

SANSKRITI IAS DAILY CURRENT AFFAIRS

04-10-2026

3D Concrete Printing Technology

TH The Hindu

3D concrete printing houses breaking ground in Andhra Pradesh | Explained

Andhra Pradesh launches 3D concrete-printed rural homes under PMAY-G, showcasing rapid, automated housing with scalable potential and...

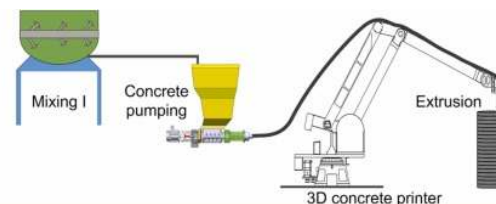


Why in News: The **Andhra Pradesh government** is set to use **3D Concrete Printing (3DCP)** technology to construct houses under **Pradhan Mantri Awas Yojana-Gramin (PMAY-G)**.

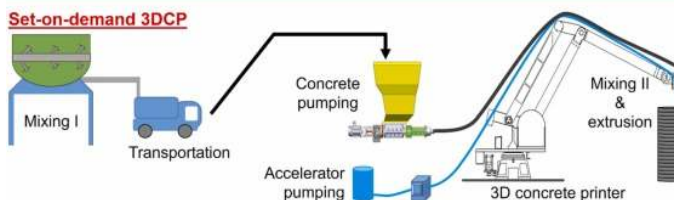
Technology and Working

- **3D Concrete Printing (3DCP)** is a construction-scale additive manufacturing technique that replaces conventional masonry and sequential manual labour with computer-controlled construction.
- A robotic printer converts a digital **Building Information Modelling (BIM)** design into a physical structure by extruding specially formulated cementitious material through a nozzle in successive horizontal layers.
- The printing material must maintain precise **extrudability, buildability and rapid setting** properties to prevent structural collapse during printing.

Stiff mix 3DCP



Set-on-demand 3DCP



Key Advantages

- The technology enables **rapid construction**, reduces material wastage and eliminates the need for conventional timber or steel formwork.
- Development of **low-carbon printing materials and material-reuse techniques** seeks to reduce the environmental impact associated with cement consumption.

Indian Applications

- In India, 3DCP can support **affordable housing, disaster-relief shelters, remote-area deployment, defence fortifications** and rapidly erected public infrastructure.
- Its use under **PMAY-G** highlights the potential of construction automation for faster delivery of rural housing.

Coppersmith Barbet

TNIE The New Indian Express

Rare yellow coppersmith barbet spotted in Hyderabad

Birdwatchers Joydeep Vasudeva and Dhaval Joshi spotted the bird during an early-morning field trip on September 27 in a semi-rural area in...



Why in News: A rare **colour variant of the Coppersmith Barbet** was recently photographed on the outskirts of **Hyderabad**.

Taxonomy and Distribution

- The Coppersmith Barbet, also called the **Crimson-breasted Barbet**, is a small Asian bird belonging to the family **Megalaimidae**.
- Its scientific name is **Psilopogon haemacephalus**.
- It is a resident bird of the **Indian subcontinent and parts of Southeast Asia**.

Habitat and Behaviour

- It inhabits **gardens, groves and sparse woodland**, while northern Indian populations occur in the **outer Himalayan valleys**.
- It is relatively rare in **northwestern Indian states** and in the wet forests of **Assam**.
- The species excavates holes in trees for nesting and is known for its distinctive **metronomic call** resembling a coppersmith striking metal.

Identification Features

- It is about **17 cm long**, with a plump body, short neck and large head.
- Its characteristic features include a **black-bordered yellow face, red forecrown and red throat patch**.
- The upper body is grass green, while the underparts are yellowish-green with darker green streaking.
- It has a heavy black bill, brown eyes with a **red eye-ring**, pinkish-red legs and a short triangular tail.

Conservation Status

- The **IUCN Red List** classifies the Coppersmith Barbet as **Least Concern (LC)**.

Rashtriya Vayoshri Yojana

Why in News: The **Ministry of Social Justice and Empowerment** distributed **662 aids and assistive devices**, costing over **₹10 lakh**, to senior citizens under the **Rashtriya Vayoshri Yojana (RVY)**.

PIB

[Union Minister Dr. Virendra Kumar And Shri B. L. Verma Distribute 662 Aids, Assistive Devices Costing Over ₹10 Lakh Distributed To 114 Senior Citizens In Delhi-NCR Under...](#)

Union Minister Dr. Virendra Kumar And Shri B. L. Verma Distribute 662 Aids, Assistive Devices Costing Over ₹10 Lakh Distributed To 114...



Scheme Profile

- **Rashtriya Vayoshri Yojana** is a **Central Sector Scheme** launched in **2017** and fully funded by the Central Government.
- The scheme provides **free assisted-living devices** to eligible senior citizens belonging to **BPL categories**.
- Beneficiaries are required to have a monthly income of **not more than ₹15,000** according to the supplied source.

Implementation Architecture

- Expenditure under the scheme is met from the **Senior Citizens' Welfare Fund**.
- Beneficiaries are identified by **State Governments/UT Administrations** through committees chaired by the **Deputy Commissioner/District Collector**.
- The scheme is implemented by **Artificial Limbs Manufacturing Corporation (ALIMCO)**, a PSU under the **Ministry of Social Justice and Empowerment**.

Nodal Ministry

- The **Ministry of Social Justice and Empowerment** is the nodal ministry for the scheme.

Eligibility and Assistance

- Senior citizens aged **80 years or above** are eligible to receive free assisted-living devices directly at their doorstep.
- Assistance includes **walking sticks, wheelchairs, hearing aids, spectacles, artificial dentures and crutches**, depending on individual needs.

Navy Marine Expeditionary Ship Interdiction System (NMESIS)

 The Defence Blog

[U.S. anti-ship missiles head to Japan's westernmost island](#)

The U.S. military will deploy its NMESIS anti-ship missile launcher to Yonaguni, Japan's westernmost inhabited island and about 107 km (66...



Why in News: The **United States military** is set to deploy its **NMESIS anti-ship missile launcher** to **Yonaguni Island, Japan**, during a major US-Japan exercise; the island is about **107 km from Taiwan**.

System and Operational Role

- **NMESIS** is a ground-based anti-ship missile system developed for the **US Marine Corps (USMC)** to conduct land-to-sea attacks.
- It entered service in **2021** and is designed for anti-ship warfare in **remote and distributed operational environments**.

- NMESIS uses the **Naval Strike Missile (NSM)** mounted on an unmanned variant of the **Oshkosh Joint Light Tactical Vehicle (JLTV)**.

ROGUE Fires Platform

- The vehicle platform is called the **Remotely Operated Ground Unit for Expeditionary (ROGUE) Fires** vehicle and is supplied by **Oshkosh Defense**.
- The vehicle incorporates **autonomous vehicle technology, off-road mobility and high payload capacity**.
- It can be remotely operated through **teleoperator or leader-follower modes** and has a range of about **480–640 km**, depending on terrain and operational conditions.
- The vehicle lacks a crew cabin and integrates **sensors, cameras and a missile launcher**.

Naval Strike Missile

- The **NSM** is a multi-mission cruise missile capable of engaging maritime and land targets.
- It has an approximate range of **185 km (100 nautical miles)** and travels at about **Mach 0.9**.
- Its guidance system combines **inertial navigation, GPS and active radar homing**.
- Its **low radar cross-section** and **sea-skimming flight profile** make detection difficult.
- The missile carries a **226.79 kg-class warhead** with a programmable fuse.

Key Defence Feature

- NMESIS is **not classified as an autonomous launcher**, as its fire-control system is not controlled by the vehicle's self-driving or autonomy technology.
- A Marine remains responsible for **mission planning and missile firing**.

Udanti-Sitanadi Tiger Reserve

TOI The Times of India

Chhattisgarh: Potash bombs emerge as new poaching threat in Udanti Tiger Reserve; 2 held with 13 live dev

Raipur: Explosives are emerging as a disturbing new tool for wildlife hunting in and around Chhattisgarh's Udanti-Sitanadi Tiger Reserve,...



Why in News: An inspection inside the **Udanti-Sitanadi Tiger Reserve (USTR)** in Chhattisgarh found several trees, mainly **Sal, Bija and Tendu**, girdled in the **Karka area**.

Location and Geographical Setting

- **Udanti-Sitanadi Tiger Reserve** is located in **Chhattisgarh** and was formed by combining the **Sitanadi and Udanti wildlife sanctuaries**.

- The reserve forms an important part of the **Eastern Highlands of Central India**.
- Its drainage system includes the **Mahanadi** as the main river along with the **Udanti, Sitanadi, Indravan and Pairi Rivers**.

Topography and Vegetation

- The reserve contains **19 named mountains**, with **Deo Dongri** as the highest point and **Atānga Dongar** as the most prominent mountain.
- The predominant forest types are **tropical dry deciduous and moist deciduous forests**.
- Major vegetation includes **Sal (Shorea robusta), Teak (Tectona grandis), Bamboo, Tendu, Mahua, Bija and Harra**.



Faunal Diversity

- Important fauna of the reserve include **Wild Buffalo, Tiger, Indian Wolf, Leopard, Sloth Bear and Mouse Deer**.
- The reserve is therefore significant for the conservation of both **tiger habitat and central Indian biodiversity**.

Inter-Parliamentary Union



News On AIR

Indian Parliamentary Delegation led by Harivansh departs for Tanzania for 153rd IPU Assembly

An Indian Parliamentary Delegation, led by the Deputy Chairman of Rajya Sabha, Harivansh, has departed for Tanzania, to participate in the...



Why in News: An Indian Parliamentary Delegation led by the **Deputy Chairman of the Rajya Sabha** travelled to **Arusha, Tanzania**, for the **153rd Assembly of the Inter-Parliamentary Union (IPU)**.

Institutional Profile

- The **Inter-Parliamentary Union (IPU)** is an international organisation of **parliaments**, established in **1889 in Paris**.
- It works to promote **representative democracy, world peace, democratic governance and parliamentary cooperation**.
- The IPU addresses issues including **human rights, gender equality, youth empowerment, climate action and sustainable development**.
- It comprises **183 member parliaments and 15 associate members** according to the supplied source.

Headquarters and Funding

- The IPU shifted its headquarters to **Geneva in 1921**.

- It is financed primarily through contributions from its members from **public funds**.
- It also has a dedicated committee for defending the **human rights of parliamentarians**.

Governance Structure

- The **IPU Assembly** is the principal statutory body and expresses the organisation's views on international political issues.
- The **Governing Council** is the plenary policymaking body and consists of **three representatives from each member parliament**.
- The Governing Council establishes the annual **programme and budget** of the IPU.
- The **Executive Committee** consists of the IPU President, **15 elected members** from different geopolitical groups, and representatives of women and young parliamentarians.
- The 15 elected Executive Committee members serve **four-year terms**.
- The IPU Governing Council has established **three Standing Committees** to assist the Assembly.

Core Areas of Work

- The IPU facilitates **political dialogue, parliamentary cooperation and collective action** on global issues.
- Its mandate links parliamentary diplomacy with **peace, democracy, human rights and sustainable development**.

Sewa-II Hydroelectric Project

TH The Hindu

CISF constable guns down four colleagues in J&K's Kathua

Four Central Industrial Security Force (CISF) personnel, posted at the Sewa-II Hydroelectric Project unit in J&K's Kathua district,...



Why in News: Four **CISF personnel** posted at the **Sewa-II Hydroelectric Project** in Kathua district, Jammu and Kashmir, were reportedly killed by a colleague in an incident of fratricidal violence.

Project Profile

- **Sewa-II Hydroelectric Project** is a **120 MW run-of-the-river hydropower project** located in **Kathua district of Jammu and Kashmir**.
- It is constructed on the **Sewa River**, which is a tributary of the **Ravi River**.
- The project is operated and maintained by the **National Hydroelectric Power Corporation (NHPC)**.

Engineering Features

- The project has a **concrete gravity dam** measuring **53 m in height and 114 m in length**.
- Its horseshoe-shaped **headrace tunnel** has a diameter of **3.3 m** and a length of **10.084 km**.
- The surface powerhouse has an installed capacity of **120 MW**, consisting of **three 40 MW units**.

Development Timeline

- Construction of the project began in **2003**.
- The project entered **commercial operation in 2010**.
- Its location on the Sewa River makes it part of the hydropower infrastructure associated with the **Ravi river system**.

APEDA: Frozen Food Export to Canada

The New Indian Express

[Haryana exports 24 tonnes of frozen food products to Canada](#)

The latest shipments come as India seeks to expand exports of agricultural and processed food products by strengthening farmer-level...

Why in News: **APEDA** facilitated a **24-tonne frozen food consignment** from **Sonipat, Haryana, to Canada** on 1 October 2026.

Institutional Framework

- **APEDA** is a statutory body under the **Ministry of Commerce and Industry**, established under the **APEDA Act, 1985**.
- It promotes exports of **scheduled agricultural and processed food products** through market development, quality improvement and financial assistance.

Export & FPOs

- The shipment was exported by **Aterna Foods Producer Company Ltd., an FPO**, and contained vegetables, sweet corn and samosa.
- **FPOs** enable farmers to collectively undertake **aggregation, processing, grading and marketing**.
- **NIFTEM**, under the **Ministry of Food Processing Industries**, is associated with food technology, entrepreneurship and management. Pasted text

Other Important News of the day

**Places
News**

in

Jawahar Dweep

 Swarajya

Mumbai Port's Jawahar Dweep Becomes India's First Plastic-Free Oil Terminal

The Mumbai Port Authority declared its Jawahar Dweep Marine Oil Terminal plastic-free yesterday (2 October), marking a significant...



Why in News: The **Jawahar Dweep Marine Oil Terminal** has been declared plastic-free by the **Mumbai Port Authority**, becoming the first Indian oil terminal to eliminate single-use plastics.

Geographical Profile

- **Jawahar Dweep**, also known as **Butcher Island**, is an island off the coast of **Mumbai, Maharashtra**.
- It lies approximately **8.25 km from the Gateway of India** and is a restricted area largely covered by thick vegetation.
- A **hillock** is located at the centre of the island.

Strategic and Industrial Importance

- Jawahar Dweep hosts one of **Mumbai Port's key marine oil terminals** handling **crude oil and petroleum products**.
- The terminal has **five jetties** and uses automated systems for **liquid bulk handling**.
- Crude oil is stored in containers on the island and transported through pipelines to **Wadala, Mumbai**, for refining.

Environmental Significance

- The terminal has become the **first oil terminal in India to eliminate single-use plastics**.
- The initiative links port infrastructure with **plastic-waste reduction and sustainable industrial operations**.

Environment

Drawida incomparabilis

 Moneycontrol.com

Scientists discover a 'matchless' new earthworm in Western Ghats, rediscover another after 81 years

The newly identified Drawida incomparabilis can grow to nearly 40 cm long, while the same research team also found a rare species that had...



Why in News: Researchers have announced the discovery of a new earthworm species, **Drawida incomparabilis**, from the forests of the **Western Ghats**.

	Discovery and Distribution ➤ Drawida incomparabilis is a newly identified earthworm species found deep within evergreen and deciduous forests of the Western Ghats. ➤ Its reported distribution includes the southern states of Kerala and Tamil Nadu. ➤ The species belongs to the earthworm family Moniligastridae. Distinctive Characteristics ➤ The species is relatively large, measuring approximately 217–392 mm in length. ➤ It possesses distinctive glandular prostates and an unusually posterior position of its gizzards. ➤ The family Moniligastridae contains 194 valid species distributed across five genera according to the supplied source. ➤ The genus Drawida is described as the most species-rich genus within the family and an important component of Asian subterranean ecosystems. Earthworm Biology ➤ Earthworms generally occur in soils where sufficient moisture and organic matter are available. ➤ Their bodies are divided into ring-like segments, with some internal organs, including excretory organs, repeated across segments. ➤ Earthworms lack lungs and exchange gases through their skin. ➤ They lack eyes and use specialised receptor cells in the skin to detect light, touch, vibrations and chemicals. ➤ Their diet primarily includes decaying plants and other organisms.
Science and Technology	Rapunzel Syndrome Why in News: Doctors in Kerala removed a one-kilogram hair mass from the stomach and small intestine of a nine-year-old girl suffering from the rare Rapunzel syndrome. Medical Condition ➤ Rapunzel syndrome is a rare condition in which a large hairball, known as a trichobezoar, forms in the stomach and extends into the small intestine.

- The condition was first described in **1968** and derives its name from the fairy-tale character **Rapunzel**.
- It is more commonly reported among **females**, particularly children, adolescent girls and young women below 30 years.

Behavioural Association

- The condition is strongly associated with **trichotillomania**, a disorder involving a repeated urge to pull out one's own hair.
- **Trichophagia** refers to swallowing pulled or loose hair and can lead to progressive accumulation of hair in the stomach.
- Hair cannot be digested, allowing the swallowed material to accumulate into an increasingly large mass.

Rapunzel syndrome: 1-kg hair mass found in girl's stomach

A one-kg mass of hair was removed from the stomach and small intestine of a nine-year-old girl in a rare surgery at a private hospital in Thiruvananthapuram, Kerala. The girl was admitted to the hospital with persistent abdominal pain and vomiting. Scans revealed severe intestinal obstruction, and an endoscopy confirmed the mass of hair. The girl, who was diagnosed with Rapunzel syndrome, has now recovered and is eating normally, a doctor said.

Clinical Features

- Common symptoms include **abdominal pain, bloating, early satiety, weight loss, nausea and vomiting**.
- Other reported features include **epigastric pain, alopecia and halitosis**.
- Severe cases can cause **intestinal obstruction** when the hair mass extends into the small intestine.

Treatment

- **Endoscopy** may remove smaller hairballs, whereas large masses or cases involving obstruction generally require **surgical removal**.
- Surgery may involve removal of the hair mass from the **stomach and, where necessary, the intestine**.

Uttar Pradesh in News

UP Terai Eco-tourism Season

TOI The Times of India

Extended eco-tourism season in UP's Terai tiger reserves raises ecological concerns for grassland wildlife

UP extended eco-tourism in Terai tiger reserves to Nov 1–June 30; conservationists warn stress to grassland wildlife, conflict risks and...



Why in News: UP has extended the eco-tourism season in key **Terai protected areas** from **1 November–30 June**, raising concerns over wildlife disturbance.

Ecological Concerns

- Late June coincides with **peak summer stress**, forcing herbivores to congregate near shrinking water sources.
- Tourist vehicles may disturb **fawning, nursing, mating and calving** activities.
- Wet-season vehicle movement can cause **soil compaction, erosion and tyre ruts**, affecting grassland regeneration.
- **Bengal florican**, a **critically endangered** grassland bird, may also face disturbance.

Protected Areas & Species

- The revised schedule covers **Dudhwa and Pilibhit Tiger Reserves** and **Suhailwa, Sohagi Barwa and Katarniaghat Wildlife Sanctuaries**.
- **Dudhwa Tiger Reserve** supports the world's largest surviving population of the northern wetland-adapted **swamp deer (Rucervus duvaucelii)**.
- Dudhwa's swamp deer population increased from **3,579 (2022) to 5,905 (2025)**.

Conservation Governance

- **NTCA** permits eco-tourism closure for up to **five months**, with states deciding the duration based on local conditions.
- The key challenge is balancing **eco-tourism revenue with wildlife protection and habitat carrying capacity**.