

## DASH DIET

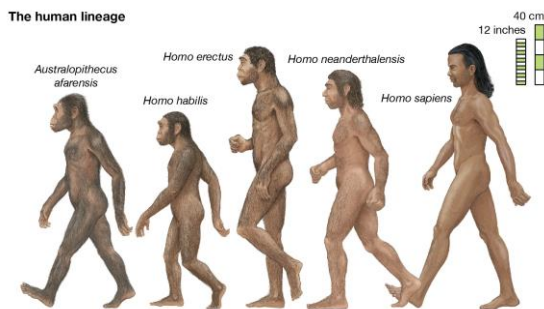
- DASH diet (Dietary Approaches to Stop Hypertension). DASH is best-recommended diet to prevent cardiovascular events.
- DASH diet involves eating fruits, vegetables, lean meat, poultry, nuts, and whole grains, and reducing the intake of saturated fats, cholesterol, and sugar.

**Does the WHO recommend only 5 gm of salt per day?**

## THE HINDU

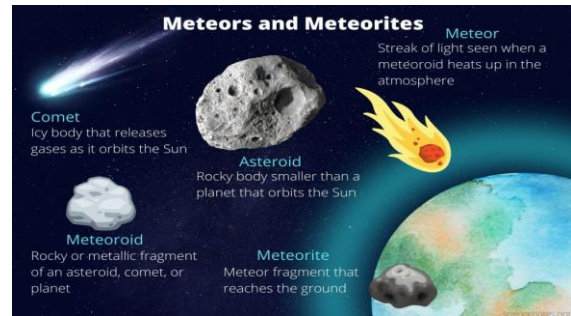
### Human evolution

- A rare, well- preserved ancient human skull found in central China could be a million- year- old Homo erectus.
- As excavation of the fossil continues, archaeologists and palaeo anthropologists anticipate that the skull could give a fuller and a detailed picture of the diverse family tree of archaic humans living throughout Eurasia in prehistoric times.



## Meteorites

- Researchers have identified two, possibly even three, new minerals in a huge iron- based meteorite that landed in Somalia.
- The minerals have been named elaliite, after the meteorite's location near the town of El Ali.



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### Mega Constellation

- Mega-constellations are systems utilizing hundreds to tens of thousands of satellites in Low Earth Orbit (LEO) to deliver low-latency broadband data services anywhere on the plane
- Satellite 'mega constellations' such as SpaceX's Starlink Internet network, which already consists of thousands of satellites might soon face some regulation in the United States.

- A U.S. government report suggests that regulators should revisit a 1986 decision that effectively exempts communications satellites from the U.S. National Environmental Policy Act.
- Mega Constellations can disrupt the radio frequencies used for astronomical observation and intensify congestion in orbit.



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### **Nanofibrous sheet and blood shelf life**

- Blood bag technology enhances the quality and shelf life of stored blood.
- Despite inadequate blood donation, millions of blood units are discarded due to a decline in quality during storage. Stored blood has a finite shelf life.
- Typically, stored cells produce various extracellular components known as damage-associated molecular patterns (DAMPs), which damage the blood cells during storage.
- Typical extracellular components being generated are free- iron and free- hemoglobin, bioactive lipids such as polyunsaturated fatty acids, extracellular DNA, nucleosomes, and proteins.
- During the storage, these components interact and damage red blood cells (RBCs).
- Capturing these DAMPs components without causing damage to the stored blood cells is highly challenging.
- Therefore, we have custom-designed Nanofibrous sheets that can capture such damage-causing components and protect RBCs.
- Nanofibrous sheets made with cationic and anionic polymers will help scavenge damage-causing agents through ionic interactions.
- These Nanofibrous sheets can be made into blood bags.
- DAMPs are produced when cells get destroyed and the DAMP components, in turn, damage the membrane of RBCs and reduce the membrane integrity.
- Intermittent capturing of DAMPs on day 21 or 28 after collection using the novel blood bags helped protect RBCs from losing their membrane integrity and enhanced the transfusion efficiency
- A blood transfusion is a routine medical procedure in which donated blood is provided to you through a narrow tube placed within a vein in your arm.

## Rhino population

### What is the rhino population?

- The population of the one-horned rhino was about a dozen when Kaziranga became a protected area in 1905.
- According to the State of Rhino Report 2022, the number of poor-sighted herbivore's number in Kaziranga is an estimated 2,613, more than 65% of its total population of 4,014 across 11 habitats in India and Nepal.

### How have anti-poaching measures helped?

- The strengthening of the anti-poaching mechanism in India and Nepal with more manpower, capacity -building of frontline staff, and equipping forest guards with better fighting gear have helped protect the rhino.
- The sentiments of local people attached to the rhino have also been a factor in the sharp drop in the number of rhinos killed,
- The threat from poachers cannot be wished away because of the illegal wildlife trade in next-door Myanmar and beyond in Southeast Asia.

### Are elephants endangered?

- India is home to nearly 60% Asian elephants and the last count of the species in 2017 had put the number at 29,964.

- While the number of elephants in India has increased in the past few years, the species is listed as 'Endangered' on the IUCN Red List of threatened species and Schedule I of The Wildlife Protection Act.

### What are the challenges?

- The largest land -dwelling mammal is under continuous threat of poaching and conflict with humans.
- The elephant population is not evenly distributed in the country.
- The south Indian States of Karnataka, Kerala, Andhra Pradesh, and Tamil Nadu is home to nearly 44% of India's elephant population.
- The fragmentation of elephant habitats and the construction of linear (railways and roads) and power infrastructure have led to many elephant deaths.
- The change in land use, particularly bringing erstwhile forested areas under agriculture, has aggravated the conflict.
- The Ministry of Environment, Forest and Climate Change launched Project Elephant in 1992 to ensure the long-term survival of elephants in their natural habitats.
- The number of elephant reserves in India is 32 with the latest addition being the Agasthyamalai Elephant Reserve in 2022.
- Elephant corridors and linear narrow habitat linkages which allow

elephants to move between secure habitats are crucial for conservation.

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### **Cheetah protection**

#### **The story so far:**

- This year marked the arrival of Namibian cheetahs to India, the first intercontinental transfer of wild cats into the country since independence.
- Eight cheetahs were flown into the Kuno National Park (KNP), Madhya Pradesh, from Namibia.

#### **Why should cheetahs be outside of Africa?**

- Cheetahs were once widespread in India as well as in many parts of the world until they were hunted to extinction.
- Only around 8,000 of them survive, and overwhelmingly in Namibia and South Africa.
- A different species, called the Asiatic cheetah, once abundant in India, is found in Iran.
- As part of improving their odds of long-term survival, young animals are being reared as part of conservation efforts in Namibia and then sent to different parts of the world, including India.
- While it is still early days for the cheetah, experts have raised concerns that the KNP has limited space for the cheetah to co-exist

with other predators such as tigers and lions, for which the KNP was originally prepared.

#### **What is the tiger population in India?**

- Every four years, India carries out a census of the tiger population across India.
- The latest estimate put the tiger population at 2,967.
- Tigers were reportedly increasing at a rate of about 6% per annum and the area that they occupied was roughly stable, at about 89,000 square km since 2014.

#### **How did the numbers increase?**

- The consistent implementation of Project Tiger since 1973, whereby dedicated tiger reserves were established in India, as well as anti-poaching measures have played a significant role in tiger conservation.
- India has 53 tiger reserves with the latest being added early this year.

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### **GIBs conservation**

#### **What is endangering the birds?**

- Hearing petitions highlighting deaths of the GIBs due to power transmission lines, a special bench of the apex court led by Chief Justice D.Y. Chandrachud directed Chief Secretaries of Gujarat and Rajasthan

to undertake and complete a comprehensive exercise within four weeks to find out the total length of transmission lines in question and the number of bird diverters required.

- in April 2021, the Supreme Court directed the authorities to convert the overhead cables into underground power lines, (where feasible) within a period of one year and that till such time diverters would have to be hung from existing power lines.
- The GIBs are not great fliers and have a wide sideways vision to maximize predator detection but the species' frontal vision is narrow.
- These birds cannot detect power lines from far and since they are heavy fliers, they fail to maneuver across power lines within close distances.

#### **What steps have been taken?**

- Listed in Schedule I of the Indian Wildlife (Protection) Act, 1972, in Appendix I of CITES, as Critically Endangered on the IUCN Red List, the GIBs enjoy the highest protection both in India and globally.
- The earliest estimates show the population was about 1,260 in 1969 but has declined by 75% in the last 30 years.

#### **Are there other threats to the GIB?**

- According to scientists, the GIBs are slow breeders and they build their nests on the ground.
- The species have also been subjected to hunting and egg collection in the past. There also has been a decline in prevailing habitat loss as dry grasslands have been diverted for other use.
- Experts also warn of pesticide contamination and an increase of populations of free- ranging dogs and pigs along with native predators, putting pressure on nests and chicks.
- While most of the population of the species is confined to the Jaisalmer Desert National Park (DNP), wildlife enthusiasts believe that more areas outside the protected area must be made suitable for the species.

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