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Living Planet Report (LPR), 2024

The recently released LPR, 2024 report said that significant 'collective effort' will be required over the next five years to tackle the dual climate and nature crises.

- It is a ***biennial compilation*** of the threats faced to wildlife.
- **Released by -** World Wide Fund (WWF) in collaboration with Zoological Society of London (ZSL).
- It is provided by includes almost 35,000 population trends of 5,495 species from 1970-2020.
- **Findings –** There has been a ***73%*** decline in the average size of monitored wildlife populations from 1970-2020.
- The sharpest decline is reported in
    - Freshwater ecosystems at 85%, followed by
    - Terrestrial ecosystems at 69% and
    - Marine ecosystems at 56%.
- At a regional level, the fastest declines have been seen in ***Latin America and the Caribbean*** a concerning 95% decline followed by Africa (76%) and the Asia and the Pacific (60%).
- Declines have been less in Europe and Central Asia (35%) and North America (39%).
- **In India -** The report noted the decline in 3 vulture species in India.
    - Bombay Natural History Society (BNHS) highlighted white-rumped vulture population has dropped by 67%, Indian vulture by 48%, and slender-billed vulture by 89% compared to their populations in 2002.
- India is home to the largest population of wild tigers globally.
- The All-India Tiger Estimation 2022 recorded a minimum of 3,682 tigers, a significant increase from the 2,967 estimated in 2018.
- **Tipping point -** When cumulative impacts reach a threshold, the change becomes self-perpetuating, resulting in substantial, often abrupt and potentially irreversible change.
- Early warning signs indicate that several global tipping points are fast approaching:
- In the biosphere, the mass die-off of coral reefs would destroy fisheries and storm protection for hundreds of millions of people living on the coasts.
- The Amazon rainforest tipping point would release tonnes of carbon into the atmosphere and disrupt weather patterns around the globe.
- In ocean circulation, the collapse of the subpolar gyre, a circular current south of Greenland, would dramatically change weather patterns in Europe and North America.
- In the cryosphere (the frozen parts of the planet), the melting of the Greenland and West Antarctic ice sheets would unleash many metres of sea level rise.
    - Large-scale thawing of permafrost would trigger vast emissions of carbon dioxide

and methane.

- **Reasons -** Habitat loss and degradation, driven primarily by farming and consumes food followed by over-exploitation, invasive species, and diseases.
- Pollution is an additional threat for wildlife populations in Asia and the Pacific, which have recorded a 60% average decline.
- There are no India specific projections.
- **Shortfall in achieving goals -** Countries have agreed on ambitious global goals
  - To halt and reverse nature loss (the Global Biodiversity Framework),
  - Cap global temperature rise to 1.5C (the Paris Agreement), and
  - Eradicate poverty (the UN Sustainable Development Goals).
- But despite these global ambitions, national commitments and actions on the ground fall far short of what's needed to meet the targets for 2030.
- Over half the SDG targets for 2030 will be missed, with 30% of them stalled or getting worse from the 2015 baseline.
- National climate commitments would lead to an average global temperature increase of almost 3°C by the end of the century, inevitably triggering multiple catastrophic tipping points.
- National biodiversity strategies and action plans are inadequate and lack financial and institutional support.

References

1. The Hindu | Living Planet Index (LPI)
2. WWF | Executive Summary

Nobel Prize, 2024

The Nobel Prize, 2024 has been announced recently.

- A Nobel Prize is a prestigious ***international award*** given to individuals or organizations annually.
- **Founder -** Alfred Nobel.
- **Fields awarded -** Physics, Chemistry, Physiology or Medicine, Literature, Peace, and Economic Sciences.
- **Rationale -** To honor individuals who have made significant contributions that benefit humanity.
- The first set of awards were handed out in 1901, 5 years after Nobel's death.
- A Nobel Prize ***cannot be awarded posthumously.***
- **Award ceremony -** Takes place annually on December 10, the anniversary of Alfred Nobel's death.
- The award winners are also given a sum of $1.1 million per prize.

Chemistry, 2024	David Baker	For computational design
	Demis Hassabis and John M.Jumper	For protein structure prediction

Physics, 2024	John J. Hopfield and Geoffrey E. Hinton	Use of statistical physics concepts in the development of artificial neural networks
Physiology/Medicine, 2024	Victor Ambros and Gary Ruvkun	Discovery of microRNAs

References

1. The Indian Express | Chemistry Nobel 2024
2. Nobel Prize | The Nobel Prize in Chemistry 2024

Marburg virus

Rwanda recently reported that the Marburg disease infected at least 46 individuals and 12 Marburg deaths.

- Marburg virus disease (Marburg) is a rare but severe hemorrhagic fever that can cause serious illness and death.
- Marburg is among the ***deadliest pathogens*** known to humans.
- Marburg belongs to the ***filovirus family***, like Ebola. Both pathogens are clinically similar, and rare.
- **Discovered in -** The first outbreak occurred in Marburg, Germany, in 1967. Since then, subsequent outbreaks have been mostly reported across Africa.
- **Caused by -** Prolonged exposure to mines or caves inhabited by colonies of ***Rousettus bats***, most notably the ***Egyptian fruit bat.***
- Marburg also spreads through human-to-human transition both
    - Directly (through contact with blood and other bodily fluids of infected people) and
    - Indirectly (through surfaces and materials like bedding, clothing, etc. Contaminated with these fluids).
- **Symptoms -** High fever, severe headache, muscle ache, severe watery diarrhoea, abdominal pain and cramping, and vomiting.
- Many patients develop haemorrhagic symptoms (bleeding), often in many places including the digestive system (faeces and vomit often come with fresh blood), the nose, gums, and vagina.
- Haemmorage leads to most MVD fatalities, with death in fatal cases occurring 8 to 9 days after the onset of symptoms, usually of severe blood loss and shock.
- **Treatment -** Currently, there are no approved vaccines or specific treatments for MVD.
- **Fatality -** Marburg virus disease (MVD) case fatality rates ranging from 24% to 88% in past outbreaks, depending on virus strain and case management.

References

1. The Indian Express | What is Marburg virus?
2. WHO | Marburg virus disease

Halari donkeys

The halari donkeys form close bonds with people, supporting for transport needs with the surviving population of fewer than 500.

- Halari donkey is a beautiful breed of donkey native to Halar region of Gujarat.
- They are considered to be intelligent animals which work closely with human beings.
- **Appearance –** They are white in colour, and is larger and more resilient than other donkey breeds.
- **Habitat -** It is an important domestic animal in the semi-arid landscape of Jamnagar and Dwarka districts in Gujarat's Saurashtra region.
- **Community Usage -** The Bharwad and Rabari pastoralists are the main communities to use this donkey as a pack animal for carrying luggage during migration.
- The Kumbhar (potter) community also uses this animal for pottery work in the Jamnagar region.
- **Uses -** Halari donkey milk is known for its sweetness. Milk powder made from it can fetch upwards of ₹7,000 a kg in the international market, and is used for cosmetic purposes.
- **Conservation status –** Endangered.
- The Sahjeevan Trust has worked to conserve this breed in collaboration with the Animal Husbandry Department of the Gujarat government.



Reference

The Hindu | Halari donkeys

Amangarh Tiger Reserve

The body of an eight-year-old tiger was found on the border of Amangarh Tiger reserve of Bijnor and Jim Corbett National Park recently.

- Amangarh Tiger Reserve is a protected area in Bijnor district, Uttar Pradesh.
- The reserve encompasses a combination of grasslands, wetlands and dense forest.
- **Established in –** 2012.
- It is also known as New Jim Corbett Park.

- It has been declared as buffer area of Corbett Tiger Reserve to be known as the Amangarh Tiger Reserve, is now a corridor to Asiatic Elephant, Tiger and much other wild life.
- It is a part of ***Project Tiger*** and is recognized for its rich biodiversity and wilderness.
- The Reserve Was Said To Have 13 Tigers Which Jumped To A Total Of 20 In All India Tiger Estimation 2018.
- **Animals -** Tiger, Elephant, Swamp deer, Sambar, Cheetal, Hog deer, Kakar, Langur, Sloth bear, Porcupine, Otter, Monitor lizard, Turtles, Python, Gangetic Dolphin, Mugger, Gharial etc.
- **Birds -** Hornbill, Red Jungle Fowl, Pea fowl, Bengal Florican, Fishing eagle, Serpent eagle, Osprey, Woodpeckers, Shama, Indian Pitta, Paradise flycatcher, Orioles, Emerald dove etc.

Reference

Hindustan Times | Tiger found dead in Amangarh Tiger Reserve

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