

Today's Prelims Topics

Indian First Gene Edited SHEEP

Context

Researchers at Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST), Srinagar, have created India's first gene-edited sheep.

Recently in News

- India's **first gene-edited rice variety (Pusa rice DST1 and DRR Dhan 100)** was released.
- National Dairy Research Institute (NDRI) developed a **gene-edited buffalo embryo**.

About it

- Utilized **CRISPR-Cas9** technology to edit the **myostatin** gene, which regulates muscle growth.
- **Result: 30% increase in muscle mass** in sheep.
 - Myostatin disruption leads to higher muscle development – similar to **Texel breed** (a European sheep breed known for high muscle mass).
- **Can be used to:**
 - Improve **meat yield** in livestock.
 - Create **disease-resistant animals**.
 - Assist in **twinning** and other reproductive advantages.



What is Myostatin?

- **Myostatin** is a **protein** that is **produced by the MSTN (or GDF8) gene**.
- It acts as a **negative regulator of muscle growth**.
- Inhibits muscle cell **growth and differentiation**.

Transfer of HC Judges

Context

SC Collegium recommended the transfer of 21 High Court judges.

Process Of Transfer of Judges

- **Constitutional Provisions: Article 222** of the Indian Constitution: The **President** may, after **consultation with the Chief Justice of India**, transfer a Judge from one High Court to any other High Court..
- **Who Recommends the Transfer?:** The **Supreme Court Collegium** headed by the **Chief Justice of India (currently B.R. Gavai)**.
 - Collegium includes the CJI and **four senior-most judges** of the Supreme Court.
 - The recommendation is sent to the **Union Law Minister → the Prime Minister → the President**.
 - Transfers are based on:
 - Administrative needs
 - Public interest
 - To maintain integrity and neutrality of the judiciary
- **No timeline mandated in the Constitution → sometimes leads to delays or controversies.**

Past Precedents on Transfer of High Court Judges

Case/Observation	Year	Key Contribution
Justice V.R. Krishna Iyer	1994	Transfers must not be punitive
Second Judges Case	1993	Gave primacy to judiciary in appointments and created Collegium system
Third Judges Case	1998	Plurality principle: CJI must consult 4 senior judges; clarified Collegium process
NJAC Act and Supreme Court Verdict	2015	Supreme Court struck down NJAC Act as unconstitutional
Indira Jaising v. Union of India	2017	Advocated transparency in judicial appointments & transfers

Interpol

Context

Interpol issued Silver Notices against **two Indians for visa and crypto fraud**, marking India's first use of this new asset-tracking notice launched in January 2024.

INTERPOL (International Criminal Police Organization)

- **HQ:** Lyon, France
- **Members:** 196 countries (India is a member)
- **Purpose:** Facilitates international police cooperation in criminal matters.

Types of Interpol Notices	
Notice	Purpose
Red Notice ●	To locate and provisionally arrest a wanted person pending extradition. (Most well-known)
Blue Notice ●	To locate or identify a person of interest, or to collect information.
Green Notice ☐	To warn about a person's criminal activities when they pose a threat to public safety.
Yellow Notice ☐	To locate missing persons, especially minors, or help identify persons unable to identify themselves.
Black Notice ●	To identify unidentified bodies.
Orange Notice ☐	To warn of an event, person, object, or process representing a serious and imminent threat.
Purple Notice ☐	To provide information on modi operandi, objects, devices, or concealment methods used by criminals.
Silver Notice ○	<ul style="list-style-type: none"> • To track assets of wanted criminals globally. (Launched Jan 2024 in pilot phase). • First Silver Notice from India: Issued against <i>Shokeen Shubham</i> (visa fraud), followed by <i>Amit Lakhanpal</i> (crypto fraud).
Interpol–UN Special Notice ☐	For individuals or entities subject to UN sanctions.

Dugongs

Context

India marked **World Dugong Day (May 28)** by highlighting conservation efforts, including the **Dugong Conservation Reserve in Palk Bay, Tamil Nadu**.

About Dugongs

- **Scientific Name:** *Dugong dugon*
- **Habitat:** Warm shallow waters—India's coasts like the **Andaman & Nicobar Islands, Gulf of Mannar, Palk Bay, and Gulf of Kutch**.
- **Diet:** Herbivorous; feeds exclusively on **seagrass**.
- **Lifespan:** Up to 70 years.
- **Reproduction:** Extremely slow—females reproduce once every 3–7 years with a long gestation and nursing period.
- **Population in India:** Extremely low; population growth rate is just about **5% per year**. At present, there are around **240 Dugongs in India** and a majority of them are found in the Tamil Nadu Coast (Palk Bay region).



Importance of Seagrass

- Seagrass beds are biodiversity hotspots and crucial for **carbon sequestration**, supporting **fisheries** and **coastal ecosystems**.
- Dugongs are keystone species—“**gardeners of the sea**”—shaping marine biodiversity by maintaining healthy seagrass beds.

Conservation Efforts in India

- Dugongs are listed as ‘**Vulnerable**’ on the IUCN Red List and protected under **Schedule I of the Wildlife Protection Act, 1972**.
- India signed the **UN Convention on Migratory Species MoU** in 2008 and launched the **Dugong Conservation Reserve** (500 sq.km in Palk Bay, Tamil Nadu) in 2021.

News in Short

Kilauea Volcano



News? Kilauea volcano recently erupted.

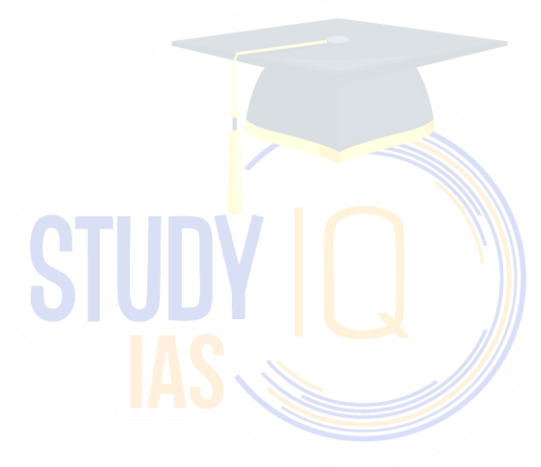
About it

- **One of six active volcanoes** in **Hawaii** and has been erupting frequently **since 1983**.

Other Key Active Volcanoes of Hawaii

- **Mauna Loa**: The world's largest volcano by volume and area; still active.
- **Mauna Kea**: Dormant but classified as active; last erupted around 4,600 years ago.

Source: [Indian Express](#)



Editorial Summary

Rising overnutrition

Context

India is facing a growing urban health crisis specially among the urban workforce.

Recent Urban Health Crisis in India

- **Rise of Non-Communicable Diseases (NCDs):** A *Nature* study found **84%** of Hyderabad IT employees suffer from **Metabolic Dysfunction-Associated Fatty Liver Disease (MAFLD)**, and **71%** are obese — signalling a silent metabolic epidemic.
 - NCDs account for over **65% of deaths in Chennai**, with poor control rates for hypertension and diabetes, especially among youth.
- **Double Burden of Malnutrition:** While **undernutrition** remains a rural concern, **overnutrition** is spiking in cities.
 - NFHS-5 shows **obesity prevalence** rises with **age and wealth**—from 7% to 32% in men (15–49 yrs), and from 10% in the poorest quintile to 37% in the richest.
- **Lifestyle Risk Factors:** Urbanisation and tech-sector growth have led to:
 - Sedentary work routines
 - High consumption of **ultra-processed foods**
 - Chronic stress and sleep disruption
 - Low intake of fruits/vegetables (94.2%)
 - Physical inactivity (24.4%)

Impact of the Urban Health Crisis

- **Productivity loss** in India's most economically active age group (18–59 years).
- Increased healthcare burden and economic cost due to early-onset diabetes, cardiovascular diseases, liver disorders, etc.
- Widening **health inequity**—NCDs now affect all income groups and both genders.
- Risk of **failing SDG targets by 2030**, especially in South-East Asia, as per WHO.

The Saudi Arabian Model – A Best Practice

- Saudi Arabia's **Vision 2030** integrates NCD prevention via:
 - **Mandatory calorie labelling** in eateries.
 - **50% excise tax** on sugar-sweetened beverages; **100%** on energy drinks.
 - **Sodium limits** in processed foods; **trans fat eliminated**.
 - Comprehensive **multisectoral coordination** — government, industry, health, and community actors aligned.

Solutions and Policy Recommendations

- **Multisectoral Health Interventions:** Tamil Nadu's **Makkalai Thedi Maruthuvam (MTM)** has screened ~3.8 lakh employees through **workplace NCD care**.
 - Activities like the **"Eat Right Challenge"** and health walks foster public awareness.
- **Regulatory Measures for Food Reform:** Expand **"Eat Right India"** movement (FSSAI):
 - Nutrition labelling (e.g. Health Star Rating)
 - Warnings on high-fat/sugar/salt (HFSS) products
 - Impose **"sin taxes"** on sugar-sweetened and nutrient-poor foods.
 - Push for **calorie counts** on restaurant menus and packaging.

- **Built Environment & Urban Planning:** Promote **active commuting** (e.g. cycle tracks, walking spaces).
 - Incentivize healthy cafeteria standards in **workplaces, schools, and tech parks**.
- **Strengthen Primary Healthcare and Data Systems:** Expand urban **NCD screening and tracking** through UHI (Urban Health Initiative).
 - Improve glycemic and blood pressure control rates via **continuity of care**.

Source: [The Hindu: India's new urban worry — rising overnutrition](#)



Detailed Coverage

India- Germany Relation

Context

India and Germany celebrate 25 years of strategic partnership.

Significance of India Germany Partnership

- **Trade and Investment:** Germany is India's top trading partner in Europe, with bilateral trade reaching **US\$ 33.33 billion in 2023**.
 - It ranks as the **9th largest FDI source** for India, with cumulative investments of **US\$ 14.5 billion** (April 2000 - Dec 2023).
 - In **2024**, Germany adopted a strategic policy document titled **"Focus on India"** to deepen economic ties.
- **Climate and Sustainability:** Under the **Green and Sustainable Development Partnership (2022)**, Germany committed **€10 billion** for projects such as **solar energy** and **agro-ecology**.
 - Germany actively supports **India-led initiatives** like the **International Solar Alliance (ISA)** and **Coalition for Disaster Resilient Infrastructure (CDRI)**.
- **Technology and Innovation:** The **Indo-German Science and Technology Centre (IGSTC)** funds **49 priority projects**, including programs like **WISER (Women in Science and Engineering Research)**.
- **Defence and Security Cooperation:** The **2006 Defence Cooperation Agreement** led to mechanisms like **Joint Working Groups on Counter-Terrorism, Cybersecurity, and Defence**.
 - Germany is keen to join India's **Project-75I** for building conventional submarines.
 - Conduct of joint exercises such as **MILAN, PASSEX, and TARANG SHAKTI-1** reflects growing strategic alignment.
- **Strategic Trade Diversification:** India offers Germany a **"China+1" alternative**, especially amidst rising **EU-China tensions**.



Challenges in Bilateral Relations

- **Market Access and Regulatory Barriers:** Indian exports face **non-tariff barriers** like the **Carbon Border Adjustment Mechanism (CBAM)** in Europe.
 - German investors are deterred by India's **regulatory complexities** and **taxation issues**, keeping investments low compared to China.
- **Geopolitical Divergences:** Differences persist on global issues; India's **neutrality on Russia-Ukraine** contrasts with Germany's firm anti-Russia stance.
 - Germany's **economic interdependence on China** restricts it from aligning fully with India on Indo-Pacific security concerns.
- **Human Rights Sensitivities:** German criticism of India's internal matters—such as **Kashmir** and **press freedom**—sometimes strains diplomatic ties.

Way Forward

- **Pursue India-EU Free Trade Agreement:** An **early FTA conclusion** is essential to match China's **€300 billion trade** volume with Germany and enhance market access.
- **Strengthen Indo-Pacific Cooperation:** Deepen Germany's role in the **Indo-Pacific** through **naval deployments**, **joint drills**, and **connectivity infrastructure projects**.
- **Boost Clean Tech Collaboration:** Jointly promote **electric mobility**, **green hydrogen**, and **renewables** under the **Green and Sustainable Development Partnership**.
- **Enhance Supply Chain Resilience:** Build resilient value chains in **semiconductors**, **automotive components**, and **pharmaceuticals**, aligning with **'Make in India'** and reducing China-dependence.

Sources:

- [The Hindu: Silver Jubilee of a strategic partnership](#)
- [Indian Express: Delhi Berlin Connection](#)



MSMEs

Context

The recent NITI Aayog report titled *"Designing a Policy for Medium Enterprises"* highlights significant structural imbalances within India's Micro, Small, and Medium Enterprises (MSME) sector.

What are MSMEs in India?

MSMEs (Micro, Small and Medium Enterprises) are businesses defined under the **Micro, Small and Medium Enterprises Development (MSMED) Act, 2006**.

New classification of MSME				
Type	INVESTMENT		TURNOVER	
	Current	Revised	Current	Revised
MicroEnterprise	Rs 1cr	Rs 2.5cr	Rs 5cr	Rs 10cr
Small Enterprise	Rs 10cr	Rs 25cr	Rs 50cr	Rs 100cr
Medium Enterprise	Rs 50cr	Rs 125cr	Rs 250cr	Rs 500cr

Source: Budget 2025-2026, Speech of Nirmala Sitharama, Union Minister of Finance February 1, 2025.

Contribution of MSMEs in India

Area of Contribution	Status
GDP Contribution	Approximately 29% of India's GDP.
Export Share	Around 40% of India's total exports.
Employment	Employs over 60% of the non-agricultural workforce.
Industrial Output	Contributes around 33% to manufacturing output.

Key Structural Skews in India's MSME Sector

- **Disproportionate Export Contribution:** Medium enterprises constitute only **0.3%** of the total MSME units.
 - Despite their small number, they account for approximately **40%** of the sector's exports.
 - This indicates a significant concentration of export activity among a minimal segment of medium-sized firms.
- **Credit Access Disparities:** Between 2020 and 2024, access to formal credit for micro and small enterprises increased from **14% to 20%**, while medium enterprises saw an increase from **4% to 9%**.
 - Despite these improvements, a substantial credit gap remains, with only **19%** of MSME credit demand met formally by FY21, leaving an estimated **₹80 lakh crore** unmet.
 - This underscores the challenges smaller enterprises face in accessing necessary financial resources.
- **Skill and Technology Gaps:** A significant portion of the MSME workforce lacks formal vocational or technical training.
 - This skill deficit hampers productivity and limits the ability of MSMEs to scale effectively and adopt new technologies.
- **Regulatory and Compliance Challenges:** MSMEs often grapple with cumbersome regulatory procedures, frequent policy changes, and high compliance costs.
 - These challenges limit the ease of doing business and can deter growth and formalization within the sector.
- **Delayed Payments and Cash Flow Issues:** Delayed payments from large corporations and government departments create severe cash flow issues for MSMEs.

- A 2022 report estimated that delayed payments to MSMEs in India totaled around **₹10.7 lakh crore**, or **6%** of the country's Gross Value Added (GVA).

Government Initiatives Related to MSMEs

- **Udyam Registration:** Simplifies MSME registration process
- **Government e-Marketplace:** Enhances market access for MSMEs
- **MSME SAMADHAAN:** Facilitates dispute resolution for payments
- **Credit Guarantee Schemes:** Reduces credit risk for MSMEs
- **Pradhan Mantri MUDRA Yojana:** Provides loans to small enterprises
- **MSME Trade Enablement and Marketing:** Promotes digital networks for trade

Way Forward

- **Tailored Financial Solutions:** Launch a **working capital finance scheme** based on enterprise turnover.
 - Provide a **credit facility of up to ₹5 crore** through a credit card at market interest rates.
 - Ensure **faster disbursement of funds** via retail banks under the supervision of the Ministry of MSME.
- **Technology Integration & Industry 4.0:** Upgrade existing Technology Centers into **India SME 4.0 Competence Centers**.
 - These will be **sector-specific and regionally tailored** to facilitate the adoption of Industry 4.0 technologies.
- **R&D Promotion Mechanism:** Set up a **dedicated R&D cell** within the Ministry of MSME.
 - Utilize the **Self-Reliant India Fund** to support **cluster-based R&D projects** of national importance.
- **Cluster-Based Testing Infrastructure:** Develop **testing and certification facilities** focused on specific sectors.
 - Aim to **ease regulatory compliance** and improve product quality.
- **Custom Skill Development:** Align skill development programmes with the **specific needs of enterprises**, considering sector and region.
 - Include **medium enterprise-focused modules** within existing **Entrepreneurship and Skill Development Programmes (ESDP)**.
- **Centralized Digital Portal:** Build a **sub-portal within the Udyam platform**.
 - Features to include: **scheme discovery tools**, compliance assistance, and **AI-based guidance** for easy navigation of resources.

Source: [Economic Times: 'Structural skew' in MSME sector, 0.3% medium units make up 40% of MSME exports: Niti Aayog report](#)