Today's Prelims Topics

Race for Copper

Context
The Indian Government has secured a 9,000 sq. km block in Zambia to explore copper and cobalt.

About Copper
● Copper is a good conductor of electricity and is ductile (able to be drawn out into a thin wire).
● It is used by the automobile and defence industries, and in the electrical industry for making wires, electric motors, transformers, and generators.
● **Copper Reserves & Production:**
  ○ **Highest Reserve Worldwide:** Chile, DR Congo, Peru and China.
  ○ **Highest Production Worldwide:** Chile, Australia, Peru, Russia
● **India:**
  ○ India has low grade copper ore Copper Reserves in India
  ○ Total Reserves around 46 million tonnes.
  ○ **States with Highest Reserves: Rajasthan (50%) Madhya Pradesh (24%) Jharkhand (19%)**
  ○ **Production wise:**
    ■ 1st - Madhya Pradesh (Important Mines- Malanjkhand & Balaghat)
    ■ 2nd- Rajasthan (Khetri- Singhana belt in Jhunjhunu district)
    ■ 3rd Jharkhand (Singhbhum)
● **Domestic Copper Production Decline:**
  ○ **2023-24 production: 3.78 million tonnes (mt)** (↓ 8% from 2018-19).
  ○ **Hindustan Copper Ltd (HCL)** – India's sole domestic copper miner – reported a **6% decline in ore production** from April 2023 to January 2024 (year-on-year).
  ○ **Imports doubled: India's copper concentrate imports: ₹26,000 crore in 2023-24** (compared to 2018-19).

Africa's Rising Share in Mineral Production
● Africa is becoming a **major producer** of critical minerals:
  ○ **Cobalt: 70% of global production** (mostly from DRC).
  ○ **Copper: 16% of global production**.
  ○ **DRC:** Expected to be the **world's second-largest copper producer by 2030**.
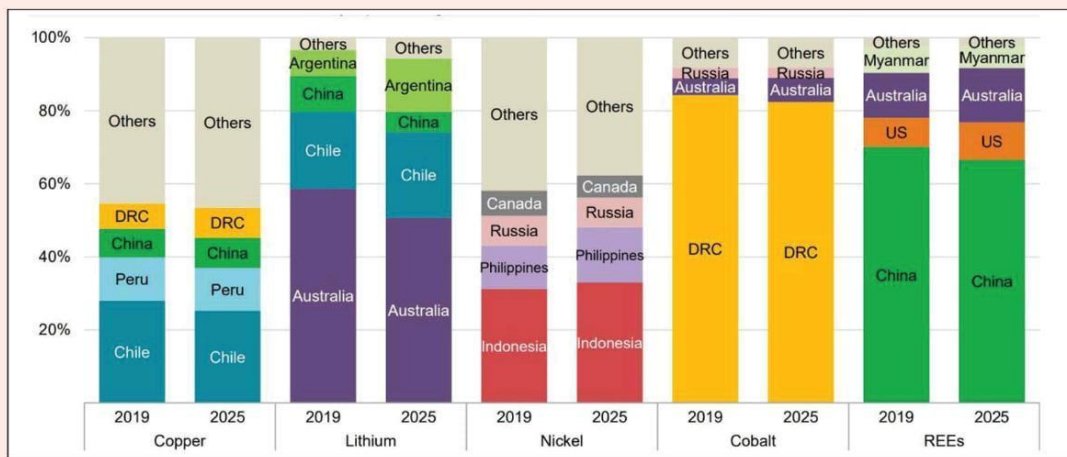● **Zambia's Role:** 7th largest copper producer globally.

UPSC PYQ

Q. About three-fourths of the world's cobalt, a metal required for the manufacture of batteries for electric motor vehicles, is produced by? **(2023)**

- (a) Argentina
- (b) Botswana
- (c) the Democratic Republic of the Congo
- (d) Kazakhstan

Answer: C

Figure VII.11: Concentration of production of selected minerals in 2019 and 2025

Source:
- **Indian Express - Copper**

Bose Metals & Superconductivity

Context
Recently scientists found strong evidence that **Niobium Diselenide (NbSe₂)** behaves like a **Bose metal** under certain conditions.

What are Bose Metals ?
● It is a special type of metal that behaves **almost like a superconductor** but doesn't fully transition into one.
● **Key Features:**
  ○ **Cooper Pairs Exist**: Like in superconductors, electrons form **Cooper pairs** at very low temperatures.
  ○ **No Zero Resistance**: Unlike superconductors, these pairs **don't fully organize**, so the material still has **some resistance** instead of zero.
  ○ **Better Than Normal Metals**: Bose metals conduct electricity **better** than regular metals but **worse** than superconductors.

What is Superconductivity?
● **Superconductivity** is when a metal conducts electricity with **zero resistance** at very low temperatures.
● **E.g. Zinc at -272.3°C** becomes a **superconductor** with **infinite conductivity** (no energy loss).
● This happens because electrons in the metal form **Cooper pairs,** which move without resistance.

Source:
● **The Hindu - Bose Metals**

Cities Coalition for Circularity (C-3)

Context

India has launched the C-3 initiative at the 12th Regional 3R and Circular Economy Forum in Asia and the Pacific that was held in Jaipur.

About C-3

- It is a **multi-nation alliance** focused on: City-to-city collaboration, Knowledge-sharing & Private sector partnerships.
- Its goal is to **promote sustainable urban development** through **waste management and resource efficiency** in the **Asia-Pacific region**.
- C-3 will function as a digital platform for knowledge exchange, enabling cities, technical institutions, and technology providers to collaborate effectively.
- **Objectives of C-3:**
  - **Promote Circular Economy:** Encourage the adoption of the **3R principles—Reduce, Reuse, Recycle**—to minimize waste and optimize resource utilization.
  - **Enhance Knowledge Sharing:** Facilitate the exchange of technical expertise and best practices among member cities and stakeholders.

Regional 3R and Circular Economy Forum in Asia & the Pacific

- This forum promotes **3R principles (Reduce, Reuse, Recycle)** and **Circular Economy** in the **Asia-Pacific region**.
- It was launched in **2009**, under the aegis of the **United Nations.**
- It provides a **platform for policy dialogue, knowledge exchange, and capacity building** on sustainable waste management.

Jaipur Declaration
- It is a **non-political, non-binding commitment** to guide sustainable urban development in the next decade.
- It focuses on **resource efficiency, circular economy and waste management**.
- It was announced by, Union Minister of Housing & Urban Affairs, during the **12th Regional 3R and Circular Economy Forum in Asia & the Pacific**.

Source:
- **The Hindu - C3**

Parandur Airport Project

Context
Parandur airport project is facing **continuous opposition** from **villagers, farmers and environmentalists** over the past three years.

About Parandur Airport Project
- The **Parandur Greenfield Airport** is proposed as **Chennai's second airport** to **decongest Chennai International Airport (Meenambakkam)**.
- **Parandur** is located in **Kanchipuram district, Tamil Nadu**, approximately **70 km west of Chennai city**.
- **Nearby water bodies:** The site has **wetlands, lakes, and ponds**, including the **Kamban Canal**.
- The idea of a second airport for Chennai was **first proposed in 1998**.
- **Why is Chennai Getting a Second Airport?**
  - **Overcrowding at Meenambakkam Airport**: Chennai International Airport has reached its **maximum capacity**.
  - **Growing Air Traffic**: Passenger traffic is expected to **surpass 50 million by 2035**, requiring additional infrastructure.

Issues in the Implementation of Parandur Airport
- **Land Acquisition & Displacement of People:**
  - **13 villages will be affected**, including **Ekanapuram, Nelvoy, and Nagapattu**.
  - Farmers fear **losing agricultural land and livelihoods**.
  - Residents of Ekanapuram village have been **protesting daily for over 950 days**.
- **Environmental Concerns:**
  - **26.54% of the site comprises wetlands**, raising risks of **flooding and ecological damage**.
  - The **Kamban Canal**, which connects several water bodies, could be disturbed, leading to **water scarcity** and **flooding issues** in Chennai.
- **Lack of Transparency & Public Opposition:**
  - The **hydrogeological study report** on flooding risks has **not been made public**, raising suspicions.
  - Local communities demand **better compensation and relocation plans**.
- **Infrastructure & Connectivity Challenges:**
  - New **road and rail connectivity** will be required for passenger and cargo movement.

Source:
- **The Hindu - Parandur project**

Proton Exchange Membrane Fuel Cells

Context

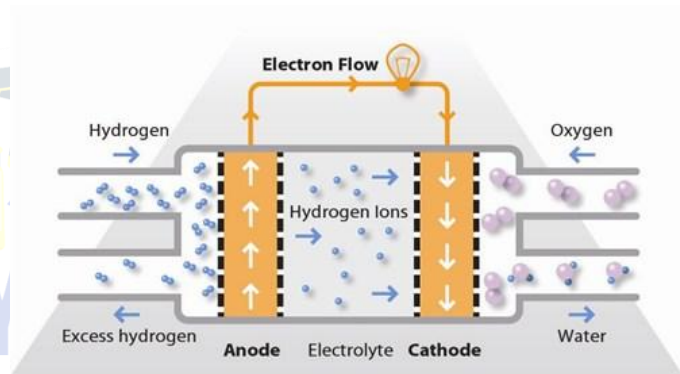A **hydrogen fuel cell-based backup power solution** has been developed for Uninterrupted Power Supply to Telecom Towers.

Need for Hydrogen Fuel Cells in Telecom Towers

- **India has over 1 million telecom towers**, with **tens of thousands in remote areas** where grid access is limited.
- Traditional **diesel generators** are commonly used as backup power sources but have several drawbacks:
  - High operational costs
  - Significant carbon emissions
  - Maintenance issues
- **Solution: Proton Exchange Membrane Fuel Cells (PEMFCs)** offer a **cleaner, cost-effective, and reliable** alternative.

About Proton Exchange Membrane Fuel Cells (PEMFCs)

- PEM Fuel Cells generate electricity using hydrogen, producing only water vapor as a by-product.
- It follows a **plug-and-play model**, making deployment easy and effective.
- **Working Principle:**
  - **Hydrogen gas (H_2)** is fed into the anode and oxidized, releasing **protons**.
  - Protons pass through a **polymer membrane** to reach the cathode.
  - At the **cathode**, they react with **oxygen (O_2)** from the air to generate **electricity and water (H_2O)**.
- **Key Advantages:**
  - **Zero emissions** (water is the only by-product).
  - **High power density** in a compact design.
  - **Fast start-up times** and **low operating temperatures**.
  - Low maintenance compared to diesel generators.

Source:

- **PIB - PEMFC**

Concerns Over Duplicate EPIC Numbers in Electoral Rolls

Context
Recently West Bengal Chief Minister has raised concerns over duplicate Electors Photo Identity Card numbers in the electoral rolls.

What Are EPICs?
- **EPIC (Electors Photo Identity Card)** is an identification document for voters.
- It was introduced under the **Registration of Electors Rules, 1960**, and issuance began in **1993** to prevent **voter impersonation**.
- **Important Facts About EPICs:**
  ○ Issued only to registered electors.
  ○ **Does not grant the right to vote** unless the holder's name appears in the electoral roll.
  ○ Contains **name, age, address, voter particulars, a photograph**, and the **signature of the registration officer**.

How Are EPICs Issued?
- Each EPIC has a **unique number** consisting of:
  ○ **Three alphabetical codes** followed by a **seven-digit number**.
  ○ It includes a **Functional Unique Serial Number (FUSN)** for each **Assembly constituency**.
- Since **2017**, EPICs have been issued using the **ERONET portal** of the EC.
- **Rules for EPIC Allotment:**
  ○ A **unique EPIC number is assigned** when an elector receives their first EPIC.
  ○ If an **EPIC is replaced,** the same number is retained.

Clarification by election commission
- **Reason for Duplication:**
  ○ Before the **ERONET system**, different states used **the same alphanumeric series** for EPIC numbers.
  ○ This resulted in some voters having the same EPIC numbers across states, though other details like name, address, constituency, and polling booth remained different.
- **Duplicate EPICs do not allow cross-voting -** A voter can only cast their ballot in the **designated polling station** in their **registered state or Union Territory**.

Source:
- **Indian Express - EPIC**

Olive Ridley Turtle Mass Nesting in Odisha

Context

Nearly **7 lakh Olive Ridley turtles** nested at the **Rushikulya rookery in Odisha's Ganjam district** between **February 16 and February 25, 2025**. This marks a strong comeback after the **absence of mass nesting in 2024**.

About Olive Ridley Sea Turtles

- They are the **2nd smallest and most abundant** of all sea turtles found in the world.
  - **Smallest sea turtle in the world:** Kemp's ridley sea turtle.
  - **Largest Sea turtle:** Leatherback Turtle
- It gets its name from the **olive green colouration of its carapace (shell).**
- **Features:**
  - They are known for unique **arribadas (synchronised mass nestings).**
  - Males and females grow to the same size, but females have a slightly more rounded carapace.
  - They are **omnivorous,** meaning they feed on both plants and animals.
- **Distribution:** Mainly found in warm waters of the Pacific, Atlantic and Indian oceans.
- **Conservation Status:**
  - **IUCN Red List:** Vulnerable
  - **Wildlife Protection Act, 1972:** Schedule 1
  - **CITES:** Appendix I

Arribada – The Unique Mass Nesting Phenomenon

- **Arribada (Spanish for 'arrival')** refers to the **synchronized mass nesting** of thousands of female turtles.
- Unique to the **genus Lepidochelys**, which includes **Olive Ridley and Kemp's Ridley turtles**.
- During **arribada**, over **600,000 females** emerge in **5-7 days** to lay eggs.
- **Nesting process:**
  - Turtles **dig conical nests (1.5 feet deep) using hind flippers**.
  - Eggs take **about 50 days** to hatch.
- **Global Arribada Sites:**
  - **Largest**: **Odisha, India – Rushikulya & Gahirmatha rookeries**.
  - Other major sites: **Mexico and Costa Rica**.

Why is Odisha's Coast Ideal for Mass Nesting?

- **Favourable weather:** Warm sandy beaches, undisturbed coastal ecosystem.
- **Rushikulya River Mouth (North side)** is preferred due to:
  - Mild **beach slope** and **medium sand percentage**.
  - **Low salinity** of nearshore waters.
  - **Lower wind speeds and moderate waves** before nesting.
  - **Higher wind speeds during nesting** help turtles reach the beach.

Source: Indian Express - Olive Ridley Nesting

IRCTC and IRFC Attain 'Navratna' Status

Context
Recently IRCTC and IRFC have been awarded 'Navratna' status by the Government of India.

About IRCTC and IRFC
- **IRCTC (Indian Railway Catering and Tourism Corporation):**
  - A **Ministry of Railways CPSE**, responsible for **railway catering, tourism and online ticketing services**.
- **IRFC (Indian Railway Finance Corporation):**
  - A **Ministry of Railways CPSE**, functioning as the **financial arm of Indian Railways**, responsible for **funding infrastructure projects**.

Classification of CPSEs in India
- The **Government of India** classifies **Central Public Sector Enterprises (CPSEs)** into three categories based on their financial strength and autonomy:
  - **Miniratna** – Entry-level PSUs with limited autonomy.
  - **Navratna** – Mid-level PSUs with significant operational and financial independence. **(Currently - 21).**
  - **Maharatna** – The highest category, with the greatest financial and operational autonomy. **(Currently - 14).**

What is 'Navratna' Status?
- **Navratna status** is given to **high-performing Public Sector Undertakings (PSUs)** for their **exceptional financial and market performance**.
- It provides **financial and operational independence** to companies.

Benefits of Navratna Status
- **Financial Autonomy:** PSUs can **invest up to ₹1,000 crore or 15% of their net worth (whichever is lower) on a single project** without requiring **Central Government approval**.
- **Operational Freedom:** They can form joint ventures, alliances, and subsidiaries independently.
- **Recognition & Growth Potential:** Companies gain higher market credibility and opportunities for expansion and diversification.

Source:
- **Indian Express - Navratna Status**

7th Meeting of the National Board for Wildlife

Context

Recently Prime Minister Narendra Modi chaired his **first NBWL meeting** at Gir National Park, Junagadh, Gujarat.

Key Announcements

- **Expansion of Project Cheetah:** New locations for cheetah introduction:
  - **Gandhisagar Sanctuary**, Madhya Pradesh
  - **Banni Grasslands**, Gujarat
- **Project Lion – ₹2,900 Crore Allocation**
  - Aims to increase the range of Asiatic Lions across the Saurashtra region.
  - Next population estimation of Asiatic Lions to begin in **May 2025 (done every 5 years, last in 2020).**
- **New Wildlife Conservation Initiatives:**
  - **Project for Gharial Conservation** launched to protect India's **dwindling gharial population**.
  - National **Great Indian Bustard (GIB)** Conservation Plan.
  - New scheme for **conservation of tigers outside tiger reserves.**
- Establishment of Centre for **Human-Wildlife Conflict Management**
  - To be set up at **Salim Ali Centre for Ornithology and Natural History, Coimbatore**.
- Foundation Stone for **National Referral Centre for Wildlife (Junagadh, Gujarat)**
  - It will act as **India's hub for wildlife health and disease management**.
- Use of **AI, Remote Sensing, and Geospatial Mapping** for Conservation for:
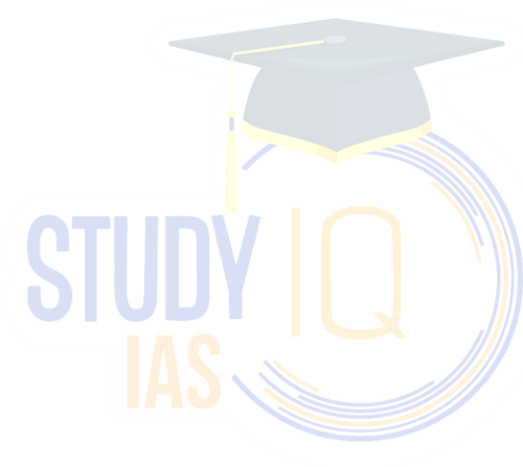 - Forest fire prevention.
  - Human-animal conflict management.

National Board for Wildlife (NBWL)
- **Formation:** In 2003 (**Statutory Body** under Wildlife Protection Act,1972)
- **Composition:**
  - **Chairperson:** The Prime Minister of India
  - **Vice-Chairperson:** The Union Minister of Environment, Forests and Climate Change
  - **Members - 47 (Members of Parliament (3):** 2 Lok sabha + 1 Rajya sabha**)**
- **Standing Committee of NBWL:**
  - **Chairman:** The Union Minister of Environment, Forests and Climate Change
  - It meets every **3** months.
- **No Alteration of boundaries** in national parks and wildlife sanctuaries can be done **without the approval** of the National Board for Wildlife.

Source:
- **Indian Express - NBWL**

First Estimate of Gangetic Dolphins in India

Context
India has conducted its **first-ever detailed population survey** of **Gangetic dolphins**, the **only riverine dolphins** in the country.

About Population Survey
- **Total population estimate**: 6,234
  - **Ganga basin population**: 5,689
  - **Brahmaputra basin population**: 635
  - **Beas River:** 3 (Indus River Dolphins).
- **Bihar:** Most dolphin-friendly state due to ideal river morphology and higher water depth.
  - **Chausa-Manihari stretch (590 km)**: **1,297 dolphins**, making it one of the **densest populations** in India.
- The study was conducted by the **Wildlife Institute of India (WII)** along with **state forest departments** and **non-profit organizations** like Aaranyak, WWF, Turtle Survival Alliance and Wildlife Trust of India.

Threats to Gangetic Dolphins
- **Accidental entanglement in fishing nets.**
- **Pollution** (chemical waste, sewage, industrial effluents).
- **Habitat destruction due to river modifications** like dams and barrages.

For More Information on Gangetic Dolphins visit - **StudyIQ**

Source:
- **Indian Express - Dolphin Survey**

Places in News

Torkham border Crossing
- A member of the Afghan forces died in a firing incident between Pakistani and Afghan forces at the Torkham border.

Torkham border crossing

- **Torkham** is a **major border crossing** between **Pakistan's Khyber Pakhtunkhwa province** and **Afghanistan's Nangarhar province**.
- It is part of the **historic Khyber Pass**, a crucial trade and military route for centuries.
- It is a key route for the movement of **goods, people, and aid** between the two countries.
- Afghanistan relies on it for access to **Pakistan's seaports and global markets**.

Source:
- **The Hindu - Torkham Border**

Editorial Summary

Time Saving in Domestic Work Impact for Rural Women

Context
A survey in the rural area of Indore highlighted the linkage between time saving in domestic work and women workforce participation.

What was the impact of Pradhan Mantri Ujjwala Yojana (PMUY)?
● **Reduction in fuel collection time**: Households using LPG save **30 minutes per day** in cooking compared to those using solid fuels.
  ○ **Dung collection**: Reduced by **70 minutes per week**.
  ○ **Firewood collection**: Reduced by only **10 minutes per week**.
  ○ **Other domestic work**: Decreased by **20 minutes per day**.

What was the Objective of PMUY?
● The **PMUY scheme** aimed to provide **clean cooking fuel (LPG)** to rural households, reducing dependence on **solid fuels like firewood and cow dung**.
  ○ Women in rural areas spend **over 40 hours per week on cooking and cleaning**, with traditional chulhas increasing time spent on fuel collection and cooking.

● **Low Adoption of LPG for Regular Use:** While PMUY has **successfully increased LPG connections**, many rural households continue **mixed-fuel cooking** due to:
  ○ **High cost of LPG refills**.
  ○ **Preference for traditional cooking methods**.
  ○ **Lack of awareness** about health hazards of indoor pollution.

Does it Result in Increased Women Workforce Participation?
● **No Significant Increase in Women's Workforce Participation:** Despite **time savings**, there is **no major increase** in women's participation in income-generating activities.
● **Key reasons**:
  ○ **Small time savings**: 30 minutes saved per day is **insufficient** to engage in full-time or even part-time employment.
  ○ **Limited employment opportunities**: Rural areas lack **high-paying, flexible jobs** suited to women's needs.
  ○ **Low value of women's time**: The estimated **economic value of time saved** is only **5% of rural household income**, making LPG adoption a low priority.
  ○ **Decision-making power**: **Men control LPG purchases**, leading to **low LPG refill rates** (only 3 refills per year per household vs. a potential 12).

What needs to be done?
● **Enhancing LPG affordability**: Subsidies or **lower-cost refill options**.
● **Raising awareness**: Campaigns on **health benefits** of LPG over solid fuels.
● **Encouraging women's employment**: Creating **flexible, home-based work opportunities**.
● **Increasing women's decision-making power**: Encouraging **direct LPG subsidy transfers to women**.

Conclusion

PMUY has **reduced cooking time** and **improved women's health** by reducing exposure to smoke. However, it has **not significantly increased women's workforce participation** due to **limited employment opportunities, household decision-making patterns, and persistent fuel use habits**. Future policies should **enhance affordability, create jobs, and empower women in household decision-making** to maximize PMUY's impact.

Source: Indian Express: Mapping Her Work

India's Burden of Rising Obesity

Context
The National Family Health Survey round 5 (NFHS-5, 2019-21) suggests that nearly one in every four men or women is obese.

Current Situation of Obesity and Related Diseases in India
- **Obesity Rates:** Increased from 1.2% in 1990 to 9.8% in 2022 for women and from 0.5% to 5.4% for men.
- **Prevalence of Overweight/Obesity:** 22.9% among men and 24% among women in NFHS-5.
- **Abdominal Obesity:** 40% of women and 12% of men are abdominally obese.
- **Childhood Obesity:** A 60% increase in prevalence among under-five children between NFHS-4 and NFHS-5.
- **Associated Health Risks**
  - **Diabetes:** 1 in 4 Indian adults is diabetic or prediabetic.
  - **Cardiovascular diseases:** Obesity contributes to hypertension and heart-related ailments.
  - **Liver disorders:** High-fat diets and obesity lead to fatty liver disease.
  - **Economic burden:** Obesity-related costs amounted to **$28.95 billion in 2019 (1.02% of GDP)**, expected to rise to **1.57% of GDP by 2030**.

Government Shortcomings
- **Lack of Targeted Programs:** While undernutrition is a focus of government programs, obesity is **not adequately addressed** through structured policies.
  - Initiatives like **Khelo India, Fit India Movement, and Eat Right India** put the burden of action **solely on individuals**, ignoring systemic issues.
- **Inadequate Regulation on Processed Foods: Ultra-processed foods (UPF) and high-fat, salt, sugar (HFSS) foods** are widely available and aggressively marketed.
  - There is **no strong policy to tax junk food** or regulate misleading food advertisements.
- **Lack of Urban Planning for Physical Activity:** Most **cities lack cycling tracks, pedestrian-friendly roads, and open gyms** for public use.
  - Sedentary lifestyles are increasing due to poor infrastructure and lack of accessible recreational spaces.
- **Health System Gaps: Doctors rarely check for obesity** or discuss healthy weight during routine consultations.
  - **No national protocol for obesity management** through clinical interventions, medications, or counseling.
- **Food Affordability and Nutrition Gap: Healthy food is more expensive than junk food** in India.
  - According to the 2024 **State of Food Security and Nutrition Report**, **55% of Indians cannot afford a healthy diet**.
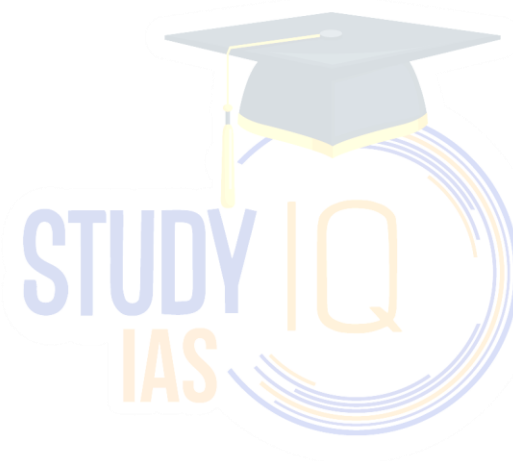
What Needs to be Done?
- **Public Awareness and Science Communication:** Obesity must be recognized as **a chronic disease, not just a lifestyle issue**.
  - Nationwide **awareness campaigns** should focus on the risks of obesity and the benefits of healthy eating.
- **Better Urban Planning for Physical Activity:** Create **dedicated walking and cycling lanes** in cities.
  - Ensure **open gyms, public parks, and exercise-friendly spaces** are available and accessible.

- **Taxation on Junk Food & Subsidies for Healthy Food:** Higher **taxes on ultra-processed foods** and sugar-laden beverages.
  - Subsidies on **fruits, vegetables, and other nutritious food** to make them affordable for all.
- **Routine Screening & Medical Interventions: Mandatory weight, height, and waist circumference measurements** during health check-ups.
  - **Clear guidelines for prescribing anti-obesity medications** and interventions.
- **School and Workplace Initiatives:** Schools should promote **healthy eating habits**, restrict unhealthy foods in canteens, and introduce **nutrition education**.
  - Workplaces should provide **regular health screenings** and promote active lifestyles.
- **Inter-Ministerial Coordination:** A **multi-sectoral task force** (Health, Finance, Education, Urban Development, and Agriculture ministries) should lead **India's obesity control strategy**.
- **Food Industry Regulation: Stringent advertising regulations** on HFSS foods, especially those targeting children.
  - Online food delivery platforms should **promote healthy choices**.

Source: The Hindu: India's burden of rising obesity, the hefty cost to pay

The Way to Protect Orans

Context

In *T.N. Godavarman Thirumulpad v. Union of India*, the Supreme Court recognized the socio-ecological and cultural importance of orans and ordered their protection.

What was the Judgement?

- Conserve orans by formally recognizing them under biodiversity-related laws.
- Empower local communities to continue managing them.
- Bring orans under legal frameworks such as the **Forest (Conservation) Act, 1980**, **Wildlife (Protection) Act, 1972**, and **Forest Rights Act, 2006** to ensure their preservation.

What are Orans?

- Orans are **sacred groves in Rajasthan**, preserved by local communities since ancient times.
- They are dedicated to local deities and have strong religious, ecological, and socio-economic significance.
- These forests **contribute to groundwater conservation** by trapping surface runoff, supporting traditional water sources, and enhancing biodiversity.

Why the Pathway Laid Down is Contentious?

- **Declaration as Forests Under the Forest (Conservation) Act, 1980**
  - This provides protection but also exposes orans to **loopholes**.
  - The **Forest (Conservation) Amendment Act, 2023** allows exemptions for **zoos, safaris, and ecotourism projects**, which can lead to commercial exploitation.
  - Local communities fear losing **access rights** over orans due to bureaucratic control.
- **Designation as Community Reserves Under the Wildlife (Protection) Act, 1972**
  - Community reserves are managed by a **committee with both State and community representation**.
  - However, local community involvement is **limited to management**, while the **State retains decision-making power**.
  - This weakens the **traditional informal governance** that has successfully preserved orans for centuries.
- **Recognition as Common Forest Land Under the Forest Rights Act, 2006**
  - Only those meeting the eligibility criteria can claim rights.
  - Informal community groups managing orans **may not qualify**, leading to exclusion.

A Better Approach

Rather than rigid formalization, a more **community-centric** and **decentralized** approach is needed:
- **Strengthen Community Governance Models:** Identify and replicate **successful informal governance models** in consultation with local communities.
  - Ensure community-led conservation, supported (but not controlled) by the State.
- **Develop a Comprehensive Policy for Orans:** The Environment Ministry should **standardize conservation efforts** without replacing local institutions.
  - Policies should recognize orans as **sacred ecosystems** with unique **customary protection mechanisms**.
- **Empower Local Communities Legally:** Ensure orans are governed under a **special legal status** that prevents commercial exploitation.
  - Allow local institutions to **retain control over decision-making** and forest management.
- **Incentivize Conservation Efforts:** Provide **financial and technical support** to communities for **sustainable management** of orans.
  - Implement **ecological payment schemes** to reward conservation efforts.