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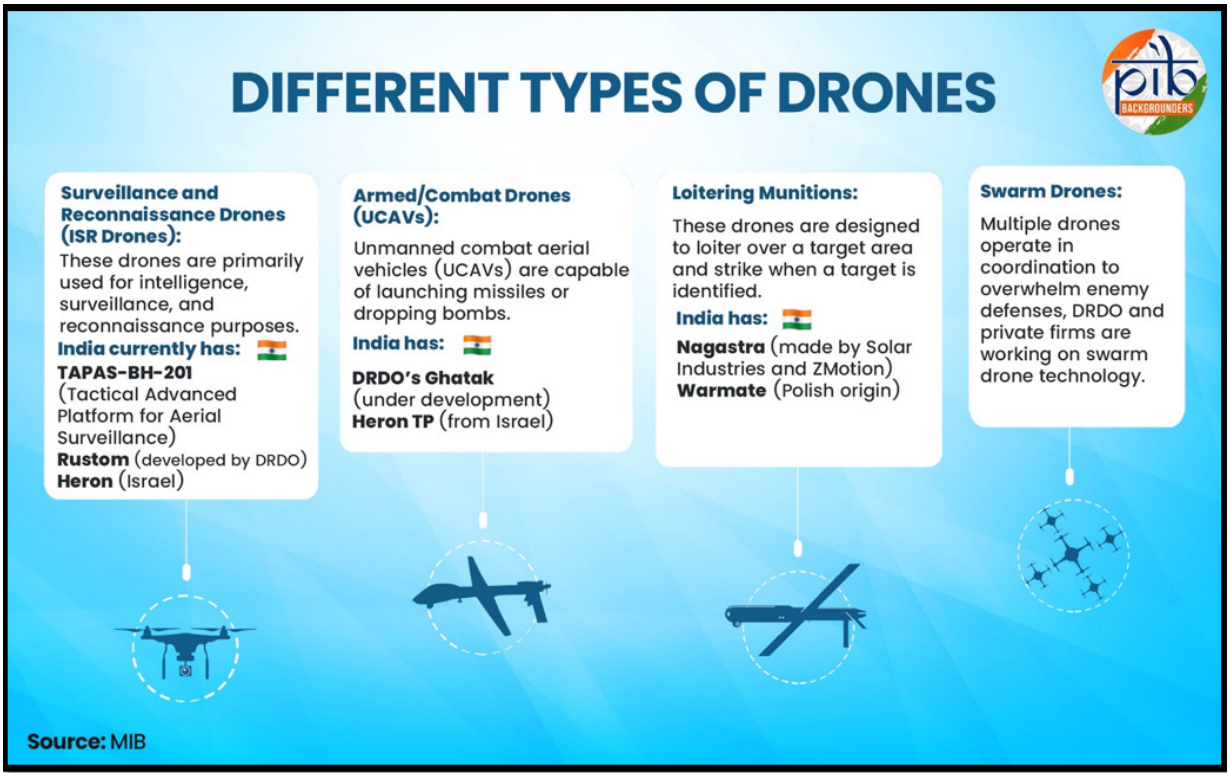
INDIA'S PUSH FOR SELF-RELIANCE IN DRONE MANUFACTURING

Context

- At the National Defence Industries Conclave (2026), Defence Minister of India has emphasised that India must develop a self-reliant drone manufacturing ecosystem to strengthen its defence preparedness.

About

- An **unmanned aerial vehicle (UAV)** or **unmanned aircraft system (UAS),** commonly known as a drone, is an aircraft with **no human pilot, crew, or passengers on board**, but rather is controlled remotely or is autonomous.
- According to industry estimates, the global drone market is valued at **over $30 billion in 2025** and is projected to reach **$90–100 billion by 2030**, driven by rapid adoption of AI, automation, and 5G integration.
- **Drone Ecosystem in India:**
- As of February 2026, India has built a regulated drone ecosystem with **38,500+ registered drones (UIN)**, 39,890 DGCA-certified remote pilots, and 244 approved training organisations.
- Drones are Integrated into flagship government schemes in India such as Survey of Villages and Mapping with Improvised Technology in Village Areas **(SVAMITVA) and Pradhan Mantri Fasal Bima Yojana (PMFBY) etc.**



Why Drones are Central to Modern Warfare

- **Tactical Superiority:** Drones provide high-precision strike capabilities, enabling targeted operations with minimal collateral damage.
  - They significantly reduce risks to human life by eliminating the need for direct troop engagement in high-risk zones.
- **Surveillance & Intelligence:** Drones play a critical role in Intelligence, Surveillance, and Reconnaissance (ISR) operations by providing real-time data and situational awareness.
- **Asymmetric Warfare Tool:** Drones have emerged as a powerful tool for asymmetric warfare, allowing weaker states and non-state actors to challenge technologically superior adversaries.
- **Strategic Rationale:** Achieving self-reliance in drone manufacturing is essential to ensure strategic autonomy and national security, particularly during geopolitical crises.

Government Initiatives in Drone Sector

- **Drones Rules, 2021** provide the necessary regulatory framework for commercial use of drones.
  - These rules cover various aspects like type certification, registration and operation of drones, airspace restrictions, research, development and testing of drones, training and licensing, offences and penalties etc.

- **Drone Airspace Map published in 2021,** has opened nearly 90% of Indian airspace as a green zone for drones flying up to 400 feet.
- **Production-Linked Incentive (PLI) scheme** provides for an incentive of **Rs 120 crores,** spread over three financial years. The PLI rate is **20%** of the value addition over three financial years.
- **Drone certification scheme 2022**, making it easier to obtain type certificates by drone manufacturers.
- **Drone import policy 2022**, banning import of foreign drones and freeing up import of drone components.
- **Drone (Amendment) Rules, 2022** abolished the requirement of a drone pilot license.
- **GST on drones:** GST on drones was reduced to a uniform 5% in September 2025. Earlier tax rates of 18% and 28% were removed. This simplified taxation supports wider commercial and personal use of drones.

Key Challenges in Drone Manufacturing

- **Dependence on Critical Components:** India remains dependent on imports for key components such as **semiconductors, high-resolution sensors, and advanced propulsion systems.**
  - Global supply chains are concentrated in a few countries, creating strategic vulnerabilities.
- **Technological Gaps:** There exist capability gaps in areas such as:
  - AI-driven autonomous navigation systems.
  - Advanced materials and miniaturisation technologies.
  - Secure communication and anti-jamming systems.
- **Regulatory Ecosystem:** The absence of a fully developed ecosystem for testing, certification, and airspace integration poses challenges to rapid innovation.

Way Ahead

- The government should promote defence innovation through **funding support, incubation centres, and dedicated defence corridors.**
- Simplification of procurement procedures and faster decision-making are necessary to **attract private investment.**
- India must invest in **advanced counter-drone systems,** including electronic warfare and directed energy weapons.

Concluding remarks

- The increasing centrality of drones in modern warfare has fundamentally altered the nature of conflict, making technology a decisive factor in military outcomes.
- India's pursuit of self-reliance in drone manufacturing is therefore not merely an economic objective but a strategic **necessity to ensure national security,** technological sovereignty, and long-term defence preparedness in an evolving global security environment.

Source: TH

INDIA'S BIOECONOMY MOVING TOWARDS $300 BILLION TARGET BY 2030

Context

- Union Minister Dr. Jitendra Singh said India's bioeconomy has witnessed a remarkable surge from around **$10 billion in 2014 to over $195 billion in 2025,** underlining the country's emergence as a fast-growing global biotechnology hub.

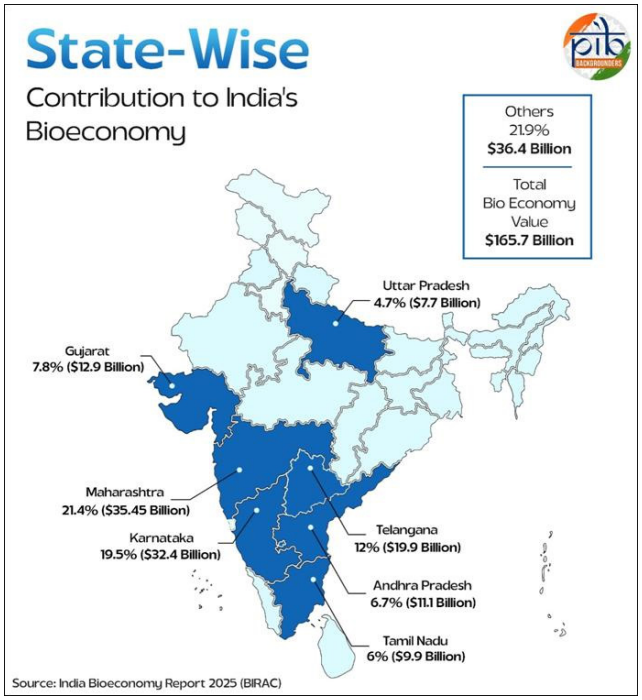
What is BioEconomy ?

- The BioEconomy is the **knowledge-based production and use of biological resources to provide products, processes and services** in all economic sectors within the frame of a sustainable economic system.
- It encompasses sectors like **agriculture, forestry, fisheries, food production, biotechnology, and bioenergy.**
- Subsectors of the BioEconomy in India are;
  - **BioPharma or BioMedical:** It includes the development and production of medical products and services, such as pharmaceuticals, medical devices, and lab-grown organoids.
  - **BioAgri:** It includes the development and production of genetically modified crops and animals, precision agriculture technologies, and bio-based products. **EX: Bt Cotton**
  - **BioIndustrial:** It includes the development and production of biobased chemicals and products using enzymes, biosynthetic routes, and recombinant DNA technology.

Growth Trajectory of India's Bioeconomy

- India's bioeconomy has expanded nearly **20-fold over a decade**, reflecting strong structural growth in the biotechnology sector. India ranks **3rd in the Asia-Pacific region** and **12th** globally in terms of biomanufacturing.
- It currently contributes around **5% to India's GDP,** indicating its increasing macroeconomic significance.

- **Four key subsectors:** BioIndustrial (47%), BioPharma (35%), BioAgri (8%), and BioResearch (9%).



Major Government Initiatives

- **BioE3 Policy (Biotechnology for Economy, Environment and Employment):** Promotes sustainable biomanufacturing and bio-based industries.
  - The focus areas include smart proteins, precision therapeutics, and climate-resilient agriculture.
- **Research, Development and Innovation (RDI) Fund:** ₹1 lakh crore corpus aimed at supporting deep-tech innovation and scaling startups.
- **Startup and Incubation Support:** Strengthening biotech clusters and innovation hubs across India.
- **Inclusive Talent Development:** Special focus on tier-2 and tier-3 cities, women entrepreneurs, and young researchers.

Challenges for BioEconomy of India

- **Global Competition:** India's BioEconomy faces stiff competition from more established bio Economies in countries like the USA, EU, and China, which have more advanced infrastructure, funding, and R&D capabilities.
- **Intellectual Property (IP) Protection:** Protecting intellectual property in the biotech sector is challenging, leading to concerns over innovation theft and lack of incentives for research.
- **Lack of Infrastructure:** Insufficient infrastructure for research, development, and commercialization of biotechnology innovations.
- **Brain Drain:** Talented scientists and researchers leave India for better opportunities abroad, reducing the country's capacity for innovation.

Way Ahead

- **Strengthening Regulatory Frameworks:** Streamlining approval mechanisms while ensuring biosafety and ethical compliance.
- **Scaling Deep-Tech Financing:** Efficient deployment of the RDI Fund to support high-risk, high-reward innovations.
- **Expanding Global Integration:** Positioning India as a global hub for biomanufacturing and biotech exports.
- **Capacity Building:** Investment in advanced skill development, especially in frontier technologies like synthetic biology and bioinformatics.

Source: DD News

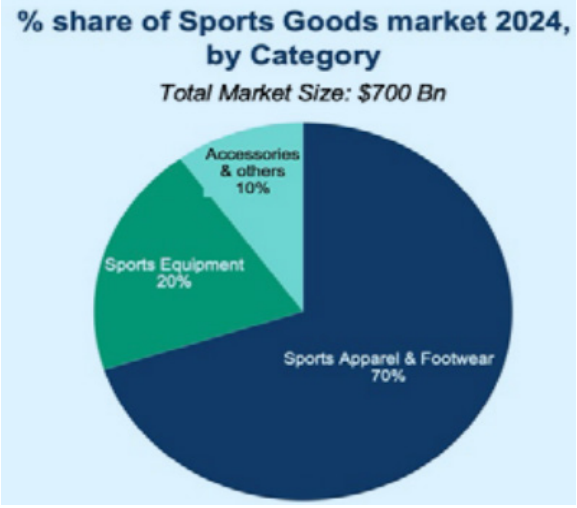
INDIA'S SPORTS EQUIPMENT MANUFACTURING SECTOR

Context

- NITI Aayog released a report titled "Realising the Export Potential of India's Sports Equipment Manufacturing Sector", presenting a comprehensive assessment of India's manufacturing capabilities, and global market opportunities.

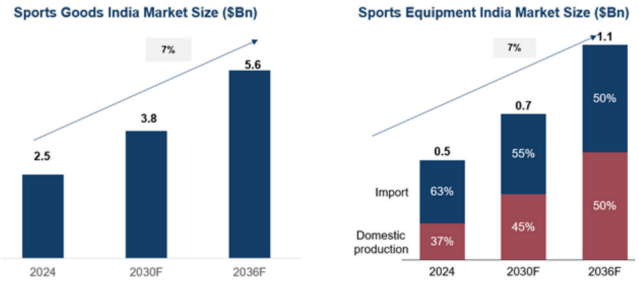
Global Market Opportunity in Sports Sector

- The global sports goods market, encompassing sports apparel, footwear, equipment, and accessories, was valued at approximately **$700 billion in 2024** and is projected to cross $1 trillion by 2036.
- Within this ecosystem, the **sports equipment segment** alone accounts for approximately **$140 billion**, with global demand expected to reach around **$283 billion by 2036.**



India's Position in Sports Equipment Manufacturing

- India's domestic sports goods market is estimated at approximately **$2.5 billion,** with sports equipment accounting for nearly **$0.5 billion**, indicating substantial scope for expansion in both domestic production and exports.



- India currently exports approximately **$275 million** worth of sports equipment annually, representing around **0.5%** of the global export market.
- **Manufacturing activity is concentrated** in established clusters such as Jalandhar (Punjab) and Meerut (Uttar Pradesh), supported by a network of exporters, domestic manufacturing units, and thousands of micro enterprises.
- The sector is **overwhelmingly MSME-driven,** with nearly **90%** of production undertaken by small and micro enterprises.

Key Challenges Affecting Export Competitiveness

- **High customs duties** on critical raw materials such as carbon fibre, EVA foam, and polyurethane materials
- **High certification costs** required to meet international sporting standards
- **Logistics inefficiencies** and higher input costs
- **Limited access** to advanced manufacturing technologies
- **Weak linkages** with global sports brands and procurement ecosystems
- **Limited global visibility** and branding of Indian sports equipment.

Policy Recommendations to Boost Sports Equipment Exports

- **Cost Competitiveness:** Rationalise import duties on critical raw materials such as carbon fibre, EVA foam, and polyurethane to reduce input costs.
- **Strengthening MSME Ecosystem:** Expand targeted financial support, credit access, and technology upgradation schemes for MSMEs.
- **Cluster-Based Manufacturing Development:** Develop new port-proximate greenfield clusters to reduce logistics costs and improve export efficiency.
- **Establish dedicated sports technology** innovation hubs in collaboration with academia and industry.
- **Quality Standards:** Set up world-class testing and certification facilities to meet international standards.

Concluding remarks

- India needs a **holistic ecosystem approach** combining cost competitiveness, quality enhancement, and global integration is essential.
- With sustained policy push, it can transition from a low-share exporter to a **global leader in sports equipment manufacturing.**

Source: PIB

NEWS IN SHORT

SOUTH PARS AND RAS LAFFAN

Context

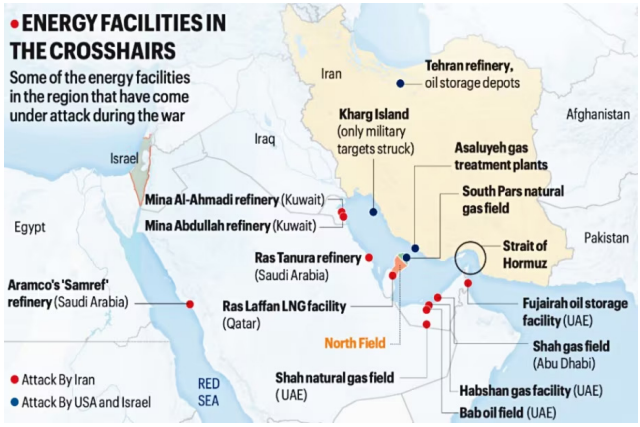
- Recent attacks on South Pars and Ras Laffan have heightened tensions in the Persian Gulf and raised global energy security concerns.

About South Pars Gas Field

- Located in the **Persian Gulf**, off Iran's southern coast.
- Part of the **world's largest natural gas field**, shared with Qatar (called *North Dome* on the Qatari side).
- Accounts for around **70%** of Iran's natural gas production.

About Ras Laffan Industrial City

- Located in **Qatar**, on the Persian Gulf coast.
- One of the **world's largest LNG (Liquefied Natural Gas)** export hubs. Under normal conditions, about **one-fifth** of the world's LNG exports come from this single complex.



Source: IE

RESILIENCE & LOGISTICS INTERVENTION FOR EXPORT FACILITATION (RELIEF) SCHEME

In News

- The Centre has launched the **RELIEF Scheme** to support exporters affected by disruptions due to the **West Asia crisis.**

About

- The scheme provides **credit insurance cover (financial protection against export losses)** to exporters whose shipments are stuck or at risk.
- It ensures **insurance premiums at pre-conflict rates**, reducing financial burden, with a focus on **MSMEs (Micro, Small and Medium Enterprises)**.
- Implemented through **Export Credit Guarantee Corporation of India (ECGC)**, offering up to **95–100% loss coverage** against war and political risks.

Export Credit Guarantee Corporation of India

- ECGC Ltd. is wholly owned by the Government of India, it was set up in **1957**.
- **Objective:** Promoting exports from the country by **providing Credit Risk Insurance**.
- It functions under the administrative control of the **Ministry of Commerce & Industry.**

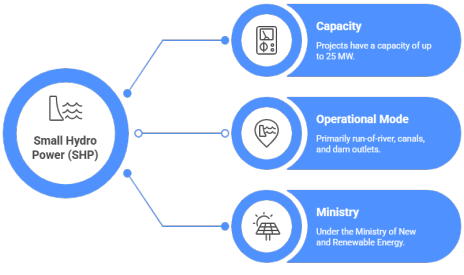
Source: TH

SMALL HYDRO POWER DEVELOPMENT SCHEME

In News

- The Union Cabinet has approved the **Small Hydro Power Development Scheme** for 2026–31 to boost **clean energy (low-emission renewable power)** and rural development.

About Small Hydro Power (SHP)



Key Features

- **Duration & Capacity:** FY 2026–27 to 2030–31 with **₹2,584.6 crore outlay** to develop ~1500 MW capacity.
- **Investment & Employment:** Expected to attract **₹15,000 crore investment** and generate **~51 lakh person-days of employment**, especially in NE and hilly regions.
- **Financial Assistance:**
  - **NE & Border Areas:** ₹3.6 crore/MW or 30% cost (max ₹30 crore/project).
  - **Other States:** ₹2.4 crore/MW or 20% cost (max ₹20 crore/project).

Source: TH

WORLD HAPPINESS REPORT 2026

Context

- The **World Happiness Report 2026** highlights that heavy social media use is adversely affecting the well-being of young people across many countries.

About

- The annual report is published by the **University of Oxford's Wellbeing Research Centre** in partnership with **Gallup**, and the **UN Sustainable Development Solutions Network**.
- **Six factors** for evaluation of happiness ranking:
  - GDP per capita,
  - Life expectancy,
  - Social support,
  - Freedom to make life choices,
  - Generosity,
  - Perceptions of corruption.
- **Top 3:** Finland (1st, since 2018), Iceland (2nd), and Denmark (3rd).
- **Bottom 3:** Malawi (145th), Sierra Leone (146th), and Afghanistan (147th).
- **India:** Ranked 116th (improved from 118th in 2025).

Do you know?

- The 2026 rankings mark the second year in a row that none of the English-speaking countries appear in the top 10. The United States is at 23rd place, Canada is at 25th and Britain at 29th.

Source: IE

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