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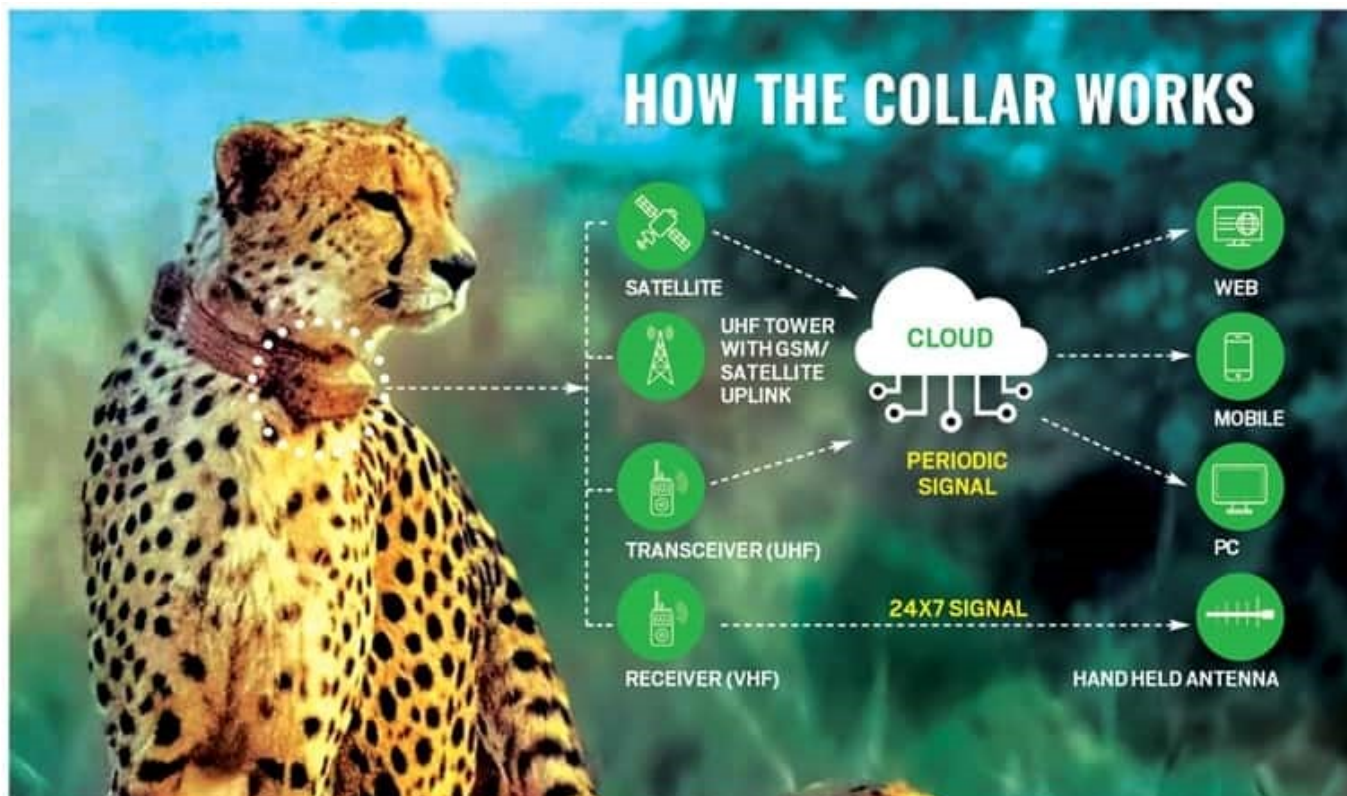
Radio collar

Recently, in Kuno Palpur national park 3 cheetahs have died and serious infection in another 6 animals have been attributed to injuries, possibly caused by ticks festering under their radio collars.

- **Radio-collaring** - Radio Collars are basically radio transmitters (which transmits light waves in the range of radio frequency (RF) waves), that can be used to detect the movement of a person or an animal.



- The collar consists a multiplicity of radio signal receivers each having a receiving antenna.
- The system transmitter continuously transmits a RF signal and a mobile receiver assembly mounted in the collar unit on the person/animal.
- The receiver assembly receives the RF signal and measures the intensity of the received signal.
- The transmitter emits a signal at a specific frequency that can be tracked from up to 5 kms away.
- It is a valuable tool in ecological research for tracking animal movements and behaviour to aid conservation efforts.



TAGGED ANIMALS: Very High Frequency radio waves weakens as distance increases. So transmitting and receiving antennas must be able to 'see' each other for effective communications. That's why antenna height is critical in determining range.

Challenges associated with Radio Collars

- **Material** - The collar was made of double Butyl (polymer) layers, was too big and too stiff for the animal.
- **Wound** - It causes wound to the cheetahs as the collar was tight and heavy.
- **Battery life** - A lighter collar usually has a shorter battery life/limited range, leading to more replacements.
- **Low immunity** - The pathogens would aggravate the wound caused by the collar.

References

1. [The Indian Express | What went wrong with radio collars?](#)
2. [The Wire | Radio Collar Infections a 'Cause for Concern'](#)
3. [The Indian Express | Radio collars are killing the cheetahs](#)

Federal Funds Rate

A recently held Federal Open Market Committee decided to increase the targeted federal funds rate to 5.25- 5 5%.

- **Federal funds rate** - This is the rate at which banks lend and borrow excess reserves in the *overnight market*.

Federal Funds Rate



- In any economy, there is a set of banks which want to extend loans far more than the reserves permit and another which have excess reserves to lend.
- These banks can loan funds among them and the rate in that market is the federal funds rate.
- **The Federal Open Markets Committee** sets the federal funds rate to guide overnight lending among U.S. banks.

The Federal Open Market Committee

- The Federal Open Market Committee (FOMC) is the branch of the Federal Reserve System (FRS).
- It determines the direction of monetary policy in the United States by directing **Open Market Operations (OMOs)**.
- The committee is made up of 12 members.
 - The President of the Federal Reserve Bank of New York
 - 7 members of the Board of Governors
 - 4 of the remaining 11 Reserve Bank presidents, who serve on a rotating basis.

References

1. [The Hindu | Federal fund hike impact](#)
2. [Investopedia | Federal Open Market Committee \(FOMC\)](#)

Languages in UN

As China had objected to the use of non-UN languages like Sanskrit in any of the G-20 texts, the central government defends use of Vasudhaiva Kutumbakam in the recent G-20 meeting.

- **Languages in UN** - There are 6 official languages of the UN.
- The official languages was adopted by UN in 1946.
- These are **Arabic, Chinese, English, French, Russian and Spanish.**

The Six Official Languages of the UN



- **Official languages** - They are the languages in which all official United Nations documents are made available.
- Most UN documents are issued in all six official languages, requiring translation from the original document.
- **Working languages** - They are used for internal communications among staff.
- English and French are the working languages of the Secretariat.
- Some of the other official languages may also be working languages in the Regional Commissions.

References

1. [The Hindu | Centre defends use of Vasudhaiva Kutumbakam](#)
2. [United Nations | UN's Official Languages](#)

Red Sea

More than 3,000 United States military personnel have arrived in the Red Sea aboard two warships after tanker seizures by Iran.

- Red Sea is situated between Africa (Egypt, Sudan, and Eritrea) and the Arabian Peninsula (Saudi Arabia and Yemen).
- It is a part of the Great Rift Valley.

- The northern portion of the Red Sea is bifurcated by the **Sinai Peninsula** into the Gulf of Aqaba and the Gulf of Suez, where it is connected to the Mediterranean Sea via the famous Suez Canal.
- The Red Sea is linked with the Gulf of Aden and the Arabian Sea by the straits of **Bab el Mandeb**.



- The Red Sea contains some of the world's hottest and saltiest seawater.
- With its connection to the Mediterranean Sea via the Suez Canal, it is one of the most heavily traveled waterways in the world, carrying maritime traffic between Europe and Asia.
- Its name is derived from the colour changes observed in its waters. Normally, the Red Sea is an intense blue-green.
- Sometimes it is populated by extensive blooms of the algae **Trichodesmium erythraeum**, turn the sea a reddish brown colour.

References

1. [The Hindu | Thousands of U.S. sailors reach Red Sea](#)
2. [Image Credits | World Atlas.com](#)

Porpanaikottai

A portion of a circular brick structure has been unearthed by archaeologists at Porpanaikottai, a Sangam-age site, in Pudukottai district of Tamil Nadu.

- Porpanaikottai is situated at Pudukottai, Tamilnadu.

- Light Detection and Ranging (LIDAR), a remote sensing method, indicated that a fort had existed there.
- The age of the fort to be around 13th century to 14th century.
- The name Porpanaikottai could have been derived from the designative name of the Paana chieftain clan or based on the village's name Porpanai.
- The site had grave goods indicating a burial site, conch bangles, fragments of red and black pots, of pots engraved with Tamili, iron fragments, glass beads and weapons made of bones.
- A golden nose stud or earring weighing 0.2g, a bone point and a fragment of carnelian bead was found at this site.



- The fort area had temples for Muneeswaran and Karuppan on all four sides, ruins of a palace and there were signs of waterbodies inside too.
- A hero stone mentioning the name of one **Kanangkumaran** who hailed from Adhavanur was found at the site.
- **Sangam Age** - The Sangam Age is a period that is dated from 300 BCE to 300 CE.
- The excavation sites of Sangam Age include:
 1. Keeladi
 2. Sivagalai
 3. Adichanallur
 4. Kodumanal

References

1. [The Hindu | More brick structures unearthed at Porpanaikottai](#)
2. [The Times of India | Ruins of fort at Porpanaikottai](#)
3. [The Times of India | Golden nose stud unearthed at Porpanaikottai](#)