

NEWS TODAY

Asian Development Bank (ADB) approves support for Rooftop Solar Systems in India

The financing will support **Multi-tranche Financing Facility (MFF) Solar Rooftop Investment Programme**.

- ADB will provide funds from its **Clean Technology Fund** and from **Ordinary capital resources**.
- Loans will be made available through the **State Bank of India** and the **National Bank for Agriculture and Rural Development (NABARD)**.

Current Status of Rooftop Solar Power in India

- **Rooftop solar installed capacity in India** is around **11.08 GW** as of December 2023, of which only **2.7 GW** is in the residential sector.
- **Gujarat tops the list with 2.8 GW**, followed by Maharashtra by 1.7 GW.
- **Potential:** Over 25 crore households across India have potential to deploy 637 GW on rooftops (as per Council on Energy, Environment and Water (CEEW)).

Significance of Rooftop Solar Schemes

- **Reducing technical and operational burden:** As electricity is generated close to where it is consumed, reducing the need for long-distance power supply and resultant system losses.
- **Achieve Panchamrit targets:** Help to achieve the target of meeting **50% of its energy requirements from renewable energy by 2030**.
- **Energy Security:** **IEA's World Energy Outlook predicts India** is going to witness the largest energy demand growth over the **next 30 years**.

Rooftop-related schemes in India

- **PM Surya Ghar Muft Bijlee Yojana:** Central Scheme Scheme, which aims to provide free electricity to one crore households in India, who opt to install rooftop solar electricity units.
- **Pradhan Mantri Suryodaya Yojana:** Target of installing rooftop solar on **1 crore houses** and providing electricity through it to low and middle-income individuals.
- **Grid Connected Rooftop Solar Programme:** To achieve a cumulative installed capacity of 40,000 MW from Grid Connected Rooftop Solar (RTS) projects.

UNESCO publishes Global Education Monitoring (GEM) Report 2024 related to Education and Climate Change

Report is mandated by UNESCO's '**Education 2030 Incheon Declaration and Framework for Action**' for monitoring and reporting on **SDG 4 (Quality education)** and in the other SDGs'.

Key findings

- **Disruption of Education Systems:** Over the past 20 years, **schools were closed in at least 75% of the extreme weather events**, impacting 5 million people or more.
- **India Related:** A study in India found that rainfall shocks in the first 15 years of life negatively affected vocabulary at age five and mathematics & non-cognitive skills at age 15.
- **Education's Role:** Its role in combating climate change is not given the space it deserves in international agendas.
 - ⊕ SDG 4 was addressed in only 2 of 72 transnational climate initiatives.

Impact of climate change on education

- **Infrastructure & life:** Direct effects include the destruction of education infrastructure as well as injuries and loss of life among students, parents and school staff.
- **Displacement:** Indirect effects include displacement of people and the effects on people's livelihoods and health.
- **Climate-induced education vulnerability:** It is worse for marginalized populations and low-or lower-middle-income countries.
- **Educational Outcomes:** Exposure to heat has significant detrimental effects on children's educational outcomes like reducing test performance etc.

Key Recommendations

- **Climate change education needs to be more deeply integrated into the curriculum**, across multiple subjects, and with adequate educator training support.
- **Prioritise Climate-resilient education infrastructure.**
- **Recognize education's role in developing mitigation and adaptation solutions** to climate change challenges.
- **Include investment in education under climate finance programs.**
- **Engage with non-education stakeholders** for education to be included in climate plans and financing.

A group of scientists have released a landmark white paper on glacial geoengineering

Glacial Geoengineering is the **deliberate modification of the climate system around a glacier** to slow the melt of the ice shelf and reduce sea level rise.

Proposed Glacial Geoengineering Strategies

- **Ocean-heat transport interventions:** Setting **sediment berms or fibrous curtains** along the seabed in the front of ice shelves to **block the flow of warm circumpolar deep water**.
- **Basal-hydrology interventions:** Slow the flow of streams that carry meltwater off the ice sheets.
 - ⊖ This can be done through **drilling holes** through glacier beds to create drainage channels, thereby diverting meltwater streams and slowing ice sheet loss.

About Geoengineering

- Geoengineering is the **deliberate, large-scale manipulation of Earth's climate systems** to counteract anthropogenic global warming.
- **Categories of Geoengineering:**
 - ⊖ **Solar Geoengineering / Solar Radiation Management (SRM):** It aims to limit the sun's radiation onto the Earth's surface and reduce global average temperature.
 - ◆ **Strategies** include Aerosol Injection, Marine Cloud Brightening, Albedo Improvement, Ocean Mirror etc.
 - ⊖ **Carbon Geoengineering / Carbon Dioxide Removal (CDR):** It aims to reduce the concentration of CO₂ in the atmosphere by removing it from the atmosphere.
 - ◆ **Strategies** include Carbon Capture and Storage, Ocean Alkalinity Enhancement, Ocean Fertilization etc.

Significance of Geoengineering

- Can **complement decarbonization efforts** and help reduce impacts of global warming.
- Can **halt melting of glaciers** and restrict sea level rise.
- Can **prevent climate change induced extreme disasters** and protect livelihoods.

Concerns associated

- **Huge financial costs** with little effect.
- Potential of **major disturbances to ecosystems** and it might also cause **termination shock** (rapid rise in global temperatures after technology pause).
- Can lead to potential **extreme events, acid rain and altered precipitation patterns**.

Central Government relaxed maximum area limits in respect of critical minerals

Under **Mines and Minerals (Development and Regulation) Act (MMDRA), 1957**, Central Government **increased the area limit** (set for preventing cartelisation) for **24 critical minerals** listed in part-D of First Schedule to MMDRA.

- Area limit for **Prospecting License** (for exploring and proving mineral deposits) increased to 100 sq.km.
- Area limit for **Mining Lease** (for mineral extraction) increased to 50 sq.km.

Critical Minerals

- Critical Minerals are those minerals which are essential for **economic development and national security** and whose lack of availability or their concentration in few geographical locations may lead to **supply chain vulnerability and disruption**.
- MMDRA empowers **central government for auction** of mining lease and composite license for **24 Critical Minerals** including Cobalt, Vanadium, Beryllium, Tungsten etc.
- Government has **conducted auctions** for critical minerals located in Bihar, Chhattisgarh, Gujarat, Jharkhand, Odisha, Tamil Nadu, Uttar Pradesh, and J&K.

Significance of Critical Minerals

- **Reducing carbon emissions:** Essential for renewable energy technologies and electric mobility.
- **National Security:** Essential for critical defence equipment such as submarines, missiles, aircrafts, smart bombs etc.
- **Industrial Advancement:** Applications in magnets, catalysts, metal alloys etc.

Challenges to India

- China led global supply chain; Concentration in few geographical regions and India's import dependency, Lack of exploration and extraction etc.

India's Initiatives

- **National Institute or "Centre of Excellence on Critical Minerals" (CECM):** For periodically updating critical minerals list.
- **Khanij Bidesh India Ltd. (KABIL):** Joint venture company formed to ensure consistent supply of critical minerals.
- Membership in **Mineral Security Partnership (MSP)** to bolster supply chains.
- Other **multilateral/ bilateral partnerships** such as agreement between India and Argentina for exploration and mining of 5 lithium blocks in Argentina.

WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) 2023 released

Key findings

Global:

- Childhood immunization coverage stalled in 2023, leaving 2.7 million children either unvaccinated or under-vaccinated.
- Over 50% of unvaccinated children live in the 31 conflict-affected countries.

India:

- In 2023, 1.6 million children missed crucial Diphtheria, pertussis, and tetanus (together called DPT) and measles vaccinations.
- India lacks human papillomavirus (HPV) vaccination in national programs despite cervical cancer being second-highest cancer in women (18% of female cancers).
- India accounted for 2 million zero-dose children.
 - Zero-dose children are those that lack access to or are never reached by routine immunization services.

Challenges faced in Immunization

- Limited resources** including trained manpower, poor infrastructure for storage of vaccines and other logistics (e.g. inactivated polio).
- Lack of responsibility:** It is restricted only to vaccinate those who come for a visit; **No active follow-up** and limited accountability.
- Lack of centralized record systems,** pressure to achieve vaccination targets, etc.

Immunisation in India

- Universal Immunization Programme (UIP)** has been operational in India since 1985.
- Mission Indradhanush 2014** was launched as a special drive to vaccinate all unvaccinated and partially vaccinated children, pregnant women under UIP.
 - So far 5.46 crore children and 1.32 crore pregnant women have been vaccinated.
- Intensified Mission Indradhanush (IMI) 5.0, 2023** is a catch-up vaccination campaign for children up to 5 years of age and pregnant women, who were left out.
 - 12 diseases covered:** Diphtheria, whooping cough, tetanus, polio, tuberculosis, measles and hepatitis-B, pertussis, meningitis and pneumonia, Japanese encephalitis (JE) and measles-rubella (MR).

President returns a bill passed by Punjab Legislative Assembly

The **Punjab Universities Laws (Amendment) Bill, 2023** was reserved for the President's assent by Punjab Governor.

- The bill proposed to replace the governor with the chief minister as the chancellor of state universities.

Reservation of State Bills for President's Consideration

- Article 200** of the Constitution outlines **Governor's power regarding bills passed by the state legislature.**
 - It provides that **Governor may reserve such a bill** for President's consideration.
- Enactment of reserved bill then depends upon President's assent or refusal of assent and **Governor has no role in it.**
- If President directs the Governor to return the bill to state legislature for reconsideration, state legislature shall **reconsider it within 6 months and present it again to President.**
 - However, it is **not obligatory for President to give his assent** to reconsidered bill.

Other powers of Governor on State Bills

- Once a bill is passed by the state Legislative Assembly, it is presented to Governor who is vested with four options:

- Grant Assent:** Makes the bill a law.
- Withhold Assent:** Effectively rejects the bill.
- Return Bill for Reconsideration:** If legislative assembly passes the bill again with or without amendment, the Governor shall give his assent.
- Reserve the Bill for the President's Consideration.**

Supreme Court Judgements on Governor's Legislative Powers

- State Of Punjab Case (2023):** Governor cannot veto legislature by simply withholding assent to a bill. He/she **must return the bill to the assembly on withholding assent.**
- Shamsher Singh case (1974):** Governor does not exercise their discretionary powers while withholding assent or returning a Bill to the State Legislature. They are required to act as per the advice of the Council of Ministers.

Also in News

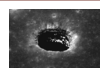


The Seine River

Paris mayor took pre-Olympics dip to prove Seine clean ahead of 2024 Games.

About the Seine

- It's **France's second-longest river** (after the Loire).
- It flows in a **Northwesterly direction** through **Paris** before emptying into the **English Channel at Le Havre.**
- Origin:** Near Dijon, France.
- Major tributaries:** Marne, Aube and Yonne.
- Significance:** It's vital for transportation, commerce, and culture in France for centuries.
- Paris, Banks of the Seine** is a **cultural UNESCO World Heritage Site** as it comprises some of the iconic monuments like **Saint-Chapelle, Notre Dame Cathedral and the Eiffel Tower.**



Lunar Cave

Researchers have found evidence of an underground cave on the moon that is accessible from the surface.

- The cave was recorded at the **Sea of Tranquility**, a large, dark, basaltic plains on lunar surface.

About Lunar cave

- Lunar caves are believed to be the **underground passageways formed through volcanic processes** that are connected to the pits covering the moon's surface.
- Significance of the discovery:**
 - New insight into the evolution of the moon and lunar volcanism.
 - Caves could provide shelter for future astronauts from radiation, micrometeorites, and temperature extremes.



Last Universal Common Ancestor (LUCA)

Scientists suggest LUCA could have formed just **300 million years after Earth's formation.**

About LUCA

- Researchers believe all the three branches of life i.e. **bacteria, archaea, and eukarya** have originated from a single microbe, called LUCA.
 - ⊖ However, there is **no fossil evidence to support the existence of LUCA.**
- **Suggested Characteristics:**
 - ⊖ **Anaerobic:** Grew in an environment devoid of oxygen.
 - ⊖ **Thermophile:** Heat loving microbe.
 - ⊖ **Metabolism:** Depended upon hydrogen, carbon dioxide and nitrogen, turning them into compounds such as **ammonia.**



Jerdon's Courser

Jerdon's Courser has not been visually spotted in over a decade.

About Jerdon's Courser

- **Nocturnal bird** found only in the Eastern Ghats.
- **Exclusively endemic to Andhra Pradesh**, specifically within the **Sri Lankamalleswara Wildlife Sanctuary** in Kadapa, Andhra Pradesh.
- **Protection Status:**
 - ⊖ Under **Integrated Development of Wildlife Habitats' (IDWH)** scheme.
 - ⊖ **Schedule-I of the Wildlife (Protection) Act, 1972.**
 - ⊖ **IUCN Status:** Critically Endangered.



Saturn

Cassini's radar observations reveal new details about the **seas of liquid hydrocarbons on the surface of Saturn's moon Titan.**

- **Cassini (1997-2017)** was a joint space mission to Saturn, by **NASA, European Space Agency, and Italian Space Agency.**

About Saturn

- Saturn is the **sixth planet from the Sun** and the **second largest** in the solar system.
- It's **surrounded by rings** made of chunks of ice and rock.
- Saturn has the **second-shortest day in the solar system** (only 10.7 hours).
- Saturn has **146 moons** in its orbit ex. **Dione, Enceladus, Epimetheus, Titan** etc.



Chandipura virus

Recently, there has been outbreak of **Chandipura virus in Gujarat.**

About Chandipura virus

- Also known as **Chandipura vesiculovirus (CHPV)**, it is an **Ribonucleic acid (RNA)** virus belonging to the **Rhabdoviridae** family.
 - ⊖ It also includes **the rabies virus.**
- It was **first identified in 1965** in **Chandipura**, a village in **Maharashtra.**
- It primarily **affects children** (aged 9 months-14 years) and has been **associated with outbreaks of acute encephalitis in India.**
- **Transmission:** Spread through the **sting of a vector-infected sandfly** and is seen more in rural areas.
- **Symptoms:** Fever, vomiting, loose motion and headache.



Brown Dwarf

James Webb Space Telescope (JWST) observations were used to **map the weather on a pair of brown dwarf stars.**

- JWST is a **large infrared telescope**, result of an international collaboration among **NASA, European Space Agency and Canadian Space Agency.**

About Brown Dwarf

- Objects which have a **size between that of a giant planet like Jupiter and that of a small star.**
- They **do not have enough mass** to fuse normal hydrogen like a regular star and thus are **not able to sustain nuclear fusion.** So, they are often called 'Failed Stars'.



Operation Nanhe Farishtey

84,119 children were rescued by the **Railway Protection Force** under 'Operation Nanhe Farishtey' in the last 7 years.

About 'Operation Nanhe Farishtey'

- It is a mission dedicated to **rescuing children in need of care and protection across various Indian Railway Zones.**

Personality in News



Sant Dnyaneshwar

Annual pilgrimage of Sant Dnyaneshwar Maharaj culminated on the auspicious day of **Ashadhi Ekadashi.**

- Every year followers of **warkari sect** (focused on worship of **Lord Vitthal**) starts the procession (known as **wari**) from **Dehu and Alandi and ends in Pandharpur** on Ashadi Ekadashi.

About Sant Dnyaneshwar

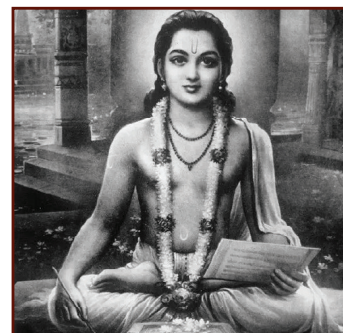
- Born in Alandi (Maharashtra), he was a **13th century Marathi saint, poet, philosopher,** etc.
- He is one of the most revered figures in the **Bhakti movement**, particularly in Maharashtra.

Contribution

- Authored **Dnyaneshwari**, a commentary on the Bhagavad Gita and **Amrutanubhav** in Marathi.
- Composed numerous devotional poems called **abhangas.**

Values

- Equality, Humanity, compassion, etc.



AHMEDABAD



BENGALURU



BHOPAL



CHANDIGARH



DELHI



GUWAHATI



HYDERABAD



JAIPUR



JODHPUR



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI