Prelim Bits 05-12-2022 | UPSC Daily Current Affairs

Martian Mega Tsunami

A mega tsunami on Mars may have been caused by an asteroid impact similar to the one that wiped out the dinosaurs on Earth.

- Researchers have proposed that an asteroid impact on a Martian ocean in the northern lowlands caused a tsunami around 3 billion years ago.
- The crater in question has a diameter of 110 kilometres and is located in a region that previous studies suggests may have been covered by an ocean.
- The crater may have formed around 3.4 billion years ago by an asteroid collision.
- The crater was caused by a 9 kilometres asteroid and collisions could release 13 million megatons of TNT energy or 0.5 million megatons of TNT energy respectively.
- For comparison, the Tsar Bomb, the most powerful thermonuclear weapon ever tested, generated energy worth approximately 57 tons of TNT energy.

The Chicxulub impact

- The Chicxulub collision, a massive asteroid impact that led to the mass extinction of most dinosaurs on Earth.
- The Chicxulub impact event was a ~100 million megaton blast that devastated the Gulf of Mexico region.
- The blast generated a core of superheated plasma in excess of 10,000 degrees.
- Although that thermal pulse would have been relatively short-lived, a handful of minutes, it would have been lethal for nearby life.
- The Chicxulub Impact event produced a shock wave and air blast that radiated across the seas, over coastlines, and deep into the continental interior.
- The pressure pulse and winds would have scoured soils and shredded vegetation and any animals living in nearby ecosystems.
- There are several factors that can affect this estimate, so the uncertainty might be better reflected in a range of radii from ~900 to ~1800 km.
- The travel times are quite short, so this effect would have occurred in advance of any falling debris ejected from the Chicxulub crater.

References

1. The Indian Express | Martian mega tsunami
2. Economic Times | Asteroid's impact on Mars
3. Forbes | Asteroid strike on Mars caused a mega tsunami

Mount Semeru

Indonesia's Mount Semeru erupted spewing hot ash clouds a mile into the sky.

- The eruption of the highest mountain on Indonesia's main island of Java, around 800 kilometres (500 miles) southeast of capital Jakarta, prompted authorities to raise the alert status to the highest level.
- No casualties were reported immediately after the eruption, however, nearby residents were warned not to travel within 8 kilometres of the crater after the threat level was raised to 4.

Mount Semeru

- Semeru, located in East Java, Indonesia, contains the active Jonggring-Seloko vent at the Mahameru summit.
- Hundreds of eruptive events occurred during the 19th and 20th centuries, including nearly continuous activity since 1967.
- Eruptions have been characterized by Vulcanian and Strombolian explosions, lava flows, pyroclastic flows, lava domes, and lahars.

Reference

1. The Hindu │Indonesia's Mount Semeru volcano erupts
2. The Economic Times │ Mount Semeru volcano eruption

Morality Police

Iran has scrapped its 'morality police' after more than two months of protests triggered by the arrest of Mahsa Amini.

- The morality police known formally as the Gasht-e Ershad or Guidance Patrol were established under hardline President Mahmoud Ahmadinejad.
- It was established to spread the culture of modesty and hijab, the mandatory female head covering.
- The Gasht-e Ershad are part of the police force and supervised by Supreme Leader Ayatollah Ali Khamenei, but the elected government has a say in their activities through the Interior Ministry.
- Both men and women officials are part of the morality police.
- The units began patrols in 2006.

The contested hijab

- Iran has a long history of policing the hijab. During the reign of Reza Shah Pahlavi in 1936, the hijab was actually banned in an effort to modernise the country.

- The police would then remove the hijab from the heads of women seen wearing it in public.
- This situation was turned on its head after the Revolution, when conservative forces aligned with Ayatollah Ruhollah Khomeini deposed Mohammed Reza Pahlavi, son of Reza Shah, and proclaimed the Islamic Republic.
- While wearing the hijab was made mandatory, a force was constituted to enforce the

rules on morality and the public appearance of women only in the 1990s.
- After the war broke out with Saddam Hussein's Iraq, the regime felt the need to centralise its power and underline an Iranian national identity.

Morality functions

- The implementation of other rules on public appearance and conduct, according to the Iranian authorities' interpretation of the Sharia, are also the responsibility of the police.
- In 2010, for instance, Iran's Ministry of Culture and Islamic Guidance issued a template for suitable haircuts for men.
- This was done to halt Western influence on culture, and the morality police were tasked with enforcement at salons.

References

1. The Hindu │Protest-hit Iran abolishes morality police
2. The Indian Express│ Iran's morality police disbanded

The first drone station

Meghalaya to unveil first drone station for healthcare service delivery.

- Primary Health Centre at Pedaldoba, which did not have telecom and transport connectivity until last year, is scheduled to receive the first delivery of medicines via a drone.
- The medicines would be delivered by a Vertiplane X3, a customised drone.
- The drone station has been built at the Sub-divisional Hospital in Jengjal, about 69 km from Pedaldoba and 32 km from Tura, the District Headquarters and the largest town of Meghalaya's western half.
- A pilot project was accordingly undertaken and drones were flown from a civil hospital to two PHCs in the State's West Khasi Hills district.
- These PHCs are among those considered the most difficult to reach.
- 5 to 8 drone flights would be operated per day depending on the demand.
- There are plans to set up similar drone stations at strategic locations elsewhere in the State primarily to reach out to 79% people who reside in the rural areas of Meghalaya.

Reference

1. The Hindu │ Meghalaya to unveil first drone station

Amarjeet Sinha Committee

The Central government has constituted a committee to review the implementation of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme.

- The committee will be headed by former Rural Development secretary Amarjeet Sinha, which will submit its suggestions in 3 months.
- The Sinha committee has now been tasked to study the various factors behind demand for MGNREGA work, expenditure trends and inter-State variations, and the

composition of work.
- It will suggest what changes in focus and governance structures are required to make MGNREGA more effective.
- **Higher costs –** The present committee will also look at the argument that the cost of providing work has also shot up since the scheme first started.
- The committee has to review the reasons and recommend ways to bring in a greater focus on poorer areas.
- **Asset creation –** The committee will study if the composition of work taken up presently under the scheme should be changed.
- It will review whether it should focus more on community-based assets or individual works.

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

- It was passed in 2005, and the demand-driven scheme guarantees 100 days of unskilled work per year for every rural household that wants it.
- There are currently 15.51 crore active workers enrolled under the scheme.
- It was launched as a poverty alleviation instrument for the rural region, providing them with a safety net in the form of guaranteed work and wages.
- It was felt that states like Uttar Pradesh and Bihar where there is higher level of poverty, they haven't been able to utilise the scheme optimally.
- The scheme has been criticised by economists as an inefficient instrument of shifting income to the poor.

References

1. The Hindu | Government forms panel to look into MGNREGA's efficacy

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