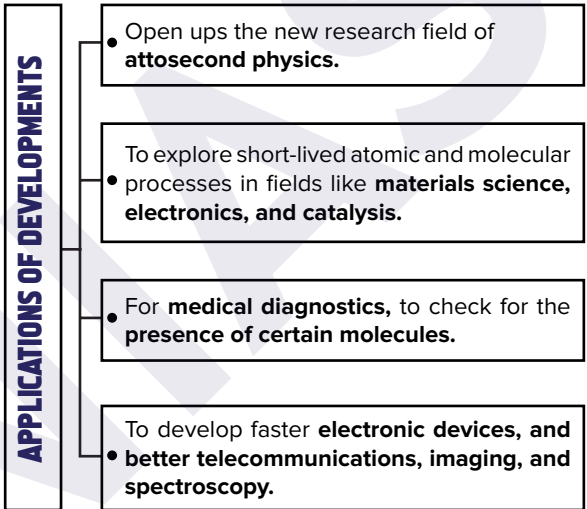


NEWS TODAY

NOBEL PRIZE IN PHYSICS AWARDED FOR METHODS THAT GENERATE ATTOSECOND PULSES OF LIGHT

- » It was awarded to **Pierre Agostini, Ferenc Krausz and Anne L’Huillier** “for experimental methods that **generate attosecond pulses of light** for the study of electron dynamics in matter.”
 - » L’Huillier is **only the fifth woman to win a Nobel Prize in Physics.**
- » **About Attosecond**
 - » Electrons are the **negatively charged particles of an atom.**
 - » The **movements of electrons** inside atoms and molecules are **so rapid that they are measured in attoseconds.**
 - » An **attosecond** is equivalent 10 to the power of minus 18 seconds (**10⁻¹⁸ seconds**).
 - » Just as the naked human eye cannot discern the individual beats of a hummingbird’s wing, scientists were **not able to observe the individual movements of an electron.**
- » **About the Discovery**
 - » Scientists have demonstrated a way to **create extremely short pulses of light.**
 - » These pulses can be used to **provide images of the processes** inside atoms and molecules.
 - » They used **precision lasers to generate ultra-short bursts of light.**
 - » They discovered **a new effect from a laser light’s interaction with atoms in a gas.**
 - » This effect can be used to **create shorter pulses of light than were previously possible.**



INTERNATIONAL CORAL REEF INITIATIVE (ICRI) LAUNCHED CORAL REEF BREAKTHROUGH

- » Coral Reef Breakthrough was launched in **partnership with Global Fund for Coral Reefs and High-Level Climate Champions.**
 - » It aims to **prevent extinction of at least 125,000 km² of shallow-water tropical coral reefs.**
- » **Action Plans to achieve target**
 - » **Mitigate local drivers of loss** including land-based sources of pollution, destructive coastal development, and overfishing.
 - » **Bolster resilience based coral reef conservation** efforts by aligning with and surpassing global coastal protection targets including 30by30.
 - ♦ **Target 3 of Kunming-Montreal Global Biodiversity Framework** i.e. **at least 30%** of terrestrial and inland water areas, and marine and coastal areas should be **conserved by 2030.**
 - » **Assist development and implementation of innovative solutions** at scale and climate smart designs that support coral to impact **30% of degraded reefs by 2030.**
 - » **Secure investments of at least USD 12 billion by 2030** from public and private sources to conserve and restore coral reef.
- » Coral reefs are made up of colonies of hundreds to thousands of tiny individual corals, called **polyps.**
 - » These marine **invertebrate animals** have **hard exoskeletons made of calcium carbonate.**
 - » In India, Coral reefs are present in **Gulf of Kutch, Gulf of Mannar, Andaman & Nicobar, and Lakshadweep Islands.**

INTERNATIONAL CORAL REEF INITIATIVE (ICRI)

- » It is a **global partnership between Nations and organizations** which strives to **preserve coral reefs and related ecosystems** around world.
- » It was **founded in 1994** by Australia, France, Japan, Jamaica, Philippines, Sweden, UK, and USA.
- » It has **101 members (including India)**. 45 countries are custodians of 75% of world’s coral reefs.

ECO-SENSITIVE ZONE (ESZ) TO BE DEMARCATED AROUND DACHIGAM NATIONAL PARK (DNP)

- » **Union Ministry of Forests, Environment & Climate Change** has unveiled the draft notification for an ESZ for **DNP, Thajwas (Baltal) and Overa- Aru wildlife sanctuaries.**
- » ESZs are created as **“shock absorbers”** for the **protected areas**, to minimize the negative impact on the **“fragile ecosystems”** by certain human activities taking place nearby.
 - » It acts as a **transition zone** from areas requiring higher protection to those requiring lesser protection.
 - » **National Wildlife Action Plan (2002-2016)** provides for establishing ESZ under the **Environmental (Protection) Act, 1986.**
 - » In 2022, the Supreme Court mandated that a **minimum 1-km ESZ around national parks or wildlife sanctuaries should be there.**
 - ◆ However, in 2023, SC ruled it is not applicable to **ESZs in respect to which draft and final notifications have been issued.**
 - ◆ It is also not be applicable where the **national parks etc located on inter-state borders or share common boundaries.**
 - » **No mining is allowed, either within national parks** and sanctuaries or in a 1-km radius.
- » DNP is **located in Jammu and Kashmir (Zabarwan mountain ranges of the Himalayas).** **Major Fauna:**
 - » **Hangul or Kashmir stag** (IUCN status: Critically endangered).
 - » Himalayan Brown bear, Indian leopard, Himalayan grey langur, yellow-throated marten etc.

ACTIVITIES IN ESZs

- » **Prohibited:** Commercial mining, setting of saw mills and industries causing pollution, major hydro-power projects etc.
- » **Regulated:** Felling of trees, drastic change in agriculture systems and commercial use of natural water resources, including groundwater harvesting and setting up of hotels and resorts.
- » **Permitted:** Ongoing agriculture and horticulture practices by local communities, rainwater harvesting, use of renewable energy sources etc.

CENTRE AIMS TO TRIPLE PALM OIL OUTPUT BY 2030

- » As per the reports, Centre is aiming to increase domestic palm oil production from the current level of **0.35 million tonnes (MT) to 1 MT by 2030** under the **National Mission on Edible Oils-Oil Palm (NMEO-OP).**
- » **Palm Oil** is the source of the **world’s largest consumed edible oil** primarily due to its high productivity, versatility and substantial price advantage.
- » **Need for higher domestic production**
 - » **High import dependency:** Around 59% in the country’s total vegetable oil imports.
 - ◆ India buys palm oil mainly from **Indonesia, Malaysia and Thailand.**
 - » **Save FOREX reserves-** as per Observatory of Economic Complexity- \$8.72 billion worth India was imported in 2021.
 - » **Reduce Food inflation.**
- » **Challenges in increasing the production:** Water shortage, small landholdings, long gestation period required for palm oil, etc.
- » **Initiatives by India**
 - » **NMEO-OP** which focuses on Oil Palm area expansion, increasing Crude Palm Oil production, etc.
 - » **North-east and Andaman and Nicobar Islands** focussed approach due to their favourable rainfall and temperature.
 - » **Oil Palm Area Expansion** under Rashtriya Krishi Vikas Yojana.
 - » **Increasing minimum support prices** of oilseed crops.

PALM OIL TREE

- » **Region:** Grown only in the tropics
- » **Varieties:** Dura, Tenera, Pisifora
- » **Climate:** Temperature is 21 °C to 32 °C, annual rainfall - 200 cm.
- » **Soil:** Moist deep, loamy soils, rich in humus with good water permeability.
- » **Harvesting:** First harvest can be done 3.5 to 4 years after planting.

MINISTRY OF EDUCATION (MOE) RELEASED DRAFT GUIDELINES FOR SCHOOLS TO PREVENT SUICIDE

- » Draft guidelines titled **UMMEED (Understand, Motivate, Manage, Empathise, Empower, Develop)** serve as **“directions to schools for enhancing sensitivity, understanding, and providing support** in case of reported self-harm”.
 - » ‘Every Child Matters’ is the underlying belief in developing the guidelines for prevention of suicide.
- » Suicide is a complex **interplay of personal and social factors**, which is rarely caused by a single circumstance or event.
 - » **Mental Healthcare Act 2017, decriminalized suicide** in India.
- » **Factors influencing suicides**
 - » **Individual:** **Adverse childhood experiences** (abuse, violence, etc.); **Addiction to social media**, substance use, etc.; internal **pressure to perform well** in life etc.
 - » **School:** **Lack of positive relationships** with peers/teachers, bullying, humiliation, isolation, etc.; Absence of school-family connect; **Academic pressure** from school etc.
 - » **Family:** Conflict and instability (divorce, financial hardships etc.); Parental neglect/ abuse; Pressuring students into preparing for competitive examinations etc.
 - » **Community and Society:** Stigma associated with mental illness; Sensationalized and insensitive reporting of suicide cases in media etc.

ACTIONS TOWARDS PREVENTION OF SUICIDE INVOLVE

- » **Setting up of School Wellness Team** under leadership of School Principal.
- » **Promoting Positive School Environment** by integrating mental well-being in school functioning, encouraging peer support etc.
- » **Building capacity** for different stakeholders (teachers and school staff, students, families of students etc.)
- » **Responding immediately** and supporting students at risk.






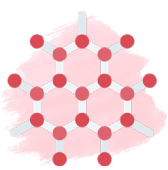
FIRST IEA CRITICAL MINERALS AND CLEAN ENERGY SUMMIT HELD IN PARIS, FRANCE



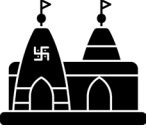



- » Summit was attended by industry leaders, investors, civil societies etc. from 50 countries to discuss courses of action on critical minerals to **ensure rapid and secure energy transitions**.
- » Critical minerals are elements that are the **building blocks of essential modern-day technologies**, and are at risk of supply chain disruptions.
 - » Earlier, India has **identified 30 critical minerals** which include **cobalt, copper, lithium, nickel** etc.
- » As per IEA, **market for critical minerals has grown by a factor of two** over the previous five years (2017- 2022) and reached \$320 billion in 2022.
 - » For instance, **demand for lithium** from energy sector **tripled**.
- » **Significance of critical minerals: Advancement of high-tech electronics**, telecommunications, transport etc.; **Manufacturing technologies** and materials used in aerospace and defence sector etc.
- » **Summit outlines six key actions identified for reliable supplies of critical minerals**
 - » **Accelerate progress** towards diversified minerals supplies
 - » **Unlock power of technology and recycling** to alleviate potential strains on supply.
 - » **Promote transparency** in markets.
 - » Enhance **availability of reliable information**.
 - » **Create incentives** for sustainable and responsible practices like rewarding environmental, social and governance efforts.
 - » Foster **international collaboration**.

INTERNATIONAL ENERGY AGENCY (IEA)

- » IEA (HQ: Paris) was founded in 1974 to ensure security of oil supplies. Energy security remains a central part of its mission.
- » **Membership: 31 countries (India is not a member)**. India is part of 'association countries' of IEA.

ALSO IN NEWS

 <p>International Criminal Court (ICC)</p>	<ul style="list-style-type: none"> » Armenia's Parliament voted to join the International Criminal Court. <div style="border: 1px solid black; padding: 5px;">  <h3 style="text-align: center;">International Criminal Court (ICC)</h3> <p style="text-align: right;"> HQ: The Hague, Netherlands</p> <p>Genesis: Established by Rome Statute of International Criminal Court in 1998.</p> <p>About: It is a permanent international court to investigate and prosecute individuals accused of serious international crimes: genocide, crimes against humanity, war crimes, and aggression.</p> <p>Members: 123 countries are party to Rome Statute. India is not a member.</p> </div>
 <p>Guaranteed Pension System (GPS)</p>	<ul style="list-style-type: none"> » Andhra Pradesh's GPS is a hybrid of the old pension schemes (OPS) and new pension schemes (NPS). <ul style="list-style-type: none"> » OPS: Guarantees the quantum of pension, factors in inflation and pay commission hikes but is costly and unsustainable. » NPS: Market condition decides the quantum of pension, but protects a state fiscal health. » GPS <ul style="list-style-type: none"> » It is a contributory scheme that guarantees government employees a monthly pension of 50% of their last-drawn salary and includes dearness allowance relief. » Any short- fall in the returns from NPS is funded by the government.
 <p>Gravity battery</p>	<ul style="list-style-type: none"> » A gravity battery is a type of electricity storage device that involves lifting (charging) and lowering (discharging) a heavy weight. » When there is plenty of green energy, the batteries use the power to lift a heavy weight (or blocks) either high into the air or to the top of a deep shaft. » When electricity demand picks up, the blocks are lowered one by one, releasing kinetic energy that is used to rotate a motor and generate electricity.
 <p>Nanoparticles in Air</p>	<ul style="list-style-type: none"> » A study identified increasing Nanoparticles in Delhi's air. » A nanoparticle is a small particle that ranges between 1 to 100 nanometres (10⁻⁹ m) in size. <ul style="list-style-type: none"> » In urban environments, nanoparticles mainly from combustion process in automobiles, and can contribute up to 90% to the total particle number concentration. » Nanoparticles can penetrate deeper into respiratory system than other pollutant. » It can be transported from respiratory system to other parts of human body, creating more chronic and acute illnesses.

 <p>Greenwashing</p>	<ul style="list-style-type: none"> ➤ Number of instances of greenwashing by banks and financial services companies around the world rise by 70%. ➤ Greenwashing is the practice of making brands appears more sustainable than they actually are. <ul style="list-style-type: none"> » It may involve marketing strategy, misguided publicity stunts, or simply changing the packaging of an existing product while continuing to use unsustainable ingredients or practices. » Environmentalist Jay Westerveld coined the term “greenwashing” in 1986.
 <p>Circular migration</p>	<ul style="list-style-type: none"> ➤ It is a repetitive form of migration wherein people move to another place (destination country) and back (country of origin). <ul style="list-style-type: none"> » Thus, instead of migrating permanently to another location, people move to different locations for a brief period of time when work is available. ➤ It is a phenomenon mostly among low-income groups who migrate to avail of seasonally available jobs in another country, city, place etc. ➤ In India, internal migration, which is migration within a particular country or State, has almost always been circular.
 <p>Maa Danteshwari Temple (Chhattisgarh)</p>	<ul style="list-style-type: none"> ➤ It is dedicated to six armed Mahisasuramardini as Danteswari carved on a black stone. <ul style="list-style-type: none"> » It is one of the Sakti-pithas (total 51) of India. ➤ It is located at the confluence of rivers Sankhini and Dankini. ➤ Constructed by: the rulers of Chindak Nagvanshi during 11th -12th century A.D. <ul style="list-style-type: none"> » Further in the 14th century A.D. this temple was renovated by Annamdev who was the brother of Prataprudra of Kakatiya dynasty.
 <p>SAMPRITI-XI Exercise</p>	<ul style="list-style-type: none"> ➤ It is an annual joint military exercise between India and Bangladesh.
 <p>Amazon River</p>	<ul style="list-style-type: none"> ➤ Over 100 Amazon river dolphins have been found dead in a tributary of the Amazon river in Brazil. <ul style="list-style-type: none"> » Amazon river dolphins (IUCN Status: Endangered) are found only in the rivers of South America. ➤ It is the largest drainage system in the world in terms of the volume of its flow and the area of its basin. ➤ It is the 2nd longest river (6,437 km) after the Nile. ➤ Its source is in the Andes Mountains (Peru) and flowing into Atlantic Ocean. ➤ Its basin areas include Brazil, Peru, Bolivia, Ecuador, Colombia, and Venezuela.
 <p>Places in news</p>	<p>Slovakia (Capital: Bratislava)</p> <ul style="list-style-type: none"> ➤ Slovakia's leftist election winner Robert Fico got a two-week window to negotiate a coalition government. ➤ Political Boundaries <ul style="list-style-type: none"> » Landlocked country of central Europe. » Bordered by Poland (north), Ukraine (east), Hungary (south), Austria (southwest) and Czech Republic (west). ➤ Geographical features <ul style="list-style-type: none"> » Highest peak: Gerlach Peak. » Major river: Váh River, Danube River. » Major Lakes: Lake Orava, Velke Hincovo Pleso. 