



# 30 PAGER NOTES

DECEMBER 2025 DECODED FOR  
PRELIMS — WHERE  
GOVERNANCE, ECONOMY,  
SCIENCE, ENVIRONMENT, AND  
MAPS CONVERGE INTO EXAM-  
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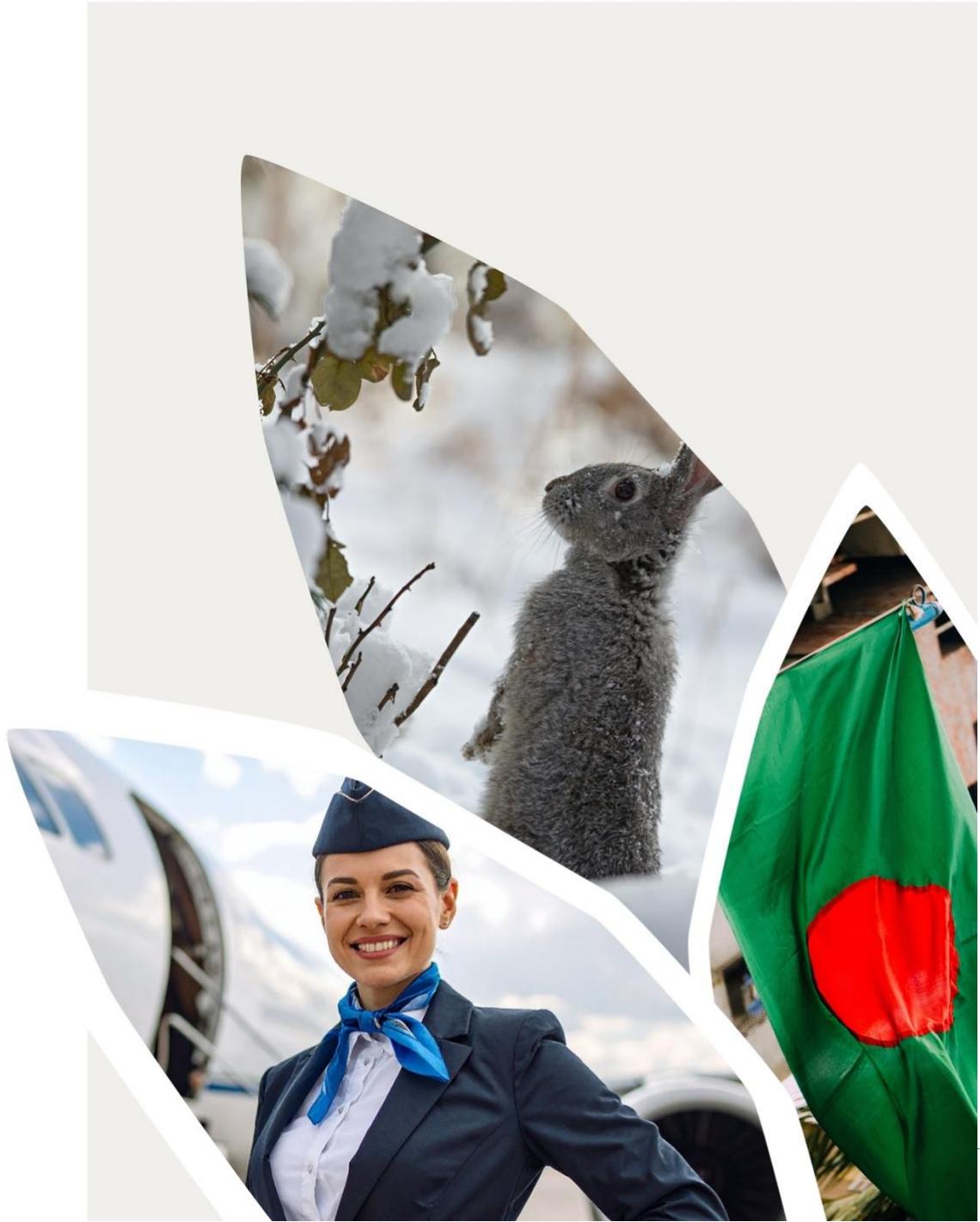
# DEC., 2025

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## PRELIMS 2026



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# Polity

## Acts and Bills

Name of Act / Bill /	Easy Explanation	Relevance / Example	Status / Issue in News
<b>Bharatiya Nyaya Sanhita (BNS), 2023</b>	Replaces the Indian Penal Code (IPC), 1860	Introduces new definitions for offences, removes colonial-era crimes	Concerns over implementation readiness & police training
<b>Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023</b>	Replaces CrPC; governs arrest, investigation, trial procedures	Alters arrest powers, timelines for investigation	Debates on civil liberties and due process
<b>Bharatiya Sakshya Adhinyam (BSA), 2023</b>	Replaces Indian Evidence Act, 1872	Allows greater use of electronic & digital evidence	Impact on fair trial and evidentiary standards
<b>Digital Personal Data Protection Act, 2023</b>	Regulates collection, storage and use of personal data	Relevant due to expanded use of facial recognition & e-governance	Concerns over exemptions to government
<b>Cinematograph (Amendment) Act, 2023</b>	Modernises film certification & anti-piracy provisions	Central certification vs freedom of expression debate	Referenced in free speech context
<b>Representation of the People Act, 1951</b>	Governs elections, disqualification of MPs/MLAs	Used as benchmark in discussions on electoral reforms	Linked to criminalisation of politics
<b>Article 356 (Indian Constitution)</b>	President's Rule in States	Cited in Centre-State trust debates	Used cautiously after Bommai case
<b>Article 72 &amp; 161 (Indian Constitution)</b>	President's & Governor's pardon powers	Clemency powers and judicial review debate	Mentioned in remission discussions
<b>Article 19(1)(a) (Indian Constitution)</b>	Freedom of speech and expression	Censorship, films, digital speech debates	Balance between liberty and regulation
<b>Article 21 (Indian Constitution)</b>	Right to life and personal liberty	Used to assess policing & surveillance laws	Expanding judicial interpretation

## Government Schemes

Scheme / Programme	Easy Explanation (What it is)	Relevance / Example (Why it matters)	Polity Angle
<b>Aspirational Districts Programme (ADP)</b>	Targets underdeveloped districts for focused governance and monitoring	Used as a model of outcome-based governance	Cooperative federalism, Centre-State coordination
<b>Aspirational Blocks Programme</b>	Extension of ADP to block level	Decentralisation of governance to grassroots	Local governance, administrative reform





<b>Digital India Programme</b>	Umbrella programme for digital public services	Enables e-governance, digital courts, online service delivery	Digital state, access vs exclusion
<b>e-Courts Project</b>	Digitisation of court processes and records	Improves access to justice, reduces pendency	Judicial reform, rule of law
<b>Mission Mode Governance Projects</b>	Fast-track implementation of key governance reforms	Emphasis on efficiency over procedure	Executive-driven governance
<b>Direct Benefit Transfer (DBT)</b>	Transfers benefits directly to beneficiaries' accounts	Reduces leakage, increases transparency	Accountability, welfare governance
<b>Aadhaar-enabled Service Delivery</b>	Use of Aadhaar for identity verification	Basis for welfare targeting	Privacy, proportionality doctrine
<b>Capacity Building Commission (Mission Karmayogi)</b>	Continuous training of civil servants	Professionalisation of bureaucracy	Civil service reforms

## Constitutional Provisions

<b>Article / Provision</b>	<b>What it says (Easy Explanation)</b>	<b>Why it was in news / Why it matters</b>
<b>Article 19(1)(a)</b>	Guarantees freedom of speech and expression	Referred in debates on film certification, digital content regulation and limits of free speech
<b>Article 19(2)</b>	Allows reasonable restrictions on free speech	Used to justify censorship, public order and morality-based restrictions
<b>Article 21</b>	Right to life and personal liberty	Invoked in policing reforms, surveillance, criminal justice procedures
<b>Article 39A</b>	Free legal aid and equal justice	Linked with access to justice, legal aid schemes and e-Courts
<b>Article 50</b>	Separation of judiciary from executive	Referred indirectly in judicial reforms and independence debates
<b>Article 72</b>	President's power to grant pardons	Discussed in context of remission and executive clemency
<b>Article 161</b>	Governor's power to grant pardons	Compared with Article 72; judicial review of clemency powers
<b>Article 142</b>	Supreme Court's power to do "complete justice"	Mentioned while discussing limits of judicial creativity
<b>Article 356</b>	President's Rule in States	Referred in Centre-State trust and misuse debates
<b>Article 226</b>	High Courts' power to issue writs	Used in challenges to executive action and policing
<b>Article 239AA</b>	Special status of Delhi	Referred in governance and federal balance discussions
<b>Article 243G</b>	Powers and responsibilities of Panchayats	Linked with decentralisation and grassroots governance





<b>Article 246 &amp; Seventh Schedule</b>	Distribution of legislative powers	Relevant to labour codes, policing and criminal law (Concurrent List)
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## Judgements/Doctrines

Doctrine / Principle	Easy Explanation
<b>Due Process of Law (Indian version)</b>	Laws affecting life and liberty must be just, fair and reasonable
<b>Doctrine of Proportionality</b>	State action must not be excessive relative to its objective
<b>Separation of Powers</b>	Legislature, Executive and Judiciary have distinct roles
<b>Judicial Review</b>	Courts can examine constitutionality of laws & executive actions
<b>Rule of Law</b>	No one is above law; power must be exercised legally

# Economy

## SUSTAINABLE DEVELOPMENT

Scheme / Initiative Name	Easy Explanation (What it is)	Relevance / Example (Why it matters)
<b>SHANTI Bill, 2025 (Nuclear Energy Reform)</b>	A new law that restructures India's nuclear power governance, allows private participation, and consolidates old nuclear laws while keeping safety under strict government control.	Nuclear power is positioned as essential for low-carbon, reliable baseload electricity. Links development goals (high HDI) with clean energy transition and long-term decarbonisation.
<b>Target of 100 GW Nuclear Capacity (Mid-Century)</b>	Government's long-term plan to scale nuclear energy to meet rising electricity demand without increasing carbon emissions.	Shows limits of renewables alone (intermittency, storage costs). Important for questions on sustainable energy mix and energy security.
<b>Corporate Social Responsibility (CSR) as Legal Environmental Duty</b>	Supreme Court clarified that CSR spending on environment and wildlife is a constitutional obligation, not charity, linking it to Article 51A(g).	Strengthens sustainability financing via private sector. Key example: funding conservation like Great Indian Bustard protection alongside renewable expansion.
<b>Blue Economy Strategy (Indian Ocean focus)</b>	Using ocean resources for economic growth while protecting marine ecosystems; includes green shipping,	Links climate action with jobs, trade, and maritime security. Relevant for sustainable growth, SAGAR doctrine, and India's leadership in Indian Ocean governance.





	sustainable fisheries, offshore renewables.	
<b>Resilience and Sustainability Facility (RSF – IMF)</b>	IMF lending facility focused on climate resilience and sustainability reforms, used alongside traditional macro-stabilisation loans.	Shows how climate goals are being integrated into economic financing. Important for global sustainable finance and climate-economy linkage.
<b>Green Growth Emphasis in Economic Discourse</b>	Policy discussions stressing that headline GDP growth is insufficient without green growth and quality jobs.	Reflects shift from growth-only metrics to sustainability-linked development—useful for GS-III answers on inclusive and sustainable growth.

## ECONOMIC TRENDS

<b>Trend / Scheme Name</b>	<b>Easy Explanation (What it is)</b>	<b>Key Sectors Affected</b>	<b>Timeframe / Impact</b>
<b>Rupee Weakness due to Capital Account Stress</b>	Rupee depreciation is driven not by high imports (CAD) but by fall in foreign capital inflows like FDI and FPI. Invisibles surplus still cushions CAD.	External sector, forex markets, RBI policy, investment climate	Short–medium term; affects inflation, import costs, RBI intervention strategy
<b>FDI and FPI Pullback</b>	Foreign investors are reducing exposure due to global uncertainty, higher US yields, and risk aversion.	Manufacturing, startups, financial markets	Ongoing; pressures growth financing and rupee stability
<b>Shift in Global Trade Patterns (China Surplus Story)</b>	China’s record trade surplus reflects weak domestic demand and export push toward Global South, triggering dumping concerns.	Manufacturing, global trade, EVs, electronics, solar	Medium term; raises protectionism risks and supply-chain realignment
<b>Japan Capital Looking at India</b>	Japanese megabanks shifting focus to India due to stagnation at home and higher growth prospects in India.	Banking, NBFCs, corporate finance	Long term; stable capital inflows and financial deepening
<b>Private Capex Lag Despite GDP Growth</b>	Strong GDP numbers but private sector investment remains cautious due to demand uncertainty and global risks.	Infrastructure, manufacturing, employment	Medium term; risk to sustained high growth
<b>Savings Pattern Shift in India</b>	Household savings moving away from physical assets to financial instruments, but unevenly.	Financial markets, banking, insurance	Structural trend; affects capital formation
<b>Green Growth vs Headline Growth Debate</b>	Policymakers and economists emphasising jobs, sustainability, and quality growth over headline GDP numbers.	Labour market, energy, environment-linked sectors	Long term; reframes development discourse





<b>Trade Headwinds from Global Protectionism</b>	Rising tariffs, strategic trade restrictions, and geopolitical trade blocks affecting exports.	Exports, MSMEs, manufacturing	Medium term; export competitiveness pressure
<b>Currency Management as Policy Tool</b>	RBI allowing calibrated depreciation to absorb shocks rather than defending a fixed level.	Monetary policy, external sector	Short term; balances growth and inflation
<b>Rural Employment–Agriculture Linkage Shift</b>	Policy attempt to align rural jobs with agricultural labour needs by pausing work during peak seasons.	Rural economy, agriculture, labour markets	Immediate–medium term; impacts rural incomes and farm labour availability

## ECONOMIC DEVELOPMENTS

<b>Development / Initiative Name</b>	<b>Easy Explanation (What it is)</b>	<b>Relevance / Example (Why it matters)</b>
<b>SHANTI Bill, 2025 – Nuclear Energy Governance Reform</b>	New legislation to modernise India’s nuclear sector by restructuring institutions, enabling private participation, and consolidating nuclear laws while retaining state control over safety.	Signals a shift towards nuclear as a clean baseload energy source for long-term sustainable growth and decarbonisation. High GS-III relevance.
<b>Reassessment of India’s Energy Transition Strategy</b>	Policymakers acknowledge that renewables alone cannot meet future demand; nuclear and gas are needed for stability.	Important for questions on energy security vs climate goals; counters the “solar-only” narrative.
<b>Supreme Court on CSR as Constitutional Responsibility</b>	Court clarified CSR spending—especially on environment and wildlife—is a constitutional duty linked to Article 51A(g), not voluntary charity.	Expands private sector role in sustainable development financing; blurs line between regulation and responsibility.
<b>Pause on MGNREGA Work During Peak Agricultural Season</b>	Government adjusted rural employment workdays to avoid labour shortages during harvesting seasons.	Shows policy coordination between rural employment and agriculture; UPSC favourite example of policy trade-offs.
<b>RBI’s Continued Market-based Liquidity Management</b>	RBI relied more on variable rate repos, SDF, and OMOs instead of blunt rate changes.	Shows maturity of India’s monetary framework; relevant for inflation and transmission questions.
<b>Judicial Sensitivity to Economic Impact of Rulings</b>	Courts increasingly factoring macroeconomic consequences (e.g., telecom, environment-energy balance).	Indicates evolution from strict legalism to economic pragmatism—useful for GS-II + GS-III linkage.
<b>India’s Positioning in Global Sustainable Finance Architecture</b>	Engagement with IMF’s Resilience and Sustainability Facility and green finance instruments.	Shows how climate action is entering macroeconomic financing, not remaining a soft commitment.
<b>Recognition of Capex–Employment Gap</b>	Despite public capex push, job creation remains uneven, especially in manufacturing.	Important for answers on inclusive growth and employment elasticity of growth.





<b>Structural Shift in Growth Narrative</b>	Policymakers openly emphasise “quality of growth” over headline GDP numbers.	Useful for essay and GS-III questions on development measurement.
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## CROPS in NEWS

Crop / Produce	When it is Grown	Major Producing Regions (India)	World's Leading Producer	Why in News (December)	Economic / UPSC Relevance
<b>Wheat (Rabi outlook)</b>	Sown Oct–Nov, harvested Mar–Apr	UP, MP, Punjab, Haryana	China (1st), India (2nd)	Concerns over yield due to higher winter temperatures and moisture stress	Links climate variability with food security and inflation management
<b>Sugarcane</b>	Year-round (12–18 months crop cycle)	UP, Maharashtra, Karnataka	Brazil (1st), India (2nd)	Lower recovery rates affecting sugar output and ethanol supply	Impacts sugar prices, ethanol blending targets, and farmer arrears
<b>Onion (Rabi crop)</b>	Rabi onion harvested Mar–May	Maharashtra, MP, Karnataka	India (largest producer)	Price volatility concerns despite good acreage	Classic UPSC case of perishables, storage gaps, and inflation politics
<b>Pulses (Rabi – Chana focus)</b>	Sown Oct–Nov, harvested Mar–Apr	MP, Rajasthan, Maharashtra	India (largest producer & consumer)	Government monitoring sowing to avoid future price spikes	Protein security, import dependence, MSP effectiveness
<b>Oilseeds (Mustard)</b>	Rabi crop	Rajasthan, Haryana, MP	Canada (rapeseed), India (mustard)	Price support concerns amid global edible oil volatility	Edible oil self-reliance vs import dependence

## Agricultural Practices

Practice / Input	Easy Explanation	Crops / Regions Linked	Why Relevant Now	UPSC Angle
<b>Heat-Resilient Wheat Varieties</b>	Wheat varieties bred to tolerate higher night temperatures	Indo-Gangetic Plain	Climate risks to Rabi crops highlighted	Climate adaptation in food grains
<b>Ethanol–Sugarcane Trade-off Management</b>	Balancing sugar production vs ethanol diversion	Sugarcane belts	Lower sugar output affecting ethanol availability	Food vs fuel debate





<b>Price Stabilisation via Buffer Monitoring</b>	Active monitoring of onion and pulse stocks	Onion, pulses	Prevent sudden inflation spikes	Government intervention in agri-markets
<b>Rabi Sowing Pattern Adjustment</b>	Farmers shifting acreage based on climate & price signals	Wheat, pulses, oilseeds	Indicates market-responsive farming	Crop diversification logic
<b>Reduced Reliance on Export Bans (Implicit)</b>	Preference for stock management over sudden bans	Onion, wheat	Learning from past export shocks	Policy credibility in agri trade

## Agri-Economy Linkage

Linkage	Explanation
<b>Rabi Crop Performance → Inflation Outlook</b>	Wheat, onion, pulses directly affect CPI food basket
<b>Sugarcane → Energy Policy Link</b>	Ethanol blending depends on cane availability
<b>Climate Risk in Rabi Season</b>	Traditionally stable Rabi now climate-sensitive
<b>Perishable Crops &amp; Price Politics</b>	Onion remains politically and economically sensitive

# Science Tech

## Space Missions in News

Mission Name	Space Agency	Year Launched	Objectives	Special Feature
<b>MAVEN (Mars Atmosphere and Volatile Evolution)</b>	NASA	2013 (Mars orbit since 2014)	To study <b>Mars's upper atmosphere and ionosphere</b> and understand how solar wind stripped Mars of its atmosphere and surface water over time.	In <b>December 2025</b> , NASA temporarily <b>lost contact</b> after a routine Mars occultation; spacecraft may be <b>tumbling with orbit changes</b> ; mission has operated <b>10+ years</b> , far beyond its planned 2-year life.
<b>Mars Orbiter Mission (Mangalyaan)</b> <i>(contextual reference)</i>	ISRO	2013 (Mars orbit 2014)	Technology demonstrator to validate interplanetary mission capability; limited scientific payload.	Mentioned for comparison with MAVEN; highlighted <b>India's low-cost Mars mission approach</b> vs high-end science missions.
<b>BlueBird Block-2 Satellite</b>	AST SpaceMobile	2025	To provide <b>direct-to-mobile connectivity</b> (4G/5G calls,	<b>Heaviest satellite ever launched by India (≈6,100</b>





	(launched by ISRO)		data, video) <b>without ground towers.</b>	<b>kg</b> ); launched using <b>LVM-3</b> into <b>Low Earth Orbit (~520 km)</b> ; enables ordinary smartphones to connect directly to satellites.
<b>LVM-3 / HLVM-3 Programme</b>	ISRO	Operational since 2014	Heavy-lift launch vehicle for satellites and future <b>human spaceflight (Gaganyaan).</b>	December launch marked <b>shortest gap between two LVM-3 missions</b> ; key upgrades include improved <b>cryogenic upper stage (C32)</b> and future <b>semi-cryogenic engines.</b>
<b>Gaganyaan (Human Spaceflight Programme)</b>	ISRO	Upcoming (2020s)	India's first crewed space mission.	December coverage focused on <b>human-rating</b> , astronaut safety, <b>Whipple shields</b> , and debris protection standards.
<b>ISS-based Space Biology Experiments (MMOD &amp; safety context)</b>	ISS Partners	Ongoing	Understanding risks to astronauts from <b>micrometeoroids and orbital debris (MMOD).</b>	Linked to December discussion on <b>space debris</b> , Kessler Syndrome, and future sustainability of crewed missions.

## Diseases in News

Name	Symptoms	Causing Organism	Mode of Infection	Areas Spread	Genetic Material	Treatment	Vaccine
<b>Tuberculosis (TB)</b>	Chronic cough, fever, night sweats, weight loss; severe cases cause lung damage	<i>Mycobacterium tuberculosis</i>	Airborne droplets	Global; high burden in India	Bacterium (DNA)	Multi-drug antibiotic regimen (6–18 months depending on resistance)	<b>BCG</b> (partial protection, mainly in children)
<b>Drug-Resistant Tuberculosis (MDR/XDR-TB)</b>	Persistent TB symptoms despite treatment	Drug-resistant strains of <i>M. tuberculosis</i>	Airborne droplets	India, Africa, parts of Asia	Bacterium (DNA)	Newer drug combinations (bedaquiline, pretomanid, linezolid)	No





<b>Snakebite Envenomation</b>	Local swelling, bleeding, paralysis, organ failure	Snake venom (toxins)	Snake bite	Rural & forested India; Assam highlighted	Not applicable	Anti-Snake Venom (ASV), ventilatory & supportive care	No
<b>Air-Pollution-Related Diseases</b>	Asthma, COPD, cardiovascular disease, lung cancer	Pollutants (PM2.5, NO <sub>2</sub> , SO <sub>2</sub> , ozone)	Inhalation of polluted air	Urban & peri-urban India	Not applicable	Symptomatic & long-term disease management	No
<b>Mosquito-borne Viral Diseases (High-Altitude Spread)</b>	Fever, body pain, bleeding (varies by disease)	Viruses (e.g., dengue, chikungunya group)	Mosquito bite	Expanding to <b>higher altitudes</b>	RNA viruses	Supportive care	Limited (dengue vaccine exists but restricted)

## VACCINES in News

Name	Type of Vaccine	Used in India?	Effective Till
<b>BCG (Bacillus Calmette–Guérin)</b>	Live attenuated bacterial vaccine	Yes – part of Universal Immunisation Programme	Partial protection in childhood; limited effectiveness against adult pulmonary TB
<b>mRNA Cancer Vaccine “Enteromix”</b>	mRNA-based therapeutic cancer vaccine	No	Still in early clinical trials; durability unknown

## Discoveries and Inventions

Name	What It Does	Sector	Applications	Shortcomings
<b>Camelid Nanobody-Based Antivenom</b>	Uses tiny, stable antibodies (nanobodies) derived from alpacas/llamas to neutralise snake venom.	Biotechnology / Medical Science	Potential <b>broad-spectrum antivenom</b> ; cheaper production using bacteria; safer and more effective snakebite treatment.	Still in experimental stage; requires large-scale human trials and regulatory approval.
<b>Macrophage Metabolism Rewiring for TB</b>	Alters immune cell metabolism to enhance the body’s ability to kill TB bacteria.	Immunology / Infectious Disease Research	Could <b>shorten TB treatment duration</b> and reduce reliance on new antibiotics; useful against drug-resistant TB.	Demonstrated mainly in animal studies; human efficacy yet to be proven.





<b>Thorium-Based Solid Nuclear Clock</b>	Measures time using nuclear energy transitions in thorium atoms rather than electronic transitions.	Quantum Physics / Metrology	Ultra-precise clocks for <b>next-gen navigation, deep-space missions, and fundamental physics tests.</b>	Extremely complex and costly; not ready for commercial or civilian use.
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## Defense Technology

Name / Project	Developed By	What It Is	Special Feature or Relevance
<b>BlueBird Block-2 (Dual-Use Space Asset)</b>	AST SpaceMobile (launched by ISRO)	Large LEO satellite enabling <b>direct-to-mobile</b> broadband without ground towers.	<b>Dual-use relevance:</b> beyond civilian connectivity, enables resilient communications during disasters and potential <b>secure, satellite-based links</b> for defence and emergency operations.
<b>Micrometeoroid &amp; Orbital Debris (MMOD) Shielding for Crewed Missions</b>	ISRO (Gaganyaan programme)	Multi-layer protective shields (incl. <b>Whipple shielding</b> ) to protect crew modules from high-velocity debris.	Critical for <b>human-rating</b> spacecraft; directly linked to survivability of astronauts and mission assurance amid rising space debris.
<b>Space Situational Awareness (SSA) &amp; Debris Tracking</b>	ISRO / Indian Armed Forces (coordination)	Sensors, radars, and data-sharing to track satellites and debris in Earth orbit.	Defence-critical for <b>satellite protection</b> , collision avoidance, and counter-space awareness; tied to Kessler Syndrome risks highlighted in December.

## Green Technology

Name	What It Is	Sector	Purpose / Use
<b>Sentinel-6 Sea-Level Monitoring System</b>	High-precision satellite altimetry to track global sea-level rise and ocean dynamics.	Climate Science / Earth Observation	Improves climate modelling, coastal risk planning, storm-surge prediction, and long-term climate policy decisions.
<b>Microbe-Strengthened Low-pH Cement for Nuclear Waste</b>	Bio-engineered microbes that enhance cement durability in acidic environments around nuclear waste.	Environmental Biotechnology / Nuclear Safety	Reduces leakage risks and improves long-term safety of nuclear waste repositories.
<b>Pamir Ice-Core Climate Reconstruction</b>	Analysis of ancient ice cores to reconstruct long-term climate and glacier history.	Climate Science / Glaciology	Refines understanding of glacier retreat, monsoon variability, and regional climate change impacts.
<b>Air-Pollution Exposure Mapping (Health-Environment Interface)</b>	Integrated assessment linking pollutant exposure	Environmental Health / Clean Air Tech	Informs air-quality management, urban planning,





	(PM2.5, NO <sub>2</sub> ) to disease burden.		and emission-reduction strategies.
<b>Climate-Resilient Space Biology (Hardy Plant Systems)</b>	Use of resilient plant species to study survival and resource efficiency under extreme conditions.	Green Space Biology / Sustainability	Supports low-resource life-support systems for future space missions and extreme Earth environments.

## Environment

### Protected Areas in News

Protected Areas / Region	Location	Key Details	Famous for
<b>Aravalli Range (Ecologically Sensitive Landscape)</b>	Gujarat – Rajasthan – Haryana – Delhi	Supreme Court accepted a <b>new benchmark definition</b> : only landforms rising <b>≥100 m above local relief</b> qualify as Aravallis. Forest Survey of India estimates <b>~90% of earlier protected Aravalli landscape loses protection</b> . Mining paused temporarily till sustainable mining plan is prepared (critical minerals exempted).	Oldest mountain range in India; acts as <b>barrier against desertification</b> , groundwater recharge zone, watershed divide (Bay of Bengal vs Arabian Sea rivers).
<b>Aravalli Wildlife Corridor System</b>	Rajasthan– Haryana belt	New definition risks fragmentation of <b>22 wildlife sanctuaries</b> , including corridors linked to <b>Ranthambore, Sariska, Mukundra</b> tiger reserves. Smaller hillocks excluded despite ecological importance.	Semi-arid biodiversity, dry deciduous forests, scrub ecosystems.
<b>Grassland Habitats (Great Indian Bustard context)</b>	Rajasthan & Gujarat	SC reiterated need to protect <b>priority habitats</b> instead of blanket bans; power lines in GIB habitats highlighted again. CSR funds linked to conservation responsibilities.	Habitat of <b>Great Indian Bustard</b> ; one of India's most threatened ecosystems.

### Animal/Plant Species in News

Name	Why in News?	Important Information	IUCN Status
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<b>Western Tragopan (Tragopan melanocephalus)</b>	Conservation efforts discussed; captive breeding vs habitat protection debate.	Endemic to Western Himalayas (HP, J&K); prefers temperate forests with dense undergrowth; climate change affecting breeding cycles; ex-situ success but in-situ habitat shrinking.	<i>Vulnerable</i>
<b>Greater One-horned Rhinoceros (Rhinoceros unicornis)</b>	Assam continued <b>rhino dehorning</b> programme to curb poaching.	Dehorning is temporary; horns regrow; combined with surveillance and habitat protection; India hosts ~75% of global population.	<i>Vulnerable</i>
<b>Great Indian Bustard (Ardeotis nigriceps)</b>	Referred again in context of grassland protection and power-line mitigation.	Grassland specialist; collision with overhead power lines major cause of mortality; flagship species for arid grasslands.	<i>Critically Endangered</i>

## Judgements

Why in news?	Key Points	Main objective
<b>Supreme Court judgment on Aravalli definition</b>	New benchmark: only landforms rising <b>≥100 m above local relief</b> qualify as Aravallis; Forest Survey of India warned ~90% area loses protection; mining allowed with conditions (critical minerals exempted).	Balance mining needs with environmental protection; create a legally enforceable definition of Aravallis.
<b>SC linking CSR with environmental protection</b>	Court linked <b>Article 51A(g)</b> (Fundamental Duty) with CSR obligations; companies seen as constitutional duty-bearers for environment & wildlife protection.	Strengthen corporate responsibility in conservation beyond voluntary CSR.
<b>Power line mitigation policy for Great Indian Bustard</b>	SC reiterated targeted undergrounding/diverters in priority habitats instead of blanket bans; scientific, habitat-specific approach emphasised.	Reduce bird mortality while balancing renewable energy expansion.
<b>Air Pollution governance focus (PM2.5 vs PM10)</b>	Experts criticised policy focus on PM10; PM2.5 identified as more lethal and under-regulated; urban health impacts highlighted.	Shift pollution control towards health-centric, science-based standards.
<b>Climate change and disaster policy linkage</b>	Articles highlighted climate change as a risk multiplier for cyclones, floods, heatwaves; deforestation worsens impacts.	Integrate climate adaptation into disaster management and land-use planning.
<b>Emerging pollutants (microplastics)</b>	Studies showed airborne microplastics in lungs and blood; regulatory frameworks lag behind science.	Update environmental regulation to address new-age pollutants.

## Some EVS terms

Term	Meaning (Easy)
<b>Temporary 1.5°C Exceedance</b>	Short-term crossing of 1.5°C warming, not averaged over decades.





<b>Climate Risk Multiplier</b>	Climate change amplifies existing risks (floods, disease, biodiversity loss).
<b>PM2.5</b>	Fine particulate matter $\leq 2.5$ microns; penetrates lungs & bloodstream.
<b>Airborne Microplastics</b>	Tiny plastic particles suspended in air and inhaled.
<b>In-situ Conservation</b>	Protecting species in their natural habitat.
<b>Ex-situ Conservation</b>	Conservation outside natural habitat (zoos, breeding centres).
<b>Grassland Ecosystems</b>	Open habitats dominated by grasses, low trees.
<b>Ecological Dilution</b>	Loss of protection due to technical/legal redefinition, not physical damage.
<b>Precautionary Principle</b>	Prevent harm even without full scientific certainty.
<b>Fundamental Duty (Art. 51A-g)</b>	Duty of citizens to protect environment & wildlife.
<b>Health–Environment Convergence</b>	Environmental degradation directly impacting public health.
<b>Climate-Sensitive Disease Vectors</b>	Species whose range expands due to warming (mosquitoes).
<b>Emerging Pollutants</b>	New contaminants not fully covered by law (microplastics).

## Organizations

### 1. World Bank

**Formed:** 1944 (Bretton Woods Conference)

**Why formed:** To finance post-war reconstruction and long-term development, especially in poorer countries.

**Intro:** A global development financial institution providing loans, grants, and technical assistance to reduce poverty and build infrastructure.

**Members:** 189 countries — India, USA, China, Japan, Germany, UK, France, etc.

**Observers:** IMF, UN agencies, regional development banks (ADB, AfDB).

#### **Why in News (Dec 2025):**

Mentioned in discussions on **Global South debt stress**, climate finance gaps, and restructuring of development lending models.

#### **India's Role:**

India is a major borrower and policy partner; increasingly pushes for climate-resilient infrastructure financing and South-South development cooperation.

### 2. International Monetary Fund (IMF)

**Formed:** 1944 (Bretton Woods Conference)

**Why formed:** To ensure global monetary stability and provide short-term financial support to countries facing balance-of-payments crises.

**Intro:** A global financial institution overseeing macroeconomic stability and exchange-rate systems.

**Members:** 190 countries — India, USA, China, Japan, Germany, UK, etc.

**Observers:** World Bank, WTO, OECD, regional development banks.

#### **Why in News:**

Referenced in the context of **global debt vulnerabilities**, fiscal tightening in developing countries, and IMF-led adjustment programmes.



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**India's Role:**

India is a founding member and a strong voice for quota reforms and fairer conditionalities reflecting emerging-economy realities.

---

**3. G20**

**Formed:** 1999 (after Asian Financial Crisis)

**Why formed:** To coordinate global economic policy among major advanced and emerging economies.

**Intro:** A forum representing ~85% of global GDP and key platform for global economic governance.

**Members:** Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, UK, USA + EU.

**Observers:** African Union, ASEAN, IMF, World Bank, OECD, invited countries (Spain, etc.).

**Why in News:**

Mentioned in debates on **reforming multilateral institutions**, climate finance, and managing global economic slowdown.

**India's Role:**

Post-G20 Presidency, India continues agenda-setting on Digital Public Infrastructure, Global South representation, and inclusive growth.

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**4. BRICS**

**Formed:** 2006 (formalised in 2009)

**Why formed:** To strengthen cooperation among major emerging economies and promote a multipolar world order.

**Intro:** A political-economic grouping challenging Western dominance in global governance.

**Members:** Brazil, Russia, India, China, South Africa (+ expanded members such as Iran, UAE, etc.).

**Observers:** Partner and invited countries.

**Why in News:**

Discussed in context of **financial multipolarity**, de-dollarisation efforts, and institutional alternatives to Western systems.

**India's Role:**

India supports BRICS as a reformist platform while balancing strategic autonomy and economic pragmatism.

---

**5. New Development Bank (NDB)**

**Formed:** 2014 (Fortaleza Summit)

**Why formed:** To fund infrastructure and sustainable development projects in BRICS and developing countries.

**Intro:** A BRICS-led development bank positioned as an alternative to World Bank lending.

**Members:** BRICS countries and new members (Bangladesh, UAE, etc.).

**Observers:** Regional partners.

**Why in News:**

Referenced as a financing arm supporting **green infrastructure and development outside Western institutions**.

**India's Role:**

India is a founding member and borrower; supports NDB's focus on sustainability and non-conditional lending.

---

**6. Asian Development Bank (ADB)**



**Formed:** 1966 (Manila, Philippines)

**Why formed:** To promote economic growth and cooperation in Asia-Pacific.

**Intro:** A regional multilateral bank financing infrastructure, climate adaptation, and social development.

**Members:** 68 — India, Japan, China, USA, Australia, etc.

**Observers:** UN agencies, World Bank, OECD.

**Why in News:**

Mentioned in relation to **climate-resilient infrastructure financing** and development support in Asia.

**India's Role:**

India is a founding member and major borrower; key partner in urban transport and renewable energy projects.

---

## 7. UN Framework Convention on Climate Change (UNFCCC)

**Formed:** 1992 (Rio Earth Summit)

**Why formed:** To coordinate global efforts to mitigate climate change.

**Intro:** Parent treaty of the Kyoto Protocol and Paris Agreement.

**Members:** 198 parties — near universal.

**Observers:** NGOs, IPCC, research bodies.

**Why in News:**

Referenced for **post-COP30 implementation challenges**, especially finance and adaptation gaps.

**India's Role:**

India emphasizes equity, climate finance, and adaptation over emission-centric narratives.

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## 8. Conference of Parties (COP – post-COP30 context)

**Formed:** Annual meetings under UNFCCC

**Why formed:** To review climate commitments and negotiate collective action.

**Intro:** Supreme decision-making body under UNFCCC.

**Members:** UNFCCC parties.

**Observers:** NGOs, business groups, research institutions.

**Why in News:**

Follow-up debates on **finance shortfalls and credibility of pledges** after COP30.

**India's Role:**

India pushes for delivery on finance promises and realistic transition pathways for developing countries.

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## 9. Intergovernmental Panel on Climate Change (IPCC)

**Formed:** 1988 (by WMO & UNEP)

**Why formed:** To provide scientific assessments on climate change.

**Intro:** Global authority on climate science informing policy decisions.

**Members:** 195 countries.

**Observers:** UN bodies, NGOs, research institutions.

**Why in News:**

IPCC benchmarks cited to highlight **widening gap between science and political action**.

**India's Role:**

Indian scientists contribute to reports; India uses IPCC science to argue for climate justice.

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## 10. World Trade Organization (WTO)



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**Formed:** 1995

**Why formed:** To regulate international trade and resolve trade disputes.

**Intro:** Global body governing trade rules between nations.

**Members:** 164 countries — India, USA, China, EU, Japan, etc.

**Observers:** IMF, World Bank, UNCTAD.

**Why in News:**

Mentioned amid **trade protectionism, dispute settlement paralysis**, and weakening multilateral trade order.

**India's Role:**

India defends policy space for agriculture, food security, and development concerns.

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### 11. Arctic Council

**Formed:** 1996 (Ottawa Declaration)

**Why formed:** To promote cooperation on Arctic environmental protection and sustainable development.

**Intro:** Intergovernmental forum for Arctic governance (non-military).

**Members:** Canada, USA, Russia, Norway, Denmark, Sweden, Finland, Iceland.

**Observers:** India, China, Japan, South Korea, EU, etc.

**Why in News:**

Referenced due to **Arctic warming, geopolitics, and resource access debates**.

**India's Role:**

India is an observer; focuses on climate research and Arctic-monsoon linkages.

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### 12. Ramsar Convention on Wetlands

**Formed:** 1971 (Ramsar, Iran)

**Why formed:** To conserve wetlands and promote their sustainable use.

**Intro:** Global treaty focused on wetland protection.

**Members:** 172 countries — India, China, UK, Australia, etc.

**Observers:** NGOs, environmental organisations.

**Why in News:**

Mentioned in context of **wetland degradation and biodiversity conservation**.

**India's Role:**

India has 75+ Ramsar sites and uses the framework for wetland protection policy.

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### 13. International Energy Agency (IEA)

**Formed:** 1974

**Why formed:** To ensure energy security among major economies.

**Intro:** Global authority on energy data, transition pathways, and policy advice.

**Members:** 31 member countries; India is an association country.

**Observers:** Non-member partner countries.

**Why in News:**

IEA projections cited on **energy transition and fossil fuel demand trends**.

**India's Role:**

India collaborates with IEA on clean energy transitions and energy data.

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### 14. Organisation for Economic Co-operation and Development (OECD)





**Formed:** 1961

**Why formed:** To promote economic growth, trade, and policy coordination.

**Intro:** A think-tank-like organisation setting global economic norms.

**Members:** 38 developed economies (USA, Japan, Germany, UK, etc.).

**Observers:** India (key partner), World Bank, IMF.

**Why in News:**

Referenced in discussions on **global tax reforms and inequality**.

**India's Role:**

India engages as a key partner, especially on global tax and digital economy issues.

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## 15. UN Office on Drugs and Crime (UNODC)

**Formed:** 1997

**Why formed:** To combat transnational crime, drug trafficking, and terrorism.

**Intro:** UN body tracking illicit flows and organised crime networks.

**Members:** UN member states.

**Observers:** INTERPOL, NGOs, regional bodies.

**Why in News:**

UNODC estimates cited on **cyber fraud, scam centres, and organised crime networks**.

**India's Role:**

India cooperates on cybercrime, narcotics control, and financial fraud investigations.

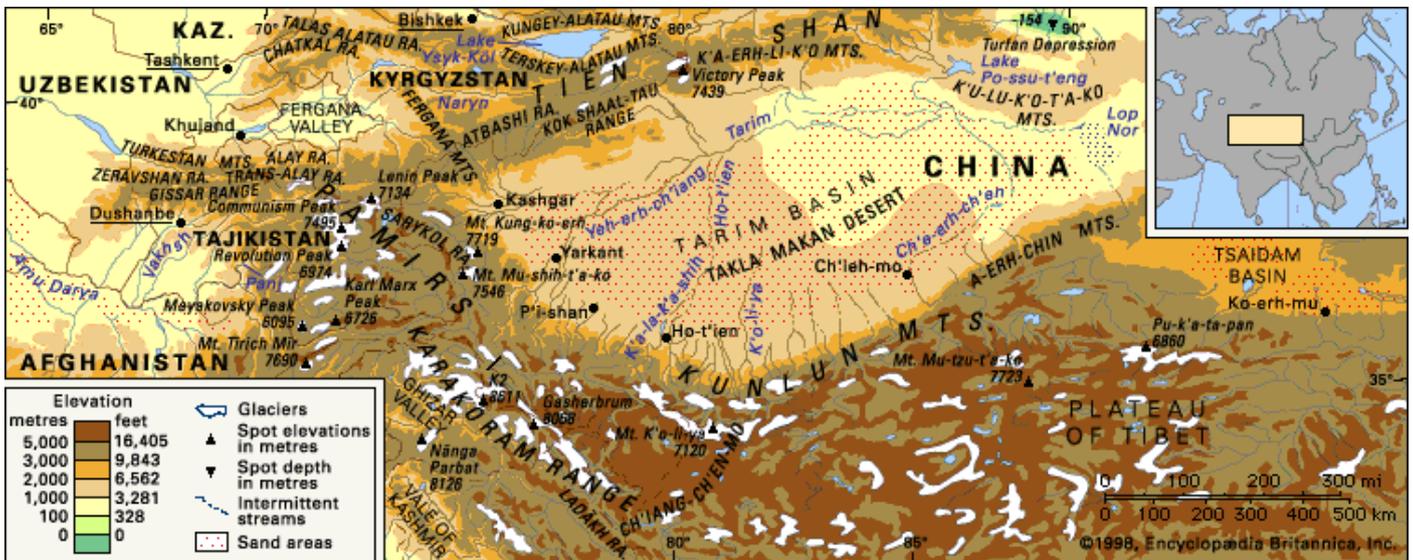
## Maps

### Pamir Mountains / Pamir–Karakoram Region

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Located in **eastern Tajikistan**, often called the “Roof of the World.” This is a high-altitude mountain knot where multiple ranges meet — **Hindu Kush, Karakoram, Kunlun, and Tien Shan**. The Pamir region is important for glaciers and ice caps and is associated with the **Pamir–Karakoram anomaly**, where glaciers show unusual stability or slight growth compared to global glacier retreat. Ice cores drilled here are taken from elevations around **5,800 m**, making it a key cryosphere study zone. On maps, place it north of Afghanistan, east of Tajikistan’s core, and west of China.

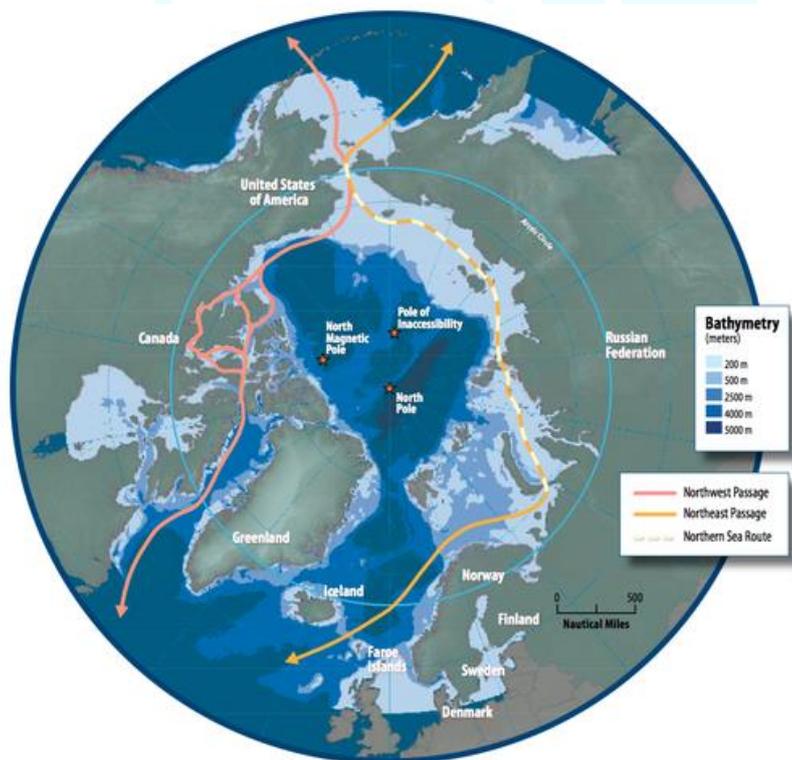




CREDIT: Britannica.

**Arctic Region (Murmansk & Arctic Sea Routes context)**

The Arctic region appears in connection with melting ice and emerging sea routes. Murmansk is located in north-western Russia, on the Barents Sea, well inside the Arctic Circle. The Arctic Ocean and its marginal seas (especially Barents Sea) are critical here. For maps, mark Murmansk as an ice-free Arctic port, and remember the broader Arctic zone above 66½° North latitude.



Credit: Wikipedia

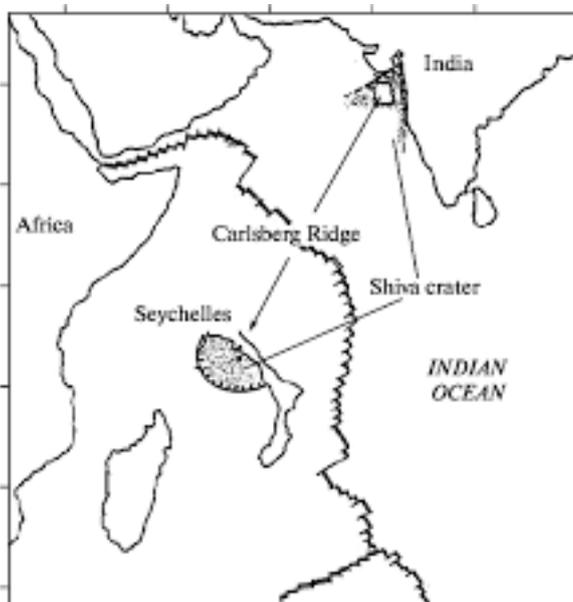
**Indian Ocean – Carlsberg Ridge**



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The **Carlsberg Ridge** is a **mid-ocean ridge system** located in the **north-western Indian Ocean**, between the **Indian Plate and Somali Plate**. It is part of the global mid-ocean ridge network and is known for **hydrothermal vents** and **polymetallic sulphide deposits**. It lies west of India, roughly south-east of the Arabian Peninsula. This ridge is tectonically active and is important for deep-sea mineral exploration. On maps, place it between the Arabian Sea and central Indian Ocean.



Credit: ResearchGate

### Aravalli Range

One of the **oldest mountain ranges in the world**, running roughly **south-west to north-east** from **Gujarat → Rajasthan → Haryana → Delhi**. It acts as a **climatic and ecological barrier**, preventing the **Thar Desert** from advancing eastward. The Aravallis function as a **watershed**, separating rivers flowing into the **Arabian Sea** (Luni, Sabarmati, Mahi) from those flowing into the **Bay of Bengal system** (via Chambal → Yamuna → Ganga). On maps, mark it as a low, discontinuous range west of the Indo-Gangetic plains.



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