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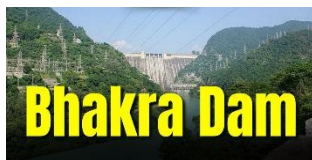
NATIONAL MEDICINAL PLANTS BOARD



- It is working as a **section of Ministry of AYUSH** (Ayurveda, Yoga & Naturopathy, Unani, Siddha & Homoeopathy).

- **Mandate:** To develop an **appropriate mechanism** for coordination between various ministries/ departments/ organizations in India and implements support policies/programs for **overall growth of medicinal plants sector** both at the Central /State and International level.
- **Objective:** Main objective is the **development of medicinal plants** sector through developing a strong coordination between various ministries/ departments/ organizations for implementation of policies / programs on medicinal plants.
- **Functions of National Medicinal Plants Board:**
 - It focuses on **in-situ & ex-situ conservation** and **augmenting local medicinal plants** and aromatic species of medical significance.
 - It also promotes **research & development**, capacity building through trainings, raising awareness through promotional activities like creation of Home/School herbal gardens.
 - It encourages the **protection of patent rights and IPR**.
 - Identification, Inventorisation and Quantification of medicinal plants.

BHAKRA DAM



Bhakra Dam Amid rising incidents of landslides during the monsoon season, a comprehensive geological study of the hillocks surrounding the Bhakra Dam is likely to be undertaken by the Geological Survey of India (GSI).

Current Affairs - 13 February 2026

- It is a **concrete gravity dam** across the **Sutlej River**, in the **Bilaspur district** of **Himachal Pradesh**.
 - It is near the **border between Punjab and Himachal Pradesh**.
 - It is the **highest straight gravity dam** in the world.
 - It is **Asia's second tallest dam**, next to the **Tehri Dam**.
 - **Operation** and maintenance of the **Bhakra dam** is done by the **Bhakra Beas Management Board (BBMB)**.
 - The dam created the **massive Gobind Sagar reservoir** and plays a crucial role in **irrigation, flood control**, and hydroelectric power generation for **Punjab, Haryana, Rajasthan, Himachal Pradesh, and Chandigarh**.
 - In terms of storage of water, it is the **second largest reservoir in India**, the first being **Indira Sagar Dam in Madhya Pradesh**.
 - **Nangal Dam** is another dam downstream of **Bhakra Dam**.
 - **Nangal Dam** is an **earthen dam**.
 - It serves as an **auxiliary dam to channel the water released from Bhakra Dam to two powerhouses**.
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ANCIENT INDIAN NAMES IN EGYPTIAN PHARAOHS' TOMBS: A HISTORICAL PUZZLE

A recent study (2024–25) by scholars from the **École Française d'Extrême-Orient (EFEO)** and the **University of Lausanne** has documented nearly **30 inscriptions** in **Tamil-Brahmi, Sanskrit, and Prakrit** inside six tombs in **Egypt's Valley of the Kings** in the **Theban Necropolis**.

While **Greek graffiti** in these tombs had been catalogued as early as **1926**, the **Indian inscriptions** — dating between the **1st and 3rd centuries CE** — had largely gone unnoticed.

The discovery highlights deeper cultural and mobility links between **South Asia** and the **Mediterranean world** during antiquity.

The Repeated Name: Cikai Korran in Egypt's Tombs

Current Affairs - 13 February 2026

- Among the Indian graffiti found in Egypt's Valley of the Kings, the Tamil name **Cikai Korran** stands out.
- It was inscribed **eight times across five tombs**, including one placed prominently about four metres high near an entrance—suggesting deliberate visibility and assertion of presence.
- **Linguistic Blend: Sanskrit and Tamil Roots**
 - The name reflects cultural hybridity:
 - “**Cikai**” may derive from the Sanskrit śikhā, meaning tuft or crown.
 - “**Korran**” is distinctly Tamil, linked to roots meaning victory or slaying, and associated with Korravai, the Chera warrior goddess, and korra^van (king).
 - This fusion highlights the multilingual and cosmopolitan character of early historic Indian merchant communities.

Beyond Tamil: Northern Indian Presence in Egyptian Tombs

- Of the nearly 30 documented inscriptions, around **20 are in Tamil-Brahmi**, while the remaining are in **Sanskrit, Prakrit, and Gandhari-Kharosthi**.
- This linguistic diversity indicates that visitors were not limited to southern India but came from multiple regions across the subcontinent.
- One Sanskrit inscription mentions an envoy of a **Kshaharata king** who “came here.”
 - The Kshaharata dynasty ruled parts of western India in the 1st century CE, suggesting that individuals linked to ruling elites, not just merchants, were part of these networks.
- The range of languages confirms that Indo-Roman trade was not confined to Tamil merchants from the Malabar coast.
- Traders and travellers from **northwestern and western India**, including Gujarat and Maharashtra, also participated in transoceanic exchanges.

Current Affairs - 13 February 2026

INDIA'S AI APPLICATIONS STACK: COMPETING BEYOND MODELS

AI in Healthcare: Expanding Access and Early Detection

- **Niramai: Early Breast Cancer Screening**
 - Niramai has developed a non-invasive, AI-based thermal imaging tool for breast cancer screening. Unlike traditional mammography, it works effectively for women of all ages, including those with dense breast tissue.
 - Portable and affordable, it enables large-scale screening in rural and semi-urban areas.
- **Qure.ai: Rapid Medical Imaging Analysis**
 - Qure.ai uses AI to analyse X-rays and CT scans within seconds, detecting over 35 conditions such as tuberculosis, lung cancer, and heart failure.
 - It is especially valuable in districts with limited radiologist availability, enabling faster triage and treatment.
- **AISteth: Remote Cardiac and Respiratory Diagnosis**
 - AISteth is an AI-powered stethoscope that converts heart and lung sounds into visual waveforms.
 - With around 93% accuracy, it supports frontline health workers in identifying cardiac and respiratory problems early, strengthening primary healthcare delivery.

AI in Agriculture: Smarter Farming, Lower Costs

- **Neoperk: Instant Soil Health Analysis**
 - Neoperk uses near-infrared spectroscopy and machine learning to deliver lab-accurate soil health results in under five minutes.
- **CottonAce: Pest Management Through AI**
 - Developed by the Wadhvani Institute for Artificial Intelligence, CottonAce allows farmers to upload pest images via a mobile app and receive instant, localised pesticide advice.

Current Affairs - 13 February 2026

- **Niqo Robotics: Precision Spraying**
 - Niqo Robotics deploys AI-powered robots with computer vision to detect pests and weeds in real time.
- **Cropin: Digital Farming Ecosystem**
 - Cropin offers an AI-enabled platform for farm monitoring, credit analytics, and farmer engagement.

AI in Education: Personalised and Inclusive Learning

- **PadhaiWithAI: Improving Math Outcomes**
 - PadhaiWithAI offers an AI-powered personalised learning platform aimed at improving mathematics performance in government schools.
 - Within six weeks, it significantly raised pass rates and boosted high-achiever performance, demonstrating scalable potential for rural education reform.
 - **Rocket Learning's Appu: Early Childhood Support**
 - Rocket Learning's AI companion, Appu, interacts with parents and children via WhatsApp.
 - Through short, play-based activities, it strengthens foundational literacy and numeracy among children under six, making early learning accessible at scale.
 - **Belagavi Smart City: Adaptive eBooks**
 - Belagavi Smart City has introduced AI-enabled deep learning eBooks in public libraries.
 - These books adapt storylines and difficulty levels in real time, leading to improved engagement and a 12% increase in reading speed within two weeks.
 - **Building the India AI Applications Stack**
 - Once proven domestically, high-impact solutions can be integrated into an India AI Applications Stack—a unified suite of scalable, India-tested AI applications ready for global markets.
 - Platforms such as the Global Partnership on AI can support international collaboration and outreach.
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Current Affairs - 13 February 2026

AGRISTACK



- AgriStack is a **Digital Public Infrastructure (DPI)** for the farm sector.
 - It is an initiative under the **Digital Agriculture Mission (DAM)**.
 - It comprises three foundational registries or databases in the agriculture sector, all created and **maintained by the State Governments or Union Territories**.
 - **Farmer Registry:**
 - Under the AgriStack, **farmers are given digital identities (Farmer ID) which are linked dynamically to the State's land records, livestock ownership, crops sown, demographic details, family details, schemes and benefits availed.**
 - **Crop Sown Registry:**
 - It includes **details on crops planted by farmers.**
 - This is recorded through **mobile-based Digital Crop Surveys** on the ground each season.
 - **Geo-referenced Village Maps data:**
 - It comprises **geographic information of land records** linked with their locations (latitudes and longitudes).
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AYUSHMAN SAHAKAR SCHEME



- It is a **scheme of the National Cooperative Development Corporation** for financial assistance to cooperatives on **holistic healthcare infrastructure, education and services.**
- **Objectives of the Ayushman Sahakar Scheme:**

Current Affairs - 13 February 2026

- To assist **provision of affordable and holistic healthcare** through hospitals / healthcare / education facilities by cooperative societies,
- To assist **promotion of AYUSH facilities** by cooperative societies,
- To assist **cooperative societies** meet the objectives of National Health Policy,
- To assist cooperative societies participate in the **National Digital Health Mission**
- **Features of Ayushman Sahakar Scheme:**
 - **Eligibility:** Any **Cooperative Society** registered under any **State/ Multi State Cooperative Societies Act** in the country, with suitable provision in the bye-laws to undertake services related to hospital/ healthcare/ health education.
 - **Loan Period:** Up to **8 years**, including 1 - 2 years moratorium on payment of principal, depending on the type of project and its ability to generate revenue.
 - **Incentive:** **1 % interest rebate** in case of borrower cooperative society **where women members are in majority.**
 - Support the modernisation of cooperative healthcare facilities.
 - Support the establishment of healthcare infrastructure

VIDYANJALI INITIATIVE



- It was launched in 2021 in alignment with the National Education Policy 2020.
- It aims to **strengthen government schools through community and private sector participation**, enabling greater support for students' holistic development and improved learning outcomes.
- It is an initiative of **Department of School Education and Literacy, Ministry of Education**, for facilitating the community and volunteers to directly connect with the **government and government-aided schools** to contribute their services and/or assets/ materials/equipments through a dedicated portal.

Current Affairs - 13 February 2026

- The platform **connects volunteers, alumni, institutions, civil society organisations** and CSR partners directly with schools based on their identified needs.
 - **Salient features of the platform:**
 - Create an **interface between volunteers and schools** to bridge the gap between them
 - Help school students in getting exposure other than academic activities
 - Enable **schools to share their activities** for Volunteer-ship, where volunteers can participate by performing various activities
 - Enable Ministry to view various reports like Schools on-boarded, Volunteers, Activities performed etc.
 - Facilitate the participation of Citizens/Volunteers/Alumni's to contribute services at schools and their management.
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THE SHANTI ACT AND NUCLEAR LIABILITY REFORM IN INDIA

- The SHANTI Act, recently passed in Parliament, has opened India's nuclear power sector to private players and significantly altered the nuclear liability framework.

Background of Nuclear Liability in India

- India's nuclear liability regime was primarily governed by the **Civil Liability for Nuclear Damage Act (CLNDA), 2010**.
- The Act was enacted after India signed the Convention on Supplementary Compensation (CSC) for Nuclear Damage.
- Its key objective was to ensure prompt compensation to victims in case of a nuclear accident while also holding responsible parties accountable.
- A distinctive feature of India's framework was the "**right of recourse**", which allowed the nuclear operator to seek compensation from suppliers if an accident occurred due to defective equipment or services.
- Additionally, Section 46 of the CLNDA permitted victims to pursue remedies under other laws, including criminal law.

Current Affairs - 13 February 2026

- This structure was seen as strengthening accountability but was criticised by international suppliers who feared unlimited liability exposure.
- Nuclear energy currently contributes only around 3% of India's electricity generation.
- Despite ambitious targets, 10 GW by 2000 and 20 GW by 2020, actual capacity reached only 2.86 GW in 2000 and 6.78 GW in 2020.
- High capital costs, safety concerns, and liability issues have been key constraints.

Key Features of the SHANTI Act

- **Opening the Sector to Private Entities**
 - The Act allows private companies to operate nuclear power plants, ending the Union government's exclusive control over the sector.
 - This marks a structural shift in India's atomic energy governance model.
 - **Supplier Indemnity and Removal of Right of Recourse**
 - The Act channels liability entirely to the operator and removes the operator's "right of recourse" against suppliers.
 - This means suppliers cannot be sued for defects in equipment, even if such defects contribute to an accident.
 - **Liability Caps and Changes to CLNDA**
 - The operator's liability is capped between Rs. 100 crore (for small plants) and Rs. 3,000 crore (for large plants).
 - The total liability for a nuclear accident, including the Centre's contribution, is capped at 300 million Special Drawing Rights (approximately Rs. 3,900 crore).
 - The Act also omits Clause 46 of the CLNDA, thereby limiting victims' ability to seek remedies under other laws.
 - Additionally, it provides a legislative framework for the **Atomic Energy Regulatory Board (AERB)**, but its independence is limited as members are selected by a committee constituted by the Atomic Energy Commission.
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