



DAILY CURRENT AFFAIRS 18-03-2026

Mapping Perspective

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Thar Desert & Great Indian Bustard

Syllabus: GS-3: Wildlife

Context:

- Union Minister of Environment, Forest and Climate Change stated that **Project Great Indian Bustard (GIB)** has entered the **4th year of its captive breeding programme**.

Background / Context

- The **Great Indian Bustard (GIB)** is a flagship species for **grassland ecosystem conservation** in India.
- Once widespread across India, its population has **declined drastically**.
- Current estimated population: **< 150 individuals (majority in Rajasthan)**.
- Conservation urgency due to **imminent extinction risk**.

Key Features / Data

About the Species

- **Scientific Name:** *Ardeotis nigriceps*
- **Endemic** to the Indian subcontinent.
- **Habitat:**
 - Arid and semi-arid **grasslands**, scrublands.
- **Distribution:**
 - Core population: **Thar Desert (Rajasthan – Jaisalmer, Barmer)**
 - Small populations in Gujarat, Maharashtra, Karnataka.

Physical Characteristics

- One of the **heaviest flying birds** (~15 kg).
- **Ostrich-like appearance:**
 - Long legs, horizontal posture.
- Lifespan: **12–15 years**

Diet

- **Omnivorous:**
 - Grass seeds, insects (grasshoppers, beetles)
 - Small rodents, reptiles

Conservation Status

- **IUCN Red List:** Critically Endangered
- **CITES:** Appendix I
- **Wildlife (Protection) Act, 1972:** Schedule I

Project Great Indian Bustard (GIB)

- Launched to **prevent extinction** of the species.
- Key component: **Captive Breeding Programme**
 - Centres in **Rajasthan (Desert National Park region)**.
 - Artificial incubation & chick rearing.
- Supported by:
 - Wildlife Institute of India
 - State Forest Departments

Significance / Implications

- **Biodiversity Conservation:**
 - Protects **grassland ecosystems** (often neglected).
- **Umbrella Species:**
 - Conservation benefits other species like **blackbuck, chinkara**.
- **Ecological Indicator:**
 - Reflects health of arid ecosystems.
- **International Commitments:**
 - Aligns with **Convention on Biological Diversity (CBD)** goals.

Challenges / Issues

- **Habitat Loss:**
 - Conversion of grasslands into agriculture & infrastructure.
- **Collision with Power Lines:**
 - Major cause of mortality (especially in Rajasthan & Gujarat).
- **Low Reproductive Rate:**
 - Lays **1 egg/year**, high chick mortality.
- **Fragmented Populations:**

- Reduced genetic diversity.
- **Policy Neglect:**
 - Grasslands often classified as “wastelands”.

Way Forward

- **Underground/marking of power lines** in GIB habitats.
- **Strengthening captive breeding & reintroduction programmes.**
- **Grassland Policy Framework:**
 - Recognize grasslands as **ecosystems, not wastelands.**
- **Community Participation:**
 - Incentivize local communities for conservation.
- **Use of Technology:**
 - Satellite tracking, predator management.
- **Supreme Court Directions (2021):**
 - Prioritize **bird diverters & underground cables** in priority areas.



Cobalt

Syllabus: GS-1: Resource Geography – Minerals and Metals.

Context:

- A recent report highlighted that the **world's largest cobalt-producing company** has caused **serious environmental and public health damage** in the **Democratic Republic of the Congo (DRC)**.
- The issue has raised concerns regarding **unsafe mining practices, child labour, and ecological degradation** in cobalt mining regions.

About Cobalt

- **Cobalt (Co)** is a **hard, lustrous, silver-grey metal**.
- **Atomic Number: 27**
- **Chemical Symbol: Co**
- It is a **ferromagnetic metal**, meaning it can retain magnetism.
- Considered a **strategic and critical mineral** due to its role in **advanced technologies and energy transition**.

Occurrence

- Rarely found as a standalone mineral.
- Mostly associated with ores of: Copper; Nickel; Arsenic
- It is generally **extracted as a by-product** during the mining of: Copper; Nickel; Zinc; Precious metals.

Major Global Reserves of Cobalt

Key countries with significant cobalt reserves include:

- Democratic Republic of the Congo – Largest reserves and production (~70% of global supply)
- Russia
- Canada
- Philippines
- Cuba

Note: DRC dominates global cobalt supply, making the mineral **geopolitically sensitive for battery supply chains**.

Occurrence of Cobalt in India

Important cobalt occurrences in India are found in: Jharkhand; Odisha; Rajasthan; Nagaland; Madhya Pradesh

However, **India currently imports most of its cobalt requirements.**

Applications of Cobalt

Metallurgical Uses

- Used in **special alloys and superalloys.**
- Enhances: Heat resistance; Strength and Corrosion resistance.

Battery Industry

- Cobalt compounds are used in **lithium-ion battery cathodes.**
- Critical for: Electric vehicles (EVs); Smartphones; Laptops.

Aerospace, Energy and Defence

- Used in **high-temperature resistant alloys** for: Jet engines; Gas turbines; Defence equipment.

Magnets and Cutting Tools

- Used in **powerful permanent magnets.**
- Essential in **precision cutting tools.**

Pigments

- **Cobalt blue pigment** historically used in: Pottery; Glass; Paints; Ceramics.

Importance of Cobalt in Energy Transition

- Essential component of **clean energy technologies.**
- Demand rising due to: Electric vehicles; Energy storage systems and Renewable energy infrastructure.

Issues Associated with Cobalt Mining

- Environmental degradation
- Child labour in artisanal mining
- Toxic pollution affecting communities
- Supply chain concentration in DRC

These issues raise concerns about **ethical sourcing of critical minerals.**

National Shipping Board

Syllabus: GS-2: Statutory Bodies.

Context:

- The **Government of India** recently held a **high-level interaction with the National Shipping Board (NSB)** to discuss **sectoral challenges in the maritime sector amid global shipping uncertainties** (such as disruptions in global trade routes, rising freight costs, and geopolitical tensions).
- The discussion focused on **strengthening India's maritime sector and policy framework**.

About National Shipping Board (NSB)

- **Statutory Body** established under **Section 4 of the Merchant Shipping Act, 1958**.
- **Year of Establishment:** 1959
- **Nature:** Permanent advisory body to the Government of India on shipping matters.
- **Objective:** Provide policy advice to promote **growth and regulation of India's maritime sector**.

Functions of the National Shipping Board

The NSB **advises the Government of India on issues related to shipping**, including:

- Development of the **Indian shipping industry**
- Maritime trade and **shipping policies**
- **Merchant fleet expansion**
- Welfare and employment conditions of **seafarers**
- Safety and regulatory aspects under the Merchant Shipping framework
- Infrastructure and regulatory reforms in maritime transport

Significance:

- Its recommendations have contributed to the evolution of **India's National Maritime Policy**.
- Helps align Indian shipping with **global maritime standards**.

Composition of the Board

The Board consists of a **Chairman and several members representing multiple stakeholders**.

Members include:

- **Chairman**
- **Six Members elected by Parliament**
 - 4 from Lok Sabha
 - 2 from Rajya Sabha
- **Other Members (not exceeding 16)** appointed by the Central Government representing:
 - Central Government
 - Ship owners
 - Seamen and maritime labour

This ensures **representation of policymakers, industry, and labour.**

Tenure: Chairman and Members hold office for 2 years.

Nodal Ministry

The Board functions under the **Ministry of Ports, Shipping and Waterways.**

Importance for India's Maritime Sector

- Supports development of **India's merchant shipping capacity**
- Helps address **global maritime challenges** such as:
 - Supply chain disruptions
 - Freight rate volatility
 - Maritime security risks
- Aligns with India's vision of becoming a **global maritime hub.**

New Model of Forest Finance

Syllabus: GS-3: Environment – Climate Change – Financing Models.

Context:

- A major climate summit held in **Belém, Brazil (Nov 2025)** emphasized reforming global forest governance.
- Launch of **Tropical Forest Forever Facility (TFFF)** as a new financial mechanism for forest conservation.

Background/Context

- Tropical forests (esp. Amazon) are critical carbon sinks and biodiversity hotspots.

- Existing mechanisms like REDD+ faced criticism for limited community benefits.
- Shift from “**pledge-based conservation**” → “**power & governance reforms**”.

Key Features / Provisions / Data

- **Tropical Forest Forever Facility (TFFF):**
 - Initial funding: **\$5.5 billion** (incl. **\$3 billion from Norway**).
 - Focus: **Reward long-term forest maintenance**, not just avoided deforestation.
 - **≥20% funds earmarked** for indigenous & local communities (ILCs).
 - Designed as a **return-generating fund** (sustainable financing model).
- **Institutional Support:**
 - Brazil launched a **digital platform** with **UNDP & WWF** for eligibility and technical assistance.
- **Indigenous Support:**
 - **Forest and Climate Leaders’ Partnership (FCLP):** \$1.8 billion (2026–30).

Significance / Implications

- Moves towards **results-based climate finance**.
- Recognizes **indigenous stewardship** as key to conservation.
- Links **climate justice + biodiversity protection**.
- Potential model for **Global South-led climate governance**.

Challenges / Issues

- Criticism of “**colonialistic finance structure**” (Global Forest Coalition).
- Risk of **fund leakage via national governments/intermediaries**.
- **No voting rights** for indigenous groups in governance bodies.
- Concerns over **payment adequacy & accountability mechanisms**.

Way Forward

- Ensure **direct benefit transfer mechanisms** to communities.
- Provide **decision-making power** to indigenous groups.
- Strengthen **monitoring, transparency, and institutional accountability**.
- Integrate **land tenure reforms** with climate finance.

Constitutional / Institutional Linkages

- **UNFCCC & Paris Agreement (Article 5)** – forest conservation.
- **REDD+ mechanism** – precedent for performance-based payments.
- India parallel: **Forest Rights Act, 2006 (FRA)** – community rights.

War and Its Impact on Environment

Syllabus: GS-3: Environmental Pollution.

Context:

- **The Event:** Following military strikes (attributed to US/Israel) on Iranian oil warehouses and refineries, vast clouds of toxic smoke have triggered "Black Rain" over Tehran and surrounding regions.
- **Nature of the Crisis:** A transboundary environmental disaster that transitions into a long-term public health emergency.

Scientific Dimensions

- **What is Black Rain?** * It is a form of highly acidic precipitation (pH < 5.6).
 - **Formation:** Toxic smoke from burning oil contains **Sulphur Dioxide (SO₂)**, **Nitrogen Oxides (NO_x)**, **Hydrocarbons**, and **Polycyclic Aromatic Hydrocarbons (PAHs)**. When these combine with atmospheric water vapor, they form sulphuric and nitric acids.
- **Particulate Matter (PM 2.5):** The smoke is rich in fine particles (≤2.5 microns) that can bypass the body's natural filters, entering the deep lungs and bloodstream.
- **Bioaccumulation:** Heavy metals like **lead and mercury** from the explosions enter the food chain, leading to long-term issues like DNA damage, cancer, and infertility.

Environmental Impact

- **Soil Degradation:** Acid rain leaches essential nutrients (Calcium, Magnesium) from the soil, weakening vegetation and destroying forest biodiversity.
- **Aquatic Ecosystems:** Acidification of lakes and rivers makes them "lifeless," killing fish and aquatic flora.
- **Historical Precedents:** * **1991 Kuwait Oil Fires:** Caused massive land barrenness.
 - **Vietnam War:** Use of **Agent Orange** (chemical defoliant) by US forces, causing multi-generational health defects.

Public Health Crisis

- **Target Population:** 9 million residents of Tehran, already burdened by chronic smog.

- **Health Risks:** * Significant increase in asthma and bronchitis.
 - Doubling the risk of heart attacks.
 - Increased incidence of low birth weight in newborns.
 - Long-term risk of lung cancer.

Global & Regional Implications (GS II: IR)

- **Transboundary Pollution:** Wind knows no borders. Pollutants can travel thousands of kilometers.
 - **Impact on India:** Strong **Jet Streams** can carry fine toxic particles toward Indian states like **Gujarat, Rajasthan, and Punjab**. Middle Eastern dust and pollutants have historically traversed the Arabian Sea to hit India.
 - **Immediate Neighbors:** Direct spillover to Balochistan (Pakistan), Afghanistan, and Turkmenistan.
- **Energy Security:** The conflict has disrupted LPG and fuel supplies, leading to "inflation shocks" in countries like India.

Legal & Policy Gaps

- **Geneva Conventions:** Currently focus on humanitarian treatment of people. There is a "legal void" regarding **environmental safeguards** during warfare.
- **Ecocide:** The article highlights the need for international prosecution of environmental crimes (Ecocide).

Way Forward / Recommendations

- **International Intervention:** Urgent air surveillance and soil remediation by **UNEP (UN Environment Programme)** and **WHO (World Health Organization)**.
- **Legal Reform:** Extension of the Geneva Conventions to include eco-safeguards.
- **Climate Peace Fund:** Proposed for green reconstruction of war-torn areas.
- **India's Strategy:** * Improve border vigilance and early warning systems before the monsoon.
 - Address energy security/LPG anxiety through strategic reserves and diplomacy.

Mains Practice Question

"Modern warfare is no longer limited to territorial gains but extends to 'Ecocide' with transboundary consequences. Discuss the environmental and health impacts of the 'Black Rain' crisis in Iran and suggest international legal measures to prevent such ecological disasters." (250 Words)