Tremor occurs when *magma-filled cracks push their way* through the Earth's crust.
- **Slow-slip events** – It is essentially an *earthquake in slow-motion*, which involves centimetres to tens of centimetres of movement along a fault, over weeks to years.
- **Duration** – It may range *from days, weeks to even months*.
- **Occurrence** – It occur in a *localised region without a clear sequence of foreshocks, main quakes and aftershocks*.

> *Earthquake swarm in Palghar district of Maharashtra has occurred over the period from 2018 to 2019, with around 30 low-intensity earthquakes.*

References

The Hindu| Earthquake swarm in Iceland

Indian Mobile Congress (IMC)

Recently, 7th Edition of the 3-day India Mobile Congress 2023 was inaugurated at Bharat Mandapam in New Delhi.

- **India Mobile Congress (IMC)** – It is forum of telecom, media, and technology
  - To *highlight India's incredible advancements* in telecommunications and technologies.
  - To *display start-ups innovative products* and solutions.

- To *discuss issues* pertaining to the semiconductor industry, green technology, cybersecurity etc.

Indian Mobile Congress 2023 is the largest telecom, media, and technology forum held in Asia.

- **Theme** – Global Digital Innovation.
- **Aim** - To strengthen India's position as a developer, manufacturer, and exporter of key cutting-edge technologies.
- **Participants** – Over 1 lakh participants from about 22 countries including CEO's, exhibitors, startups, and other stakeholders.
- **Events** – During the program, *100 '5G Use Case Labs' was awarded to educational institutions* across the country and '*Aspire' program* was introduced.

***"Aspire" program** will foster connections between startups, investors, & established businesses to catalyze fresh entrepreneurial initiatives and collaborations.*

100 5G labs initiative

- This will propel the country into the forefront of usage of 5G technology by encouraging the development of 5G applications.
- It will foster *innovation across various socioeconomic sectors*.
- It helps in building a *6G-ready academic and start-up ecosystem* in the country.
- It pushes for *development of indigenous telecom technology* which is critical for national security.

India ranks among the top 3 5 G-enabled nations with a user base of 125 million.

References

PIB| Indian Mobile Congress 2023

Kurmi Community

Kurmis, who are recorded as Other Backward Class (OBC) demands Scheduled Tribe (ST) status and want their Kurmali language to be included in the 8th Schedule of the Constitution.

- **Kurmis** – They are a Hindu agricultural Jati (community).
- **Spread** – India and Nepal.
- They are found *throughout India*.
- **Language** – Kurmali, Hindi, Chattisgarhi, Marathi, Konkani, Oriya, Telegu and other

south Indian languages.

Kurmali language *comes under Indo-Aryan language family and primarily belongs to the Bihari language family by sharing some similarities with Maithili and Magahi. It has its own script called "Kurmi Kudali" which is a modified version of the Devanagari script.*

- **Beliefs** – *Mostly Hindus* but few Buddhists and Jains are present.
- *Sari and sarana* are their religious practice involving of worshiping nature without idols in a sacred place called guram or than.

Background of Caste status of Kurmis
• Kurmis were not included as ST's in 1931 census. • They were again excluded from the ST list in 1950. • In 2004, Jharkhand government recommended ST status. • However, Tribal Research Institute (TRI) held that they are a *sub-caste of Kunbis and not tribals*. • Based on TRI report, the Centre rejected their demand.

Process of inclusion under ST list

- This process follows a set of *modalities established in 1999*.
- The respective state or union territory shall send the initial proposal for ST status.
- It is forwarded to Union Tribal Affairs Ministry and subsequently sent to the Office of the Registrar General of India (ORGI).
- If the ORGI approves the inclusion, the proposal is then sent to the National Commission for Scheduled Tribes (NCST).
- If the NCST concur, the proposal is forwarded to the Cabinet for amendment to the *Constitution (Scheduled Tribes) Order, 1950*.

References

Indian Express| Kurmis demand for ST status

Ejecta Halo

According to ISRO, the Chandrayaan-3 Lander Module (Vikram lander) generated 'ejecta halo' of lunar material as it descended towards the Moon's South Pole in 2023.

- National Remote Sensing Centre (NRSC) and the ISRO estimate that *about 2.06 tonnes of lunar epiregolith were ejected* during landing event.
- This was *displaced over an area of 108.4 m^2 around the landing sit*e which resulted in formation of an 'ejecta halo'.
- **Ejecta Halo** – It is a halo (a bright circle of light around something) of epiregolith which appeared as an *irregular bright patch surrounding the lander*.

Regolith *is a blanket of unconsolidated, loose, heterogeneous superficial deposits covering the solid rock which is present in Earth, the Moon, Mars, some asteroids, and other terrestrial planets and moons.*

Epiregolith *is lunar rocks and soil, or regolith, or Moon dust.*

- **Observation** – It is done by comparing the pre- and post-landing high-resolution panchromatic images from Orbiter High-Resolution Camera *(OHRC) of the Chandrayaan-2 orbiter*.
- **Significance** – This discovery sheds light on the *behaviour of lunar materials during such events*.
- It opens up new avenues for research and understanding lunar geology.

India become the 1st country in the world to successfully achieve soft landing on the Moon's South Pole with Vikram lander of Chandrayaan 3 mission.

India also became the 4th country after the US, China, and Russia to have successfully landed on the moon's surface.

References

Live Mint| Ejecta Halo

West Antarctic Ice Shelf Melt

According to new research, the rate of melting of the West Antarctic ice sheet will increase over this century irrespective of reduction of fossil fuel use.

- It is highly unlikely to avoid this accelerated ice melting making the Antarctic region to contribute even more to sea level rise.
- **West Antarctic Ice Sheet** – It is *Antarctica's largest contributor to sea-level rise* which has enough ice to increase the global mean sea level by as much as 5 metres (m).

The Antarctic ice sheet contains enough ice to raise global sea-levels by about 58m (190ft) if it melted entirely.

- **Cause of melting** – Due to the warming of the Southern Ocean mainly the Amundsen Sea region.

***Amundsen Sea**, off the coast of West Antarctica, will warm roughly 3 times faster than the historical rate through the rest of this century which will lead to much more rapid melting of ice shelves.*

- **Impacts** – Sea-level rises of around 1 metre may threat hundreds of millions of people worldwide at risk of coastal flooding.

In 2021, the UN's climate body, the Intergovernmental Panel on Climate Change (IPCC) has projected a global average sea-level rise of between 0.28m and 1.01m by 2100.

- **Way forward** – Governments around the world should begin to re-engineer or evacuate heavily-populated areas in coastal regions.

***Ice sheet** is a mass of glacial ice more than 50,000 square kilometers (19,000 square miles) which contain about 99% of the fresh water on Earth, and are sometimes called continental glaciers.*

***Ice Shelves** are the extension from main ice sheets into the ocean which play a key role in holding back the glaciers behind. But as ice shelves melt, it can mean that the ice behind speeds up, releasing more into the oceans.*

References

1. Indian Express| West Antarctic Ice Shelf Melt
2. BBC| Melting of Ice Shelves

Other Important News
Baba Farid & Indian Hospice in Israel • Indian Hospice (Zawiya Al-Hindiya) was established at Jerusalem in 12th century A.D., as a symbol of India's Heritage. • In 12th century, Baba Farid, the famous Sufi saint from Punjab, visited Jerusalem, which later became the pilgrimage site for Indian pilgrimage. • This property is under the ownership of the **Waqf Board** of India and is accessible only to individuals of Indian citizenship or heritage.
InSight lander • **In**terior exploration using **S**eismic **I**nvestigations, **G**eodesy and **H**eat **T**ransport (InSight) is a mission launched by NASA. • It is the 1st mission dedicated to investigate the interior structure and composition of Mars. • This mission was part of *NASA's Discovery* Program (series of missions that explore the Solar System).

Hostile Activity Watch Kernel (HAWK) System

• The Karnataka Forest Department, along with the Wildlife Trust of India, has launched the HAWK System.
• It is a Cloud Based Information Management System designed to monitor all aspects of forest and wildlife crime and curb Illegal Wildlife Trade (IWT).
• **WTI** is a nature conservation organization formed in 1998 to conserve nature, *especially endangered species and threatened habitats*, in partnership with communities and governments.

UNCCD's Report of land degradation in India

• According to the latest data of UN Convention to Combat Desertification (UNCCD) ***9.45%*** of India's land was degraded from 2015-2019.
• The report also says that *18.39%* of the country's population were exposed to land degradation during the same period.
• The UNCCD, established in 1994, is the only legally binding international agreement that links development and environment to sustainable land management.

1st Avian flu in Antarctic

• Scientists have detected the presence of avian flu for the 1st time in the Antarctic region.
• It raises concerns for remote populations of penguins and seals.
• The HPAI was detected in *brown skua (a predatory seabird)* populations on Bird Island, South Georgia.
• The viral avian influenza, especially the H5 and H7 strains known to spread among birds and mammals due to predators and scavengers feeding on infected birds.

1st Tribal Digital Atlas

• Jharkhand is set to develop the India's 1st Tribal Development Digital Atlas to map socio-economic condition of tribals.

L Viswanathan Committee

• Insurance Regulatory and Development Authority of India (IRDAI) has constituted a 12-member committee under L Viswanathan.
• The committee was tasked to examine existing insurance policy wordings and suggest simple, plain wordings that are legally correct and enforceable.
• The committee's goal is to help people make informed decisions before buying insurance.
• It is a step towards IRDAI's goal of ***Insurance for all by 2047***.

Malai

• A Kerala-based company has developed Malai, a raw material made from ***coconut water*** that can be used as an alternative to *animal leather*.
• Malai has been made from fermenting unutilised water from mature coconuts and other plant materials.

Bharat Tex 2024

• Ministry of Textiles will conduct the Bharat Tex, 2024 on February 2024.
• It will be the world's biggest ever textiles event that showcase the entire textile industry value chain, from India's rich cultural heritage and textile traditions to the latest technological innovations.
• **5F** – India's 5F Formula encompasses Farm to fibre; fibre to factory; factory to fashion; fashion to foreign.

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