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DRAFT REGISTRATION BILL 2025

In News

- The **Ministry of Rural Development (MoRD)** has invited suggestions on the new **draft Registration Bill 2025.**

New Draft Registration Bill 2025

- **About:**
  - It is introduced to establish a modern framework for registration of land documents, and a more citizen-centric approach.
    - It will replace the 117-year-old Registration Act of 1908.
  - It will digitise the registration of property documents, enhance transparency, and maintain digital records.
- **Key Features:**
  - It introduces a **modern, citizen-friendly framework** for land document registration, allowing both online and offline processes with Aadhaar or alternative identity verification.
  - It **expands the list of compulsory documents** for registration, including sale agreements and company mergers, while also providing for simplified optional registration, though details on this are vague.
  - **New roles** such as Additional and Assistant Inspector Generals of Registration are created to support the Inspector General.
  - **The Inspector General** can cancel registrations made on false or illegal grounds, with appeals allowed within 30 days.
  - The bill reduces **imprisonment penalties** from **seven to three years**, along with fines.

Issues and Challenges

- Concerns about the Bill include the need for stronger cybersecurity to protect digital records and e-signature data.
- Additionally, delegating registration tasks to Common Services Centres (CSCs), which handle legally sensitive processes like stamp duty valuation and title transfer, may lead to procedural gaps.

Other Related Steps

- The **Digital India Land Records Modernization Programme (DILRMP), revamped in 2016** as a 100% Central Sector Scheme.
  - It aims to create a modern, transparent, and integrated land record system.
  - Its objectives include improving real-time land information, optimizing land use, aiding landowners and policymakers, reducing disputes and fraud, minimizing the need for physical office visits, and enabling data sharing across agencies.
- **SVAMITVA Scheme: It was** Launched on April 24, 2020 and Scheme aims to transform rural India by providing property owners in village Abadi areas with an official **"Record of Rights."**
  - Using drone and GIS technology for land demarcation, it enables property monetization, access to bank loans, reduces disputes, and supports village-level planning—advancing rural empowerment and Atmanirbhar Bharat.
- **The NAKSHA programme**: It is a tech-driven initiative by the Department of Land Resources with Survey of India and other partners, aims to modernize urban land records.
  - It addresses the growing need for verifiable and accessible land records amid India's rapidly expanding urban population.

Source :IE

FIGHTING ANTIMICROBIAL RESISTANCE (AMR) WITH INSECT-BASED LIVESTOCK FEED

Context

- In light of growing concerns over antibiotic overuse in animal husbandry, India is advancing insect-based feed innovations through ICAR-led partnerships to create AMR-resilient food systems.

What is Antimicrobial Resistance?

- **Antimicrobial Resistance (AMR)** occurs when bacteria, viruses, fungi and parasites change over time and **no longer respond to medicines making infections harder to treat** and increasing the risk of disease spread, severe illness and death.
- Nearly **700,000 people die of AMR every year.** The toll can rise to as many as **10 million by 2050** and eat up 3.8 per cent of annual global gross domestic product (GDP).

How does traditional Livestock feed contribute to AMR?

- Over 50% of all antibiotics globally are consumed in animal agriculture. These are used not just to

treat diseases but also to promote growth.

- However, the constant exposure of gut bacteria in animals to antibiotics fosters the development of **antibiotic resistance genes (ARGs),** which can spread to humans through the food chain, water, soil, and direct contact.

Significance of Insect-Based Feed

- **Curbing AMR:** Insects contain **antimicrobial peptides (AMPs)** such as defensins and cecropins, which naturally boost immunity in animals and reduce disease incidence, thereby reducing antibiotic use.
- **Nutritional Superiority:** Insects are **high in digestible protein**, essential amino acids, fats, and micronutrients (e.g., **zinc, iron, calcium**).
  - They serve as natural components of the diets of many fish and poultry species.
- **Economic Viability:** Studies suggest insect-based feed has a **better benefit-to-cost ratio** than conventional fishmeal or soybean meal.
  - Local production of insect-based feed reduces dependency on expensive imports of protein-rich feed ingredients.

Efforts against Antimicrobial Resistance

- **Global Efforts:**
  - **Global Action Plan (GAP) on Antimicrobial Resistance:** Nations adopted the framework set out in the Global Action Plan (GAP) 2015 to address AMR through a coordinated and "One Health" approach.
  - **World Antimicrobial Awareness Week (WAAW):** It is a global campaign that aims to raise awareness of antimicrobial resistance worldwide.
  - **Global Antimicrobial Resistance and Use Surveillance System (GLASS):** WHO launched it **in 2015** to continue filling knowledge gaps and to inform strategies at all levels.
  - **Global Antibiotic Research and Development Partnership (GARDP):** A joint initiative of WHO and the Drugs for Neglected Diseases Initiative (DNDi), GARDP encourages research and development through public-private partnerships.
- **Indian Initiatives:**
  - **National Action Plan on Antimicrobial Resistance (NAP-AMR):** It has a focus on the One Health approach & was launched with the aim of involving various stakeholders ministries/departments.
  - **AMR Surveillance Network:** Indian Council of Medical Research (ICMR) established the AMR surveillance and research network (AMRSN) to generate evidence and capture trends and patterns of drug resistant infections in the country.
  - **India's Red Line campaign:** Which demands that prescription-only antibiotics be marked with a red line, to discourage the over-the-counter sale of antibiotics– is a step forward.
  - **National Antibiotic Consumption Network (NAC-NET):** The network sites compile data on antibiotic consumption in their respective health facilities and send it to National Centre for Disease Control (NCDC).
  - The **Kerala** Drug Control Department launched **Operation AMRITH (Antimicrobial Resistance Intervention for Total Health)** to prevent the overuse of antibiotics in the state.

Concluding remarks

- The AMR crisis is no longer a future threat—it is a present and growing danger that challenges the very foundation of modern medicine, agriculture, and global development.
- Transitioning to insect-based livestock feed offers a transformative opportunity to not only curb the misuse of antibiotics but also reduce the environmental footprint of food systems.

Source: TH

HOW WILL FOREIGN UNIVERSITIES IMPACT HIGHER EDUCATION IN INDIA?

Context

- The entry of several foreign universities into India, enabled by the UGC (Setting up and Operation of Campuses of Foreign Higher Educational Institutions in India) Regulations, 2023, marks a major development in Indian higher education.

Background

- Prominent foreign institutions are setting up branch campuses, mainly in **GIFT City and Navi Mumbai.**
- **NYU Abu Dhabi** and **Yale-NUS in Singapore** are notable successes—due to strong local partnerships, generous state support, and academic autonomy.
- This move is in line with the vision of the **National Education Policy (NEP) 2020,** which encourages the **internationalisation of education.**

Why Are Foreign Universities Entering India?

- **Push Factors in the West:**
  - **Demographic Transition:** Many Global North countries like the U.K., Canada, and Australia are witnessing declining domestic enrolments due to falling birth rates.
  - **Financial Pressures:** Public funding for higher education has declined in several Western countries. As a result, universities have turned to international students, who pay significantly higher tuition fees, to plug funding gaps.
  - **Recent Visa and Policy Changes:** The U.K., Australia, and Canada have all introduced caps or tighter controls on international student visas due to rising migration and housing pressures, impacting their universities' revenues.
  - **Budget Cuts:** Faced with reduced enrolments and income, many universities have begun downsizing, making the search for overseas markets like India more urgent.
- **Pull Factors in India:**
  - **Large Youth Population:** India has the largest youth population in the world. With more than **40 million** students in higher education and a **GER (Gross Enrolment Ratio) of ~30%**, the demand for quality education is rising.
  - **Growing Middle Class:** Rising incomes and aspirations are making premium education more affordable for Indian families.
  - **Regulatory Reforms:** The FHEI Regulations 2023 permit top-ranking foreign universities to establish campuses in India with operational autonomy.
  - **NEP 2020 Goals:** The NEP promotes global partnerships, knowledge exchange, and academic excellence—creating a conducive policy ecosystem.

Benefits of Foreign University Campuses

- **Improved Academic Standards:** Top foreign institutions are expected to bring global pedagogical practices, faculty training, interdisciplinary curriculum, and research orientation.
- **International Degrees:** Students who cannot afford to go abroad will be able to access international degrees at a lower cost in India.
  - It also reduces the burden of foreign exchange outflows, as India annually loses around **$60 billion** to education abroad.
- **Curbing Brain Drain:** By providing high-quality opportunities within India, some students may prefer staying back, reducing the outflow of talent.
- **Collaboration Opportunities:** These campuses could serve as hubs of industry-academia partnerships, especially in STEM, AI, climate sciences, fintech, and liberal arts.
- **Innovation Ecosystems:** Locations like GIFT City and Navi Mumbai are being positioned as edu-economic hubs where students can access internships, entrepreneurship incubators, and global corporate networks.

What are the Challenges?

- **Limited Initial Impact:** The scale will be small in the short to medium term—**initial enrolments are likely to be limited** to a few thousand students per campus.
- **Affordability Concerns:** If foreign campuses replicate their home-country fee structures, accessibility for average Indian students may be low.
- **Operational Hurdles:** Despite UGC's liberalised norms, concerns remain over land acquisition, accreditation recognition, and faculty recruitment norms.
- **Precedents of Failure:** Several foreign campuses in Malaysia, UAE, and China have either shut down or failed to meet expectations due to low enrolments or cultural misalignment.

Way Ahead

- **Tiered Fee Structures:** To ensure inclusivity, campuses should be incentivised to offer scholarships, need-based financial aid, and differential pricing.
- **Clear Quality Assurance Mechanisms:** UGC and NAAC should build robust oversight mechanisms to ensure foreign campuses uphold global standards while aligning with Indian values.
- **Strong Local Partnerships:** Foreign universities should be encouraged to collaborate with Indian HEIs, industry bodies, and research institutes to localise content and improve outreach.
- **Periodic Impact Assessments:** A national-level impact monitoring mechanism should assess student satisfaction, research output, and employability outcomes of foreign branch campuses.

Concluding remarks

- Foreign universities entering India is a transformational opportunity, but not a magic bullet.
- Their success will depend on affordability, inclusivity, and integration with India's broader

educational ecosystem. If navigated wisely, this move can catalyse India's ambition of becoming a global knowledge hub, as envisioned by the NEP 2020.

Source: TH

EXPANSIONARY POLICIES IN A SLOWING ECONOMY

Context

- India is currently witnessing a rare phase where both **fiscal and monetary policies are expansionary.**
  - While this approach aims to revive aggregate demand in a slowing economy, it also brings the **risk of inflation, policy misalignment, and fiscal stress.**

Key Policies Adopted Recently

- **In Union Budget 2025–26,** 11.21 lakh crore earmarked for infrastructure, agriculture, MSMEs, and digital connectivity (strong emphasis on capital expenditure).
- **Income Tax cuts** announced were intended **to boost consumption** during a slowdown.
- RBI cut the **repo rate to 5.5%** to encourage borrowing and investment amid slowing growth.
- The **RBI's dual mandate** — price stability and growth — has led to:
  - Rate cuts to encourage borrowing.
  - Inflation targeting, with retail inflation falling to 4.6% in 2024–25.
  - Liquidity support for financial institutions and NBFCs.

Issues & Challenges

- **Lack of Policy Coordination:** If both policies work together without coordination, it might overheat the economy causing inflation.
  - Despite these policies, growth is still slow, credit growth is weak, and unemployment is rising.
- **Muted Demand Response:** People are not spending much, even with tax cuts. This challenges the Rational Expectations Theory (core to inflation targeting)
- **Widening Fiscal Deficit Risk:** If growth doesn't rise, tax revenue will fall, **leading to a fiscal deficit.** To plug the gap, the government may have to cut welfare spending, hurting vulnerable groups.
- **Rising Inequality and Weak Wages:** Corporate profits rising, but real wages stagnant. Expansion policies may benefit capital more than labour.

Instances of Expansionary Policies Adopted in Past

- **The New Deal (1930s):** By the **United States**, in response to the Great Depression.
- **Post-2008 Global Financial Crisis**: By Central Banks and US Federal Reserve; Slashed **interest rates to near zero** and introduced **quantitative easing** — buying government securities to inject liquidity into the economy.
  - **In India,** RBI **slashed the repo rate** from 9% in 2008 to 4.75% by April 2009.
- **Japan's Abenomics (2012–2020):** Three-pronged strategy:
  - Monetary easing by the Bank of Japan;
  - Fiscal stimulus through government spending; and
  - Structural reforms to revive Japan's stagnant economy.
- **COVID-19 Pandemic Response (2020–2021):**
  - Massive **fiscal stimulus packages** — direct cash transfers, unemployment benefits, and business loans — while **central banks cut interest rates** and expanded asset purchases to cushion the economic blow.
  - **India** rolled out the **Aatmanirbhar Bharat Abhiyan**, a 20 lakh crore package
  - **Other steps:**
    - Repo rate cuts to a historic low of 4%.
    - **Loan moratoriums and liquidity support** for NBFCs and housing finance companies.

Benefits of Expansionary Policies in India

- **Boosts Aggregate Demand:** Expansionary fiscal policies like tax cuts and increased public spending raise disposable incomes and consumption.
  - Similarly, lower interest rates encourage borrowing and investment, helping revive demand across sectors.
- **Supports Employment:** Government-funded infrastructure projects and MSME support schemes can generate jobs, especially in rural and informal sectors, reducing unemployment during downturns.
- **Encourages Private Investment:** Lower borrowing costs and improved consumer sentiment can incentivize businesses to invest in capacity expansion, innovation, and hiring.

- **Stabilizes Financial Markets:** Liquidity injections by the RBI and credit guarantees for NBFCs and banks help maintain financial stability and prevent credit crunches.
- **Short-Term Economic Relief:** During emergencies like the COVID-19 pandemic, direct cash transfers and food security measures provided immediate relief to vulnerable populations.

Way Forward

- **Strengthen Policy Coordination Mechanism:** Institutionalised dialogue between RBI and Ministry of Finance.
- **Prioritise Targeted Transfers:** Increase DBTs and wage support schemes to boost bottom-up demand.
- **Revise Tax Structures Holistically:** Combine income tax relief with indirect tax (GST) rationalisation.
- **Monitor Inflation Proactively:** Pre-emptively tighten monetary policy if demand-pull inflation rises.

Conclusion

- Expansionary policies have played a vital role in India's economic management, especially during crises. However, their success depends on timing, targeting, and coordination.
- Policymakers need to balance short-term stimulus with long-term fiscal prudence and structural reforms to ensure sustainable growth.

Fiscal Policy

- It refers to the **government's use of taxation and public spending** to influence the economy.
- **Expansionary Fiscal Policy** involves **increasing government spending or cutting taxes** to stimulate demand.
- **Contractionary Fiscal Policy means reducing spending or increasing taxes** to cool down an overheating economy or reduce fiscal deficits.
  - The government uses **fiscal responsibility frameworks**, such as the **FRBM Act**, to maintain long-term macroeconomic stability.

Monetary Policy

- It is **managed by the Reserve Bank of India (RBI)** and involves **regulating interest rates and money supply** to maintain price stability and support growth.
- **Expansionary Monetary Policy:** By **lowering interest rates** or conducting **open market operations** to inject liquidity.
- **Contractionary Monetary Policy:** It involves raising interest rates or reducing money supply, used **to curb inflation.**

Source: TH

QUANTUM COMMUNICATION

Context

- **India** has successfully demonstrated **quantum secure communication using quantum entanglement** over free space by the DRDO-Industry-Academia Centre of Excellence (DIA-CoE), IIT Delhi.
  - This marks a **significant milestone in India's quantum technology roadmap.**

Key Highlights

- **Technology Used:** Quantum Entanglement-based Free-Space Quantum Key Distribution (QKD).
- **Secure Key Rate:** ~240 bits per second.
- **Quantum Bit Error Rate (QBER):** < 7%.
- **Distance:** Over 1 km free-space optical link on IIT Delhi campus.

Quantum Communication

- **Quantum communication** uses quantum physics, especially quantum entanglement, to create ultra-secure channels for sending information.
- **Quantum Entanglement:** When two photons are entangled, measuring one instantly determines the state of the other — even if they are far apart.
- **Main purpose:** To make communication leak-proof. Any eavesdropping attempt will disturb the entangled state, revealing the intrusion.

What is Quantum Key Distribution (QKD)?

- **QKD** allows secure exchange of encryption keys **using quantum mechanics.**
- **Uses photons (light particles)** as information carriers.
- Quantum entanglement-based QKD is **highly secure** — any hacking attempt disturbs the system and gets detected.
- **Entanglement-based Quantum Key Distribution (QKD) Advantages:**
  - Security even with imperfect or compromised devices.

- Intrusion detection through quantum state disturbance.
- More robust than traditional prepare-and-measure QKD methods.

- **Applications:**
  - Defence communications.
  - Secure banking and telecom networks.
  - Strategic sector data protection.
  - **Cost-effective:** Free-space QKD avoids costly fiber-laying in challenging geographies.

Why Free-Space Communication?

- Free-space or satellite-based QKD **can connect long distances without laying cables.**
- **Cables (optical fiber)** become **costly and impractical over long distances.**

Global Comparison

- **China is** leading with a 4,600 km quantum network since 2021.
  - China had demonstrated satellite-based quantum communication nearly one decade ago, as they had a head start in quantum communication **activities since the early 2000s.**
- **Since 2005**, there have been ground demonstrations in **Europe, Canada, and the United States of free-space (without cables)** QKD **greater than 100 km,** suggesting that India still has much to cover regarding QKD-entanglement communication.

Challenges

- It requires not only adequate funds but also a **large, dedicated team of multidisciplinary skilled experts** for developing several types of enabling technologies.
- **Atmospheric disturbances** increase error in free-space.
- **India started late (2020s)** and must catch up with global leaders.
- **Using fibre optic cables** provides a stable **channel for quantum communication** which free-space channels do not.

Future Plans

- **Under the National Quantum Mission (NQM)** India is focusing on **satellite-based long-distance QKD.**
- **The support includes** quantum start-ups, indigenous equipment, and lab-to-market technologies.
- India aims to achieve **satellite-based QKD and a quantum network across India in 5–10 years.**

Source: TH

NEWS IN SHORT

DR. SYAMA PRASAD MUKHERJEE

In News

- Prime Minister Narendra Modi paid tributes to Bharatiya Jana Sangh's founding **president Syama Prasad Mukherjee** on his death anniversary.

Dr. Syama Prasad Mukherjee

- He was born on 6th July 1901 in Calcutta.
- He was a multifaceted personality -patriot, educationist, parliamentarian, statesman, and humanitarian.
- He inherited a legacy of erudition and nationalism from his father, Sir Ashutosh Mukherjee, an esteemed Vice-Chancellor of Calcutta University and Judge of the Calcutta High Court.

Major contributions

- He excelled academically and served as the youngest Vice-Chancellor of Calcutta University, promoting Indian languages and education.
- He was initially involved with Congress and later joined the Hindu Mahasabha, becoming its acting president and advocating for complete Indian independence.
- As Finance Minister in Bengal, he **opposed colonial interference** and contributed to famine relief efforts.
- Post-independence, he served as **Industry Minister**, helping establish key industrial institutions before founding the Bharatiya Jan Sangh in 1951.
- He was Known as **"The Lion of Parliament,"** he was a powerful orator championing national unity, **especially the integration of Jammu and Kashmir.**

Legacy

- He died in detention in Kashmir in 1953 and is remembered for his patriotism, leadership, and dedication to India's unity.

Source :PIB

UMEED PORTAL

Context

- The Minority Affairs Ministry actively engages with States and Union Territories to ensure effective implementation of the UMEED portal, ensuring all **Waqf properties** are uploaded within **six months.**

About UMEED Portal

- The portal is developed by the **Ministry of Minority Affairs** to manage Waqf properties efficiently across India.
- The UMEED Central Portal, short for **Unified Waqf Management, Empowerment, Efficiency and Development Act, 1995** will serve as a **centralized digital platform** for real-time uploading, verification, and monitoring of Waqf properties.
- **Key Features of the Portal are:**
  - Creation of a digital inventory with geo-tagging of all Waqf properties
  - Online grievance redressal system for better responsiveness
  - Transparent leasing and usage tracking
  - Integration with GIS mapping and other e-Governance tools
  - Public access to verified records and reports.

Source: PIB

US ATTACK ON IRAN'S NUCLEAR FACILITIES

Context

- The United States attacked **three key nuclear installations** in Iran—**Natanz, Fordow, and Isfahan.**

Background

- The strikes, known as **Operation Midnight Hammer**, mark the first direct U.S. military intervention targeting Iran's nuclear infrastructure amid its war with Israel.
- The operation was coordinated with Israeli forces.

US has Bombed Nuclear Sites in Iran

Other Nuclear Sites (Not Targeted)

- **Bushehr Nuclear Power Plant:** Commercial site, Russian-fueled, under IAEA monitoring.
- **Arak Heavy Water Reactor:** Potential for plutonium production; reconfigured under JCPOA.
- **Tehran Research Reactor:** Retrofitted for low-enriched uranium use.

Joint Comprehensive Plan of Action (JCPOA)

- JCPOA, commonly known as the Iran nuclear deal, is a landmark diplomatic agreement reached in **2015** between Iran and the **P5+1 countries** — United States, United Kingdom, France, Russia, China, and Germany, along with the European Union.
- To ensure that **Iran's nuclear program remains peaceful** and to prevent Iran from developing nuclear weapons, in exchange for **lifting economic sanctions.**
- However In **2018, the U.S.** under President Donald Trump **unilaterally withdrew from the JCPOA.**

Main Provisions of the JCPOA

- **Uranium Enrichment Limits:** Iran agreed to cap uranium enrichment at 3.67% purity (far below the 90% needed for weapons).
  - It could only keep 300 kg of low-enriched uranium, down from over 10,000 kg.
- **Centrifuge Reduction:** Iran agreed to reduce its number of centrifuges from about 20,000 to 6,104, of which only 5,060 could be used for enrichment.
- **About Fordow:** No uranium enrichment for **15 years.**
  - **Natanz:** The only site allowed to enrich uranium under strict monitoring.
- **Heavy Water Reactor at Arak:** Iran had to redesign and rebuild the reactor to prevent plutonium production.
- **Iran agreed to allow IAEA inspectors** regular and long-term access to its nuclear facilities, including undeclared sites.
- **Sanctions Relief:** In exchange, UN, U.S., and EU nuclear-related sanctions were lifted, giving Iran access to global markets and frozen assets.

Source: IT

IRAN MOVES TO BLOCK STRAIT OF HORMUZ

In News

- Iran's Parliament has approved a proposal to close the **Strait of Hormuz due to** U.S. strikes on Iranian nuclear facilities, escalating the Iran-Israel conflict.

About Strait of Hormuz

- The Strait of Hormuz connects the **Persian Gulf to the Gulf of Oman** and the Arabian Sea.

- It is l**ocated between Oman and Iran**.
- It provides the only sea passage from the Persian Gulf to the open ocean and is one of the world's most strategically important choke points.
- It serves as the primary export route for Gulf producers such as Saudi Arabia, the United Arab Emirates, Iraq, and Kuwait.
- It handles about 20 million barrels of oil daily—around one-fifth of global supply—and significant LNG volumes.
    - In 2024–25, it accounted for over a quarter of global seaborne oil trade, making it vital to global energy security.

Impacts of Closure

- Saudi Arabia and the UAE have limited overland pipeline alternatives to the Strait of Hormuz, covering less than half its capacity.
- Any closure of the Strait would disrupt **global supply chains and increase shipping and insurance costs.**
- India imports **90% of its crude oil,** with around 2 million barrels per day passing through the **Strait of Hormuz.**
    - However, India's diversified oil sources, with **Russian crude now making up 38% of imports.**
- A prolonged crisis could weaken growth, raise inflation, pressure the rupee, and strain fiscal space.

Source: BS

SARISKA TIGER RESERVE

Context

- A plan drawn up to rationalise the boundary of **Sariska Tiger Reserve's Critical Tiger Habitat (CTH)** may offer a lifeline to **over 50 marble and dolomite mines that were closed following a Supreme Court order.**
    - If approved, the new boundaries **would exclude degraded peripheral areas,** moving mining operations outside the prohibited one-kilometre zone.

About

- **Sariska Tiger Reserve or Sariska National Park** is one of the biggest and most renowned Tiger reserves in Northern India.
    - The park is located in the **Alwar district of Rajasthan.**
- **Sariska Tiger reserve** used to be the hunting ground for the princely state of Alwar. But after Independence, The Sariska Forest was first notified as a **Wildlife Reserve in 1955.**
    - **1978:** It was declared as the 11th Tiger Reserve by the Government of India.
    - **1982:** The Sariska Wildlife Sanctuary was designated as Sariska National Park.

Source: IE

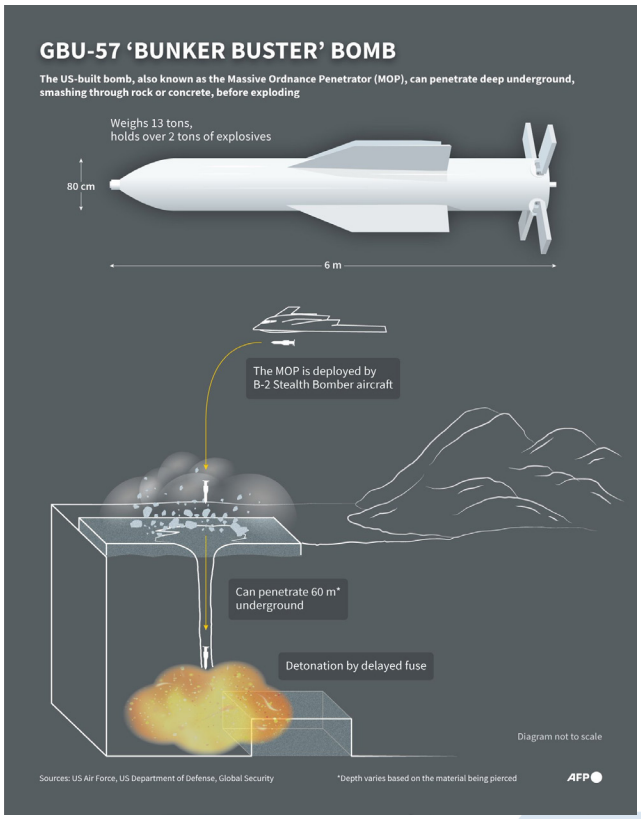
GBU-57 MASSIVE ORDNANCE PENETRATOR/MOP

Context

- The American military has completed airstrikes on three sites in Iran, marking a significant escalation in the ongoing conflict with Israel.
    - **Located 300 feet beneath a mountain, Fordo** is where Iran has allegedly **tried to enrich uranium for weapons** purposes and stockpile the enriched uranium.

About

- The **GBU-57 Massive Ordnance Penetrator** is the largest **non-nuclear bomb** in the US inventory.



- Built by **Boeing and guided by GPS**, it is engineered specifically to target deeply buried and hardened bunkers.
- MOP measures **20.5 feet in length and 31.5 inches in diameter, and weighs just under 30,000 pounds**—including 5,300 pounds of high-explosive material.
- The bomb can **burrow more than 200 feet through reinforced concrete before detonating**. Its casing, made from high-performance steel alloy, helps it withstand the **immense impact forces upon penetration.**
- **Any country other than the US**, does not have any non-nuclear weapon systems that can penetrate a site as deep as Fordo.

Source: IE

INS NILGIRI: FIRST PROJECT 17A STEALTH FRIGATE

Context

- INS Nilgiri arrived at Visakhapatnam port to join the Eastern Naval Command's Sunrise Fleet.

Do you know?

The other six ships of this class — Himgiri, Taragiri, Udaygiri, Dunagiri, and Vindhyagiri — are at various stages of construction at MDL, Mumbai, and GRSE, Kolkata.

INS Nilgiri

- It is built by Mazagon Dock Shipbuilders Limited (MDL), Mumbai, and Garden Reach Shipbuilders and Engineers (GRSE), Kolkata as a follow-on to the **Shivalik class.**
  - It is the first **indigenously built Project 17A stealth frigate.**
    - **Project 17A Frigates** are the follow-on class of Project 17 (Shivalik Class) Frigates, with improved stealth features, advanced weapons and sensors and platform management systems.
- It is designed for blue-water operations and is equipped for anti-air, anti-surface, and anti-submarine warfare.
- It is multi-mission ships which operate in deep seas and handle conventional and unconventional threats

Source :IE

INS TAMAL

Context

- The **Indian Navy** is all set to commission its latest **stealth multi-role frigate INS Tamal at Kaliningrad in Russia.**

About

- This will be the **last warship of the Indian Navy to have been built outside India** and the **eighth in the series of Krivak class frigates** inducted from Russia over the past two decades.
  - INS Tamal is the **second ship of the Tushil Class,** which are the upgraded versions of their predecessors, **Talwar and Teg classes.**
- By the conclusion of this series of ships, th**e Indian Navy will be operating 10 ships with similar capabilities** over four different classes.

INS Tamal

- The ship has **26% indigenous components,** including the **BrahMos long range cruise missile** for targeting both at sea and land.
- The vessel has significant **upgrades in its arsenal in comparison to its predecessors.**
- The ship's new design provides it with enhanced stealth features and greater stability characteristics.

Source: TH