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## Current Affairs - 28 October 2024

### INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR)



The Ministry of Fisheries, Animal Husbandry, and Dairying recently held a meeting to discuss the role of the Indian Council of Agricultural Research (ICAR) Fisheries Extension Network in strengthening technology transfer in fisheries.

- It is an **autonomous organisation** under the **Department of Agricultural Research and Education (DARE)**, **Ministry of Agriculture and Farmers Welfare**, Government of India.
- **Formerly** known as the **Imperial Council of Agricultural Research**, it was **established on 16 July 1929** as a **registered society** under the Societies Registration Act, 1860, in **pursuance of the report of the Royal Commission on Agriculture**.
- The Council is the **apex body for coordinating, guiding, and managing research and education in agriculture**, including horticulture, fisheries, and animal sciences, in the entire country.
- The ICAR has its headquarters in New Delhi.
- With 113 ICAR institutes and 74 agricultural universities spread across the country, this is one of the largest national agricultural systems in the world.
- The **Union Minister of Agriculture is the President** of the ICAR. The Principal Executive Officer of the ICAR is the Director-General, who is also the Secretary to the Government of India in the Department of Agricultural Research and Education.

### NATURE CONSERVATION INDEX



India with an **abysmal score of 45.5 (out of 100)** has been ranked **176th** in the **Global Nature Conservation Index, 2024**.



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- It is developed by **Goldman Sonnenfeldt School** of Sustainability and Climate Change at Ben-Gurion University of the Negev.
- The NCI is a data-driven analysis assessing each country's progress in balancing conservation and development.
- It is aimed at helping governments, researchers, and organisations identify concerns and enhance conservation **policies for long-term biodiversity protection.**
- This is the **first-ever edition** of the index which ranks countries based on their efforts vis-à-vis **four pillars**:
  - Managing protected areas, addressing threats against biodiversity, nature and conservation governance, and future trends in a country's natural resource management.
- **Highlights**
- India's rank at the bottom is mainly attributed to **inefficient land management** and rising threats to its biodiversity.
- The assessment highlighted multiple threats to India's biodiversity, including **habitat loss and fragmentation** caused by agriculture, urbanisation and infrastructural development, with climate change posing an additional risk.
- **The top-ranking countries were Luxembourg, Estonia, and Denmark, with others including Zimbabwe and Costa Rica finding their way into the top 10.**

### SOHRAI PAINTING



Prime Minister of India gifted Sohrai painting to Russian President during the recently held BRICS summit in Kazan.

- It is an indigenous **mural art form.**
- It is also interesting to note that the word 'Sohrai' comes from soro – translating to 'to drive with a stick'.
- This art form dates back to the Meso-chalcolithic period (9000-5000 BC).



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- The Isko rock shelter excavated in Barkagaon, Hazaribagh area also has rock paintings that are exactly similar to the traditional Sohrai paintings.
- **Theme:** It is usually based on **natural elements** of the **universe**, this includes **forests, rivers**, animals amongst others.
- These ancient paintings are made by **tribal (Adivasi) women** with the use of natural substances like charcoal, clay, or soil.
- The very primitive form of Sohrai art was in the form of **cave paintings**.
- It is practiced by indigenous communities, particularly in the States of Jharkhand, Bihar, Odisha, and West Bengal.
- It is the art of the women of the Kurmi, Santal, Munda, Oraon, Agaria, Ghatwal tribes.
- The region of Hazaribagh in Jharkhand that has **received the GI tag** for this art form.
- Sohrai paintings are distinctive for their vibrant colours, intricate patterns, and symbolic motifs;
- There is a Sohrai festival held every year, marking the harvesting season and the arrival of winter.

### SAMBHAR LAKE



Over 40 migratory birds, belonging to two to three different species, have been found dead around Sambhar Lake in Jaipur district recently, prompting concerns among the officials.

- It is the **largest saltwater lake in India**.
- It is located in the districts of Nagaur and Jaipur in **Rajasthan**.
- This saline wetland is elliptical in shape, with a length of 35.5 km and a breadth varying between 3 km and 11 km.
- It covers an area in excess of 200 sq.km., **surrounded on all sides by the Aravalli hills**.
- The water from two major **ephemeral streams**, namely **Mendha and Runpangarh**, along with numerous rivulets and surface runoff feed the lake.

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- It was designated as a **Ramsar site** in the year 1990.
- Several **migrating birds visit** the waterbody during the winter.
  - Along with Phulera and Deedwana, the wetland is the **most important wintering area for flamingoes** (both *Phoniconaias minor* and *Phoenicopterus roseus*) in **India outside the Rann of Kachchh**.
  - The other winged visitors to the area include **pelicans, common shelduck, red shank, and common sandpiper**, black-winged stilt, Kentish plover, and Ringed plover, Ruff, and **Sociable lapwing**.
- Sambhar Lake produces 2,10,000 tonnes of salt each year, placing Rajasthan among the **top three salt-producing states** of India.

### KITTUR RANI CHANNAMMA



On the 200th anniversary of Kittur Vijayotsava a commemorative Postage stamp was released at the historic Kittur Rani Channamma Stage, Kittur Fort Premises.

- She was born in Kakati, a small village in today's **Belagavi district of Karnataka**.
- She became queen of Kitturu (now in Karnataka) when she married **Raja Mallasarja of the Desai family**.
- After Mallasarja's death in 1816, his eldest son, Shivalingarudra Sarja, ascended the throne.
- Before his death in 1824, Shivalingarudra adopted a child, **Shivalingappa**, as the successor.
- However, the British East India Company **refused to recognise Shivalingappa as the successor** of the kingdom under the '**doctrine of lapse**'.
- **Key facts about the Kittur Rebellion**
  - John Thackery, the British official at Dharwad, launched an attack on **Kittur in October 1824**.



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- In this first battle British forces lost heavily and the Collector and political agent, St. John Thackeray was killed by the Kitturu forces.
- Two British officers, **Sir Walter Elliot and Mr. Stevenson**, were also taken as hostages.
- However, the British army again attacked the Kittur Fort and captured it.
- Rani Chennamma and her family were imprisoned and jailed at the fort in Bailhongal, where she died in 1829.

### TARDIGRADES



A team of researchers has identified the genetic mechanisms that help a newly discovered species of tardigrades (*Hypsibius henanensis*) withstand high levels of radiation.

- These are known as **water bears or moss piglets**, tardigrades have long fascinated scientists as they can **withstand extreme conditions**.
- They are free-living tiny invertebrates belonging to the **phylum Tardigrada**.
- Around 1,300 species of tardigrades are found worldwide.
- **Habitat:**
  - They are **considered aquatic** because they require a thin layer of water around their bodies to prevent dehydration, they've also been observed in all kinds of environments, from the deep sea to sand dunes.
  - Freshwater mosses and lichens are their preferred habitat, hence their nickname, moss piglet.
- Researchers found **three factors** that help this **species survive radiation**.
  - It has ability to quickly repair double-strand breaks in DNA due to radiation exposure, by using a **protein called TRID1**.
  - The second factor involved a gene that was switched on during exposure to radiation, resulting in the generation of two proteins that are known to be



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important for mitochondrial synthesis of ATP—in tardigrades, it appears they also help with DNA repair.

- It has ability to minimize damage from radiation by producing a large number of proteins that serve as **effective antioxidants**—they clear out free radicals before they can cause problems in the creature's cells.
  - **Significance:** The findings could one day be harnessed to help protect astronauts from radiation during **space missions, clean up nuclear pollution** or improve cancer treatment, according to a report in Nature.
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### THE PRIVATE SECTOR HOLDS THE KEY TO INDIA'S E-BUS PUSH

#### Context

- **India's commitment to combating climate change and reducing emissions is evident** in its recent efforts to promote electric vehicles (EVs), specifically electric buses.
- The recent approval of the **PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE)** scheme by the Union Cabinet **marks a significant step forward.**
- Analysing the current state, challenges, and potential solutions for private-sector integration, it is **important to explore how India's transition to electric buses can be accelerated to meet ambitious climate goals.**

#### Public Sector-Driven Electric Bus Deployment

- The **PM E-DRIVE** scheme builds on previous initiatives like the **Faster Adoption and Manufacturing of (Hybrid and) Electric Vehicles in India (FAME)** scheme, which provided financial support to public entities for EV adoption.
- Under **FAME I and FAME II, over 7,500 electric buses were approved for purchase subsidies, but these subsidies were limited to state transport undertakings, city transport bodies, and municipal corporations.**
- **As a result, the shift toward electric buses has primarily been driven by the public sector.**

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- However, **public transport buses represent only 7% of India's 24 lakh registered buses**, leaving private bus operators—who account for 93% of the bus fleet—largely unsupported.
- This **limited approach hampers the potential for large-scale adoption of electric buses**, as the transition of private buses is essential for meaningful environmental impact.

### Challenges in Transition to Electric Buses for Private Operators in India

- **Financing Difficulties and High Upfront Costs**
  - Financing **remains a primary obstacle for private bus operators** considering a shift to electric buses.
  - Unlike public sector entities, which benefit from government incentives under schemes like FAME, **private operators face a high-cost barrier with limited access to subsidies.**
- **Charging Infrastructure Limitations**
  - Access to **reliable and affordable charging infrastructure poses another substantial hurdle** for private bus operators.
  - The FAME scheme funds charging stations primarily for **public transport units**, which are typically located within government-operated bus depots.
  - **Private operators, however, lack access to these facilities** and are therefore required to invest independently in charging infrastructure.
- **Operational Constraints and Limited Charging Access**
  - Even if private operators can access or establish charging stations, **operational constraints and limited access make it difficult to integrate electric buses** into their fleets effectively.
  - For instance, the typical operational range of an electric bus on a single charge—usually between 250 and 300 kilometres—can be a limiting factor for long-distance intercity routes.
- **Regulatory and Policy Gaps**

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- **Current national policies and incentive schemes largely exclude private bus operators**, focusing primarily on state and city transport undertakings.
- This **policy gap means that private operators have limited support for transitioning to electric buses**, resulting in a lopsided growth model that prioritises public sector EV adoption but neglects private sector needs.

### Potential Solutions to Drive Private Sector Transition

- **Addressing Financial and Infrastructure Challenges**
- **Development of Shared Public Infrastructure**
- **Innovative Business Models to Support EV Transition**

### Conclusion

- **As India moves forward with the PM E-DRIVE scheme and strives to meet its climate goals, integrating private bus operators into the electric bus ecosystem is imperative.**
  - **The government's current support for public sector EV adoption is essential, but it must be expanded to create an inclusive framework that encompasses the private sector.**
  - **Addressing financial barriers, developing charging infrastructure, and exploring innovative business models can bridge the gap, enabling a holistic transition to electric buses across India.**
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### REFORMING MULTILATERAL DEVELOPMENT BANKS (MDBS)

- **MDBs are financial institutions** providing loans, grants, and technical assistance to foster economic and social development in low- and middle-income countries.
- **These include** the World Bank Group, Asian Development Bank, African Development Bank, Inter-American Development Bank, etc.
- **MDBs have been pivotal in addressing poverty**, building infrastructure, and enhancing human capital across developing nations.



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- However, evolving global needs now call for reforming MDBs to better support countries in achieving sustainable and inclusive growth.

### Why is Reforming MDBs Essential?

- **Outdated legal and institutional framework:**
  - The current frameworks of MDBs, **established post-World War II for reconstruction**, no longer align with the digital age's complexities and challenges.
  - They **do not fully reflect the current realities** and aspirations of developing nations, particularly those in the **Global South**.
- **Limited private financing engagement:**
  - MDBs were urged to mobilise \$740 billion annually in private financing to meet climate and sustainable development goals (SDGs).
  - However, current private sector involvement falls short, with MDBs securing only about \$70 billion in private capital in the past year.
- **Limited local currency lending:** While MDBs have expanded guarantees and risk mitigation tools, local currency lending remains underdeveloped, with few successful examples to date.

### Conclusion:

- The G20 report card underscores both achievements and gaps in MDB reforms.
  - While MDBs have enhanced lending capacity and introduced measures for better private sector engagement, significant efforts are still required to meet the ambitious goals of the “triple agenda.”
  - With a strong role to play, **India’s leadership and commitment to MDB reforms** could help shape a more inclusive, responsive, and effective MDB system for the Global South.
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