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DELIMITATION PUSH TO FAST-TRACK WOMEN'S RESERVATION

Context

- The Union Government has indicated that it may introduce an amendment Bill to carry out delimitation based on the **2011 Census**.
 - The objective is to implement the **Constitution (106th Amendment) Act, 2023** before the 2029 Lok Sabha elections.

Background

- The Constitution (106th Amendment) Act, 2023 also known as the **Nari Shakti Vandan Adhiniyam** provides **33% reservation** for women in the Lok Sabha and State Legislative Assemblies.
 - Under the amendments that the government wants to bring in, the basis for the selection of seats will be the Census data of 2011.
- The Act, if implemented, will increase total Lok Sabha seats to **816**, reserving **273 for women**.
 - The Act states that women's reservation can be implemented **only after two steps** are completed.
 - First, a national Census must be conducted.
 - Second, a delimitation exercise must be carried out based on that Census.
- However, the delay in the 2021 Census due to COVID-19 has pushed the timeline beyond 2030.

Census in India

- A census is a survey of the population** of an area that includes collecting details of a country's demographics including **age, sex and occupation**.
 - The census, typically conducted every ten years to update the National Population Register (NPR).
- The Constitution mandates** that enumeration is carried out but the **Census of India Act of 1948** does not specify its timing or periodicity.
- The population census is conducted by the **Office of the Registrar General and Census Commissioner of India** under the **Ministry of Home Affairs**.

What is Delimitation?

- Delimitation refers to the **process of fixing the number of seats and boundaries** of territorial constituencies in each State for the Lok Sabha and Legislative assemblies.

- It also includes determining the seats to be reserved for Scheduled Castes (SC) and Scheduled Tribes (ST) in these houses.
- Article 82 and 170** of the Indian Constitution provide that the number of seats in the Lok Sabha and State Legislative assemblies as well as its division into territorial constituencies shall be readjusted after each Census.
- This process is performed by the '**Delimitation Commission**' that is set up under an act of Parliament.

Delimitation in the Past

- Delimitation occurred after the 1951 Census (494 Lok Sabha seats), 1961 Census (522 seats), and 1971 Census (543 seats).
- However, it has been **frozen as per the 1971 Census** in order to encourage population control measures so that States with higher population growth do not end up having higher number of seats.
 - The **84th Amendment (2001)** extended this till the first Census after 2026, enabling 2001 Census-based boundary redraws without seat totals changing.
- The boundaries of territorial constituencies were readjusted (without changing the number of seats) and seats for SC and ST were determined as per the 2001 Census and will again be carried out after **2026**.

Way Ahead

- The proposal to use 2011 Census data for delimitation represents a balance between urgency and accuracy.
- While it enables faster implementation of women's reservation, it also creates **concerns regarding fair representation**.
- A consensus-based and carefully designed approach will be necessary to address these concerns.

Source: TH

PAX SILICA AND THE NEW AGE OF DIGITAL COLONIALISM

Context

- In Rajya Sabha the concerns have been raised that India's participation in Pax Silica could lead to digital colonialism.

About Pax Silica

- **Pax Silica** is a **US-led strategic initiative** to build a secure, prosperous, and innovation-driven silicon supply chain from critical minerals.
- **The inaugural Pax Silica Summit** was held in December 2025 and **the signatories include** Australia, Israel, Japan, South Korea, Singapore, the UK, the Netherlands, and the UAE.
 - ♦ Together, these countries are home to the most important companies and investors powering the global AI supply chain.
 - ♦ **India joined** the initiative in February 2026 during the AI Impact Summit in New Delhi.
- **Its objective** is to reduce coercive dependencies, protect the materials and capabilities foundational to artificial intelligence, and ensure aligned nations can develop and deploy transformative technologies at scale.
- **Countries will partner** on securing strategic stacks of the global technology supply chain, including, but not limited to, software applications and platforms.

What is Digital Colonialism?

- Digital colonialism refers to a system where **developed countries or corporations control digital infrastructure, data, and technological standards** of other nations.
 - ♦ Developing countries become dependent on foreign platforms, software, and data ecosystems.
- It is analogous to classical colonialism, but control is exercised through data, algorithms, and digital networks instead of territory.

Pax Silica as a Potential Driver of Digital Colonialism

- **Dominance in Technology Standard-Setting:** Pax Silica aims to set global standards in AI, semiconductors, and digital infrastructure.
 - ♦ If standards are dominated by advanced economies, India may be compelled to adopt external technological norms and align domestic regulations with foreign frameworks.
- **Control over Data Ecosystems:** Data is the core resource in the digital economy. Participation in such frameworks may lead to cross-border data flows governed by external rules and dependence on foreign cloud infrastructure and AI platforms.
 - ♦ This raises concerns regarding the effectiveness of the **Digital Personal Data Protection Act, 2023**.

- **Technological Dependence:** Heavy reliance on foreign technology providers may **limit indigenous innovation and create long-term dependency** in critical sectors like semiconductors and AI.
 - ♦ This can weaken India's ability to build self-reliant digital capabilities.
- **Erosion of Strategic Autonomy:** Digital infrastructure is closely linked to national security and external influence over digital systems may constrain policy choices and affect decision-making in strategic sectors.

Significance of Pax Silica For India

- Joining Pax Silica might help **India diversify away from China** to more secure suppliers like Australia for critical minerals.
- It is likely to facilitate **investments and technology transfer** via partnerships with Japan and the Netherlands.
- It might **boost India's capabilities** for advanced extraction and processing of rare earth minerals from its vast monazite and thorium resources.

Way Ahead

- The debate on Pax Silica reflects a broader global concern regarding **digital colonialism in the 21st century**.
- India must carefully balance global technological integration with protection of its digital sovereignty.
- A calibrated approach that promotes self-reliance while engaging internationally will be crucial to avoid new forms of dependence in the digital age.

Source: TH

INDIA'S WATER GOVERNANCE

Context

- Prime Minister Modi shared an article highlighting **India's comprehensive vision for achieving a water-secure future**.

Highlights of the Article

- India's approach to water governance is built on a **foundation of conservation, sustainable use, and active community involvement**.
- It further underscores how the **creation of the Jal Shakti Ministry** marked a decisive shift towards holistic and integrated water management across the country.

Water Availability in India

- India holds **18%** of the world's population but only **4%** of its freshwater resources, placing enormous pressure on available water systems.

- According to the **Annual Ground Water Quality Report 2024** by the **Central Groundwater Board (CGWB)** under the **Jal Shakti Ministry**, the average stage of groundwater extraction in India stands at **60.4%**.
- Southern states, particularly **Karnataka, Tamil Nadu, Telangana, and Andhra Pradesh**, are facing the most severe and multidimensional water challenges in the country.
- Limited attention is given to water-use efficiency, conservation practices, and rational pricing.

Need for a Paradigm Shift

- There is a need to move from a **fragmented and engineering-dominated approach** to a comprehensive governance framework.
- Water must be treated as a shared and finite resource, requiring coordinated management across sectors.
- The focus should shift from **supply augmentation to sustainability, efficiency, and equity**.

Water Governance in India

- Constitutional Provisions
 - ♦ **State Subject:** Water is primarily under **Entry 17 of State List (Seventh Schedule)**.
 - ♦ **Union Role:** Regulation of inter-state rivers under **Entry 56 of Union List**.
 - ♦ **Article 262:** Parliament can adjudicate inter-state water disputes.

Key Issues in Water Governance in India

- **Fragmented Institutional Framework:** Water governance in India is highly fragmented due to its placement in the State List, which leads to jurisdictional conflicts between states.
- **Predominance of Engineering-Centric Approach:** Water management policies in India have historically focused on large-scale infrastructure such as dams, canals, and irrigation systems.
 - ♦ This approach prioritises supply augmentation while neglecting ecological sustainability and demand management.
- **Agricultural Policies:** Agricultural policies promoting water-intensive crops such as rice and wheat have led to excessive groundwater extraction.
- **Lack of Ecosystem-Based Approach:** Water governance does not adequately incorporate the interlinkages between land, water, and ecosystems.
 - ♦ Environmental flows (e-flows) are often ignored, leading to degradation of rivers and wetlands.
- **Weak Data Systems:** There is a lack of reliable, comprehensive, and accessible water data across the country.
 - ♦ This leads to poor planning, inefficient allocation, and unregulated extraction of water resources.
- **Neglect of Demand-Side Management:** Water policies largely focus on increasing supply rather than managing demand.
 - ♦ Rejuvenation of water bodies and development of green spaces and parks are other components of the mission.

Government Initiatives

- **Jal Shakti Abhiyan (2019):** Focuses on water conservation and groundwater recharge in water-stressed districts.
- **AMRUT 2.0 scheme** was launched in the 2021 in all Urban Local Bodies (ULBs)/ cities, enabling the cities to become 'self-reliant' and 'water secure'.
 - ♦ Rejuvenation of water bodies and development of green spaces and parks are other components of the mission.
- **Amrit Sarovar Mission:** Aims to develop and rejuvenate 75 water bodies per district.
- **National Aquifer Mapping Program (NAQUIM):** Helps delineate and understand aquifers for sustainable management.
- **Atal Bhujal Yojana**, was launched to improve groundwater management in priority areas with critical and overexploited blocks.
- **Jal Jeevan Mission (JJM):** To enable every rural household in the country to have assured potable water; since 2019, Government in partnership with states, is implementing Jal Jeevan Mission (JJM).
 - ♦ This initiative facilitates adequate quantities of prescribed quality water on a regular and long-term basis, through tap water connection.

Source: **PIB**

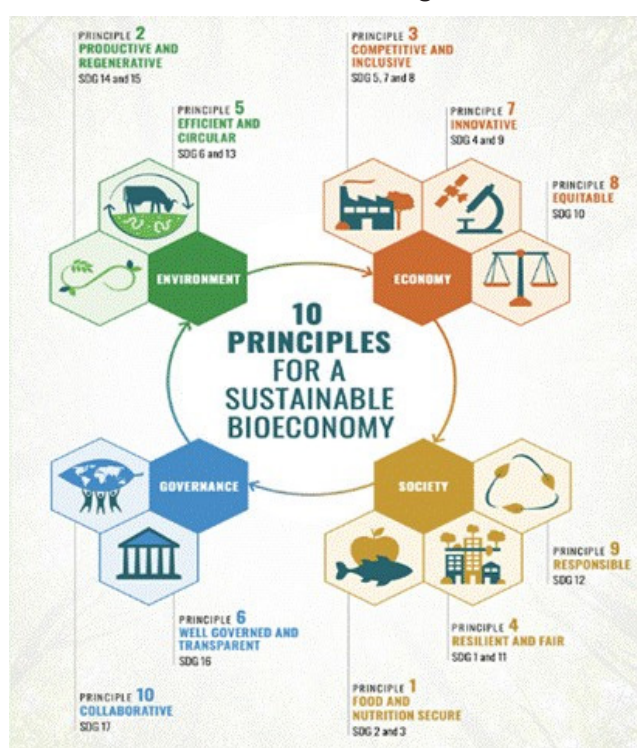
BIOTECH INDUSTRY DRIVING BOTH HUMAN AND ANIMAL NUTRITION

Context

- **Biotechnology has emerged as a transformative force** in agriculture, aquaculture, and animal sciences.

What is Bioeconomy?

- The bioeconomy is the use of **renewable biological resources** to produce food, energy and industrial goods, which supports sustainability and economic growth.
- Innovations like **gene editing and bioprinting** are driving progress, while integration across sectors strengthens long-term impact.
 - By aligning biotechnology with digital tools and circular economy principles, the bioeconomy offers **sustainable solutions to environmental challenges and promotes overall societal well-being.**



India's Bioeconomy

- India is among the **Top 12 destinations** for biotechnology worldwide and **3rd largest destination** for biotechnology in Asia Pacific.
- India's bioeconomy has grown sixteen-fold from **\$10 billion in 2014 to an impressive \$165.7 billion in 2024.**
- Contributing 4.25%** to the national GDP, the sector has demonstrated a robust compound annual growth rate (CAGR) of **17.9%** over the past four years.
- India's Biotechnology sector is **categorised into Biopharmaceuticals, Bio agriculture, Bio IT and Bio Services.**

- Future Goals:** Target of achieving a **\$300 billion bioeconomy by 2030.**
 - India also seeks to lead globally in biopharma, including vaccines, diagnostics, and therapeutics.

Concerns

- Fragmentation of Infrastructure:** India hosts over 70 incubators, but few have end-to-end facilities such as pilot-scale purification systems, fill-and-finish suites, regulatory affairs support.
 - This forces entrepreneurs to operate across cities, duplicating costs and processes.
- Regulatory Complexities:** Outdated frameworks for clinical trials, patent laws and product approval.
- Lag behind modern demands** (AI, biologics, genomics), delaying market entry and deterring investment.

Use Biotechnology in Agriculture

- The Department of Biotechnology's **Agriculture Biotechnology programme** supports innovative biotechnological research for achieving sustainable agriculture by leveraging the latest advances in technologies.
- The main achievements include:**



- Climate-Smart Crops:** A New Superior Climate Smart Drought Tolerant High-Yielding Chickpea Variety "SAATVIK (NC 9)" with enhanced yield under drought stress was notified recently.
- Genome-Edited Crops:** Genome editing was employed to generate loss of function mutations in several rice genes that negatively regulate crop productivity.
- Amaranth Genetic Resources:** The department of biotechnology has developed an Amaranth Genomic Resource Database, Near Infrared Spectroscopy (NIRS) techniques for screening nutritional qualities of amaranth grain, and a 64K SNP chip.

- ♦ Amaranth accessions screened using the above resources have been shown to counteract high fat diet induced obesity.
- **Fungal Biocontrol:** A stable fungal enzyme nano-formulation from *Myrothecium verrucaria* has been developed for eco-friendly biocontrol of powdery mildew in tomato and grape.
- **Kisan-Kavach:** It is an anti-pesticide suit designed to combat the pervasive threat of pesticide-induced toxicity in agricultural settings.

Animal Biotechnology

- India is the **largest animal husbandry sector** in the world with the largest livestock population to support the livelihoods of **more than two-thirds of the rural population**.

Veterinary Technologies

Multiple veterinary technologies have been developed and transferred to industry for commercialization, including mRNA vaccine platform technology for Lumpy Skin Disease, CRISPR/Cas based rapid point of care Lateral Flow Assay platform for dog parasites *Babesia gibsoni* and *Ehrlichia canis*, and a field level, affordable, farmer friendly quantitative method to diagnose intra-mammary infection as well as subclinical mastitis in bovines.



Bovine Mastitis Research

Genome sequencing of 22 bovine mastitis-associated non-aureus staphylococci and mammaliococci (NASM) by a research group from NIAB, in collaboration with other institutes, revealed diversity (14 different sequence types; STs) of NASM. This research sheds light on the genetic basis of pathogenicity in NASM species and their role in bovine mastitis.

Aquaculture and Marine Biotechnology

- The Aquaculture and Marine Biotechnology program has been implemented with the goal of **enhancing both aquaculture production and productivity**.
- **Shrimp Diet:** Due to its high cost and sustainability issues, replacement of fish meal is an important area of research in aquaculture nutrition.
- **CIFA-Brood-Vac:** A novel vaccine has been developed to prevent mortality in fish spawn, securing aquaculture stock health.
 - ♦ A user-friendly software, Interactive Fish Feed Designer (IFFD) version 2, has been developed for the formulation of cost-effective fish feed with non-conventional ingredients.

Conclusion

- The integration of biotechnology into agriculture, aquaculture, and animal sciences is fostering

sustainable food production, disease resistance, and enhanced productivity.

- These innovations, backed by research and commercialization efforts, are paving the way for a resilient and efficient agricultural ecosystem.

Source: TH

EMPOWERING WOMEN FARMERS IN AGRICULTURE

Context

- Rural women form the backbone of India's agriculture, with 80% engaged in farming and allied activities.

About

- Women participate across the entire agricultural value chain: crop production, livestock management, agroforestry, fishing, horticulture, post-harvest processing, packaging, and marketing.
- Women are increasingly recognized as key agents in achieving **sustainable agriculture and food security**, especially under frameworks like the Sustainable Development Goals, particularly **SDG 2 (Zero Hunger)** and **SDG 5 (Gender Equality)**.
- The United Nations has **designated 2026 as the International Year of the Woman Farmer (IYWF 2026)**, in recognition of the vital and indispensable role of women in global agriculture.

Global Scenario

- Women constitute nearly **43% of the agricultural workforce** in developing countries, according to the Food and Agriculture Organization (FAO). In regions like Sub-Saharan Africa and South Asia, their share is even higher, indicating the **feminisation of agriculture**.
- The FAO estimates that if women had equal access to productive resources, farm yields could **increase by 20–30%**, potentially reducing global hunger by up to **150 million people**.

Challenges

- Despite their critical role, women farmers face structural and institutional constraints:
 - ♦ **Limited Land Ownership and Credit Gap:** Though nearly **80% of rural women** are engaged in agriculture, only about **13% own land**, limiting their access to credit, farm loans, and government schemes, and leading

to a significant gender gap in institutional finance.

- **Technological Exclusion:** Women farmers face limited access to mechanisation and digital tools, as farm equipment is often designed for male ergonomics, restricting effective use by women.
- **Unpaid Labour:** A large share of women's agricultural work remains unpaid; in many countries, women account for **over 50% of unpaid farm labour**, reflecting significant under-recognition.
- **Socio-cultural Constraints:** Gender norms restrict women's mobility and decision-making, with studies showing limited participation in leadership and access to markets due to entrenched social barriers.

Government Initiatives

- Financial Support and Credit:
 - ♦ **Agriculture Infrastructure Fund (AIF):** Over 8,000+ projects sanctioned for women, improving storage and logistics.
 - ♦ **PM-KISAN:** Around 25% beneficiaries are women; over ₹1 lakh crore transferred to women since inception.
 - ♦ **Modified Interest Subvention Scheme:** The Modified Interest Subvention Scheme (MISS) is a central sector scheme that ensures the availability of short-term credit to farmers at affordable rates through the Kisan Credit Card (KCC).
- Technology and Skill Development
 - ♦ **Namo Drone Didi:** Target to provide 15,000 drones to women SHGs.
 - ♦ **NBHM:** Promotes beekeeping as a low-investment, high-return livelihood.
 - ♦ **DAY-NRLM:** Over ₹11 lakh crore credit disbursed to women SHGs.
- Institutional Support
 - ♦ **ICAR-CIWA:** Develops women-friendly tools to reduce drudgery.
 - ♦ **MANAGE & NGRCA:** Promote gender-responsive agricultural policies.

Case Study / Example

- **Kamini Nathsharma (Odisha):** With support from ICAR-CIWA, she adopted an integrated farming system (vegetables, dairy, poultry, duck farming). This increased her income to ₹96,000 annually, with returns of ₹1.75 per ₹1 invested, demonstrating the impact of training, diversification, and institutional support.

Conclusion

- As India moves towards sustainable and inclusive development, empowering women farmers must remain central to agricultural policy.
- Aligning efforts with the vision of the International Year of the Woman Farmer (2026) can accelerate the transition towards resilient, equitable, and gender-responsive agri-food systems.

Source: PIB

NEWS IN SHORT

WORLD TUBERCULOSIS DAY

Context

- World Tuberculosis Day is celebrated on **March 24** to educate people about tuberculosis.

About

- The day is observed to commemorate the **anniversary of Dr. Robert Koch's discovery of the TB bacteria in 1882.**
- **The theme for 2026 is "Yes! We can end TB",** which focuses on hope as well as action.

What is Tuberculosis?

- Tuberculosis (TB) is an **infectious disease** that most often affects the lungs and is caused by the **bacteria Mycobacterium tuberculosis.**
- It spreads through the air when infected people **cough, sneeze or spit.**
- **Symptoms:** prolonged cough (sometimes with blood), chest pain, weakness, fatigue, weight loss, fever, night sweats.
 - ♦ While TB usually affects the lungs, it also affects the kidneys, brain, spine and skin.
- **Treatment:** It is **preventable and curable** with antibiotics.
 - ♦ **TB Vaccine: The Bacillus Calmette-Guérin (BCG) vaccine** remains the only licensed vaccine against TB; it provides moderate protection against severe forms of TB (TB meningitis) **in infants and young children.**

India's TB burden and progress

- **TB as a global health challenge:** India has the **highest TB burden in the world**, contributing to **26% of the global burden and 29% of global TB-related deaths.**
 - ♦ India is followed by **Indonesia (10%), China (6.8%), the Philippines (6.8%), and Pakistan (6.3%).**

- **Multidrug-Resistant TB:** India represents 27% of the world's multi-drug-resistant TB cases, underscoring the need for specialized treatment approaches.
- The World Health Organization (WHO) has recognised India's progress, with a **17.7% decline in TB incidence from 2015 to 2023**, a rate more than double the global decline of **8.3%**.
- India aims to eliminate TB through programmes like the **National TB Elimination Programme**.

Source: AIR

NATIONAL BIODIVERSITY AUTHORITY CONSTITUTES EXPERT COMMITTEE ON INVASIVE ALIEN SPECIES

Context

- The **National Biodiversity Authority (NBA)** has constituted an **Expert Committee on Invasive Alien Species** to address the growing ecological and socio-economic risks posed by such species across the country.

About

- The decision follows a suo motu proceeding by the National Green Tribunal, which underscored the **serious threats of invasive alien species to native biodiversity**.
- The Committee has been mandated to **prepare a consolidated national list of invasive alien species** based on State-wise inputs.
 - ♦ The Committee will identify and prioritise high-risk species and recommend science-based management strategies, ecological restoration measures, and national-level guidelines for their prevention, control, and eradication.
 - ♦ The Committee will function for a period of **two years** and will contribute in safeguarding the country's biodiversity.

National Biodiversity Authority (NBA)

- The National Biodiversity Authority (NBA) was **established in 2003**.
- It is a **statutory body** that performs a facilitative, regulatory and advisory function for the Government on the issue of Conservation, sustainable use of biological resources and fair equitable sharing of benefits of use.

Source: AIR

SEBI REVAMPS FRAMEWORK ON CONFLIC

- The Government has modified the Mutual Credit Guarantee Scheme to support Micro, Small and Medium Enterprises in line with the Budget 2025-26.

Mutual Credit Guarantee Scheme for MSMEs

- Mutual Credit Guarantee Scheme for MSMEs (MCGS- MSME) was launched in **2025**.
- The scheme provides **60% guarantee coverage by National Credit Guarantee Trustee Company Limited (NCGTC)** to Member Lending Institutions (MLIs) for credit facility up to **₹100 crore** sanctioned to eligible MSMEs under MCGS-MSME for purchase of equipment/ machinery.

Modifications in the existing "MCGS-MSME" scheme

- **Upfront Contribution:** 5% Upfront contribution made refundable, 1% each from 4th year onwards, subject to satisfactory performance of loan account.
- **Eligibility:** Service Sector MSMEs also included in the Scheme.
- **Minimum project cost towards Machinery / Equipment:** Cost of equipment/ machinery reduced up to **60%** of project cost **from earlier 75%**.
- **Guarantee Tenure:** The credit guarantee would expire after **10 years**, as compared to the unspecified period in the earlier scheme.

Incorporation of Special Provisions for Exporters

- **Eligible exporters:** Profitable units having exported at least 25% of their sales turnover in each of previous 3 financial years and satisfying certain export realisation conditions.
- **Guaranteed Loan Amount:** ₹20 crore.
- **Guaranteed Loan Amount:** ₹20 crore.
- **Upfront Contribution:** 2% of loan amount (Max ₹40 Lacs); 1% each refundable in 4th and 5th year of the guarantee period.
- **Guarantee Coverage:** 75% of the amount in default.

Source: PIB

MINOR PLANET CENTRE (MPC)

In News

- The Minor Planet Center (MPC) has recently announced the discovery of 15 new moons

(natural satellites)—four around Jupiter and eleven around Saturn.

About Minor Planet Centre (MPC)

- The MPC is the **global repository (central database) for observations of small bodies** in the solar system (asteroids, comets, and minor planets).
- It operates under the **International Astronomical Union (IAU)** at the Smithsonian Astrophysical Observatory, Cambridge, Massachusetts, USA.
- It plays a key role in tracking, cataloguing, and identifying celestial objects beyond major planets.

Functions of MPC

- **Data Management:** Receives and verifies astronomical observations to calculate orbital paths and assign official scientific identities to new space objects.
- **Delimitation Push to Fast-Track Women's Reservation Tracking NEOs:** Monitors Near-Earth Objects (asteroids/comets) and collaborates with NASA to assess potential collision threats to Earth.
- **Global Coordination:** Publishes scientific updates to inform researchers of new discoveries, enabling worldwide collaboration among observatories for further study.

Source: TH

DIEGO GARCIA

In News

- Reports have indicated that Iran attempted a missile strike on the **Diego Garcia base**.

About Diego Garcia



- Located in the Chagos Archipelago (British Indian Ocean Territory), **Diego Garcia** is a **strategic island base** in the **Indian Ocean**. It is a **joint US–UK military facility**.
- It serves as a **key logistics and bomber base (launch point for long-range military operations)** in West Asia.
- Its distance from Iran is about **3,800–4,100 km**. It was previously considered **beyond Iran's strike capability**.

