



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

CROSS & CLIMB ROHTAK

Institute of Research Based Learning & Competition



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

Current Affairs - 14 September 2025

NATIONAL BOTANICAL RESEARCH INSTITUTE (NBRI)



- It is amongst one of the **constituent research institutes** of the **Council of Scientific and Industrial Research (CSIR)**.
- It is located in the city of **Lucknow, Uttar Pradesh**.
- It is a **multi-disciplinary plant research centre** of international repute, undertaking **basic and applied R&D programmes** in several strategically important areas of **plant sciences**.
- **Originally set up as the National Botanic Gardens (NBG)** by the State Government of **Uttar Pradesh (U.P.)**, it was **taken over by the CSIR in 1953**.
- Though initially engaged in research work in the classical botanical disciplines, the NBG went on laying an increasing emphasis, in keeping with the national needs and priorities in the field of plant sciences, on its applied and developmental research activities.
- NBG was **renamed as the NBRI**, e., The National Botanical Research Institute **in 1978**.
- **Objectives:**
 - Basic and applied **research on plant diversity** and prospection, **plant-environment interaction** and biotechnological approaches for **plant improvement**.
 - **Development of technologies** for new plant and microbial sources of commercial importance.
 - **Building up germplasm repository** of plants of indigenous and exotic origin, including rare, endangered and threatened species
 - **Providing expertise and assistance** for **identification, supply and exchange** of plants and propagules, **garden layout and landscaping**.
 - **Dissemination of scientific knowledge** and technologies on **plants and microbial resources** through publications, training, capacity building and extension activities



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

CROSS & CLIMB ROHTAK

Institute of Research Based Learning & Competition



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

Current Affairs - 14 September 2025

- The NBRI R&D department has seven divisions under which they conduct various researches. Those seven divisions are
 - Plant Diversity, Systematics and Herbarium.
 - Pharmacognosy, Phytochemistry and Product Development.
 - Plant Ecology and Environment Technologies.
 - Molecular Biology and Biotechnology.
 - Plant Genetic Resources and Improvement.
 - Botanical Garden, Plant Conservation and Agro-technologies.
 - S & T Management.
- CSIR-NBRI is equipped with **state-of-the-art laboratories** to support R&D.
- CSIR-NBRI has a **well-designed Botanic Garden** spread over **25 hectares** with documented collections of about 5,000 indigenous and exotic plant species and varieties.
- It has an **herbarium with 253,103 reference collections of flowering and non-flowering plants** of India and **two field research stations at Banthra**.
- The institute is known for its outstanding contributions to enriching the knowledge base on India's plant diversity, particularly in developing globally competent biotech and microbial technologies, herbal products, and plant databases.

WHAT IS THE AMRIT SAROVAR MISSION?



- It was launched in **April 2022** to **construct or rejuvenate 75 Amrit Sarovars (ponds)** in each district of the country as a part of the celebration of **Azadi ka Amrit Mahotsav**.
- It helps to **overcome the water crisis in rural areas** of the country.
- **Salient Features of the Mission:**
 - Every Amrit Sarovar will have a **pondage area of at least 1 acre** with a **water holding capacity of about 10,000 cubic metre**.



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

CROSS & CLIMB ROHTAK

Institute of Research Based Learning & Competition



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

Current Affairs - 14 September 2025

- Every Amrit Sarovar will be **surrounded by trees** like Neem, Peepal, and Banyan, etc.
 - Every Amrit Sarovar will be a **source of generation of livelihoods** by **using the water for different purposes** like irrigation, fisheries, duckery, cultivation of water chestnut, water tourism, and other activities.
 - The Amrit Sarovar will also **act as a social gathering point** in that locality.
 - **The site of Amrit Sarovars** will be **approved by special Gram Sabha**, which will also name **Panchayat Partinidhi**, who will **supervise the development of Amrit Sarovar** on its behalf.
 - It focuses on water conservation, people's participation, and proper **utilization of soil excavated** from the water bodies to **boost infrastructure projects**.
 - It is based on the **“Whole of Government”** approach with the **participation from the Ministry of Rural Development, Ministry of Jal Shakti, Ministry of Culture, Ministry of Panchayati Raj, Ministry of Environment, Forest & Climate Change**, and technical organizations.
 - There is **no separate financial allocation** for Mission Amrit Sarovar.
 - Mission Amrit Sarovar **works** are being **taken up by the states and districts with convergence from various ongoing schemes** such as **Mahatma Gandhi NREGS, 15th Finance Commission Grants, Pradhan Mantri Krishi Sichayi Yojna** sub-schemes such as the **Watershed Development Component, Har Khet ko Pani**, besides States' own schemes.
 - **Bhaskar Acharya National Institute for Space Application and Geoinformatics (BISAG-N)** has been engaged as a **technical partner** for the Mission.
 - **Amrit Sarovar Portal and Mobile App** developed by **BISAG-N** is used for tracking the progress/ performance of Mission Amrit Sarovar in districts.
-



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

CROSS & CLIMB ROHTAK

Institute of Research Based Learning & Competition



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

Current Affairs - 14 September 2025

AI-BASED WEATHER FORECASTING PROGRAM



• It was launched by the **Ministry of Agriculture and Farmers' Welfare**.

- Under this initiative AI-based monsoon forecasts was **sent using m-Kisan portal**.
- This is the first-of-its-kind targeted dissemination of AI weather forecasts to date.
- These AI-based forecasts distributed by the MoAFW correctly **identified 20 days' pause** in monsoon progression.
- The government sent updated information **to farmers every week** until continuous rains arrived in their area.
- **AI Models used**
 - The forecasts used were a blend of two open-access models—**Google's Neural GCM** and **European Centre for Medium-Range Weather Forecasts' (ECMWF) Artificial Intelligence Forecasting Systems (AIFS)**.
- **Significance:** It centers specifically on the needs of farmers by **providing tailored weather forecasts** in easy to understand language and helps them make informed farming decisions.

What is m-Kisan Portal?

- It is a platform which **provides web-based mobile advisory to farmers** with the technological backstopping from Research Institutes and Agricultural Universities supporting farmers.
- It enables all **Central and State government organizations** in agriculture and allied sectors to provide information/services/advisories to farmers by SMS in their language, preference of agricultural practices and location.
- Through this portal messages are tailored to the farmer's language, location, and preferred practices, helping them stay **updated on weather, crops, pest control**, and government schemes.



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

CROSS & CLIMB ROHTAK

Institute of Research Based Learning & Competition



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

Current Affairs - 14 September 2025

EXERCISE SIYOM PRAHAR



Recently, the Indian Army successfully conducted Exercise Siyom Prahar.

- It is a **major field training exercise** conducted by the Indian Army.
- It is aimed at validating the **employment of drone technology** in modern tactical operations.
- It was held under realistic battlefield conditions and marked “**a significant step in operational preparedness**” by integrating unmanned aerial systems across tactical and operational depths.
- The drones were employed for persistent surveillance, battlefield reconnaissance, target acquisition and precision strikes, underscoring their role in enhancing combat effectiveness.
- **Focus:** The central focus of the exercise was the development and **validation of new Tactics, Techniques and Procedures for future battlefields.**
- It included methods of **fusing drone-derived intelligence** with conventional firepower, refining joint targeting processes and ensuring rapid decision-making in dynamic combat environments.

Significance

- The exercise highlighted the importance of **adaptability and synergy between traditional combat arms** and emerging technological enablers, the official added.
 - This exercise reflected the Indian Army’s proactive approach to adapting to modern warfare and its emphasis on future-readiness.
-



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

CROSS & CLIMB ROHTAK

Institute of Research Based Learning & Competition



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

Current Affairs - 14 September 2025

INDIA'S OUTWARD FDI TRENDS - SHIFT TOWARDS TAX HAVENS

- India's outward foreign direct investment (FDI) has grown significantly over the past two decades, reflecting the ambition of Indian companies to expand their global presence.
- While domestic reforms have supported inbound investment, outward investment trends reveal a distinct preference for low-tax jurisdictions.
- According to **Reserve Bank of India (RBI)** data, nearly 60% of India's outward FDI in 2023-24 was routed through tax havens such as Singapore, Mauritius, and the UAE.
- This pattern highlights not only tax efficiencies but also strategic advantages for Indian companies seeking global expansion.

India's Outward Investment Trends

- India's outward FDI has witnessed structural changes in both volume and destination preferences.
- From traditional investments in manufacturing and energy, Indian firms have diversified into IT services, pharmaceuticals, consumer goods, and infrastructure globally. The main objectives driving this trend include:
 - **Access to new markets:** Indian companies are establishing subsidiaries abroad to tap into consumer demand in **Europe**, the **U.S.**, and **Africa**.
 - **Technology acquisition:** Outward investments enable Indian firms to access advanced technologies, particularly in healthcare, automotive, and clean energy.
 - **Strategic partnerships:** Cross-border mergers, acquisitions, and joint ventures strengthen Indian firms' positioning in global supply chains.
 - **Risk diversification:** By expanding abroad, companies hedge against domestic regulatory and market volatility.
- The government has supported outward FDI by easing regulatory approvals, enhancing bilateral investment treaties, and facilitating credit support through institutions like EXIM Bank.



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

CROSS & CLIMB ROHTAK

Institute of Research Based Learning & Competition



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

Current Affairs - 14 September 2025

- However, the heavy reliance on tax havens underscores a complex mix of regulatory arbitrage, strategic structuring, and global investor preferences.

Conclusion

- India's outward FDI trajectory highlights a dual narrative: on one hand, concerns about tax revenue leakage and regulatory arbitrage; on the other, the strategic necessity for Indian firms to leverage tax-efficient jurisdictions to expand globally.
- With nearly 60% of investments flowing through tax havens, it is evident that these destinations serve as both gateways for third-country expansion and buffers against global trade risks.
- Going forward, India's challenge will be to balance regulatory oversight with the need to support its companies' global ambitions.

ERRA MATTI DIBBALU



- Erra Matti Dibbalu, also known as the **Red Sand Dunes** is located along the coast near Visakhapatnam in **Andhra Pradesh**.
- It was first **documented by British geologist William King in 1886**, these formations are regarded as rare **coastal geomorphological features**.
- **Key Features of Erra Matti Dibbalu**
 - It is composed of sand, silt, and clay, with their distinct reddish hue resulting from **natural oxidation over thousands of years**.
 - The uniqueness of this site is that the red sediments are a **part of the continuation of the evolution of the earth** and represent the late quaternary geologic age.
 - They exhibit badland **topography with different geomorphic landforms** and features, including gullies, sand dunes, buried channels, beach ridges, paired terraces, the valley in the valley, wave-cut terrace, knick point and waterfalls.



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

CROSS & CLIMB ROHTAK

Institute of Research Based Learning & Competition



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

Current Affairs - 14 September 2025

- It is a lively scientific evolution site, which depicts the real-time effects of climate change.
- The site also has archaeological significance, as studies of artefacts indicate an **Upper Palaeolithic horizon** and on cross dating assigned to **Late Pleistocene epoch**, which is 20,000 BC.
- The site contains dendritic drainage patterns and sediment layers that record fluctuations in sea level and climatic changes over the late Quaternary period.
- The Geological Survey of India (GSI) declared Erra Matti Dibbalu a **National Geo-heritage Monument in 2016**.
- **Issues:** Experts note that the site faces threats from tourism and filming activities.

BAIRABI-SAIRANG RAIL LINE



- It extends connectivity from Bairabi on the Assam–Mizoram border to Sairang, just 20 km from Aizawl (capital of Mizoram), directly **linking the state capital with India's railway network for the first time**.
- With the new connection, **Aizawl becomes the fourth northeastern state capital linked to the national railway network after Guwahati, Agartala, and Itanagar**.
- The Bairabi–Sairang line stretches **38 km**, running through some of the most challenging and hilly terrain in the Northeast.
- The project includes 48 tunnels, 142 bridges (55 major and 87 minor), and multiple road overbridges and underbridges.
- Notably, **Bridge No. 196 stands 104 meters tall- taller than Delhi's Qutub Minar- making it the highest bridge in the state and the second-highest pier bridge in Indian Railways**.
- The total length of tunnels in this project is 12,853 meters.
- The passenger trains can run at speeds of up to 100 kmph on the newly built rail line.
- The line was built at a cost of over **Rs 8,070 crore**.



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

CROSS & CLIMB ROHTAK

Institute of Research Based Learning & Competition



CROSS & CLIMB
MAKING THE ELIGIBLE ENTITLED

Current Affairs - 14 September 2025

GANDHI SAGAR WILDLIFE SANCTUARY



- **Location:** It is situated in **northwestern Madhya Pradesh**, along the Madhya Pradesh-Rajasthan border and lies within the **Khathiar-Gir dry deciduous forests ecoregion**.

Key features:

- It was declared a sanctuary in 1974, covering an area of 368 sq. km.
 - **Rivers:** The **Chambal River** flows through the sanctuary, dividing it into two parts.
 - It is a designated **Important Bird and Biodiversity Area (IBA)**.
 - The sanctuary houses sites of historical and archaeological significance, such as Chaurasigarh, Chaturbhujnath Temple, Bhadkaji rock paintings, Hinglajgarh Fort, and Taxakeshwar Temple.
 - **Topography and Vegetation:** The sanctuary includes hills, plateaus, and the catchment area of the Gandhi Sagar Dam.
 - **Vegetation:** Northern tropical dry deciduous forest, Northern tropical dry mixed deciduous forest, Dry deciduous scrub.
 - **Flora:** It mainly consists of Khair, Salai, Kardhai, Dhawda, Tendu, and Palash trees.
 - **Fauna:** Chinkara, Nilgai, and Spotted Deer, Indian Leopard, Striped Hyena, and Jackal etc.
-