

Daily Current Affairs

 Date : 04 June 2026



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Discovery of a New Site Linked to the Ahar and Harappan Civilizations in Nagaur



Why in News?

- Recently, archaeologists discovered a new historical site in the town of 'Jasnagar' near Merta City in the Nagaur district that sheds light on the ancient connections between the Ahar and Harappan cultures.



Key Points:

- This new site is situated on the banks of the Luni River. This discovery has yielded concrete evidence of a relationship between the Ahar and Harappan civilizations dating back approximately 4,000 years.
- During excavations conducted by the Archaeological Survey of India (ASI) at this site, five terracotta (clay) seals and 16 cowrie shells were recovered; these artifacts are considered to be of immense significance to the history of ancient trade and currency.

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- The excavations also unearthed ancient red-and-black pottery and pitchers adorned with white paintings hallmarks of the Ahar culture.

Other Significant Points:

- **Ratadiya Ri Deri:** Prior to this, a research team from the University of Rajasthan discovered the remains of a settlement dating back approximately 4,500 years linked to the Harappan civilization at a site known as 'Ratadiya Ri Deri' in the Ramgarh Tehsil of Jaisalmer.

Facts for Prelims:

The Harappan Civilization:

- The Harappan Civilization also known as the Indus Valley Civilization or the Indus-Saraswati Civilization was an ancient civilization of the Indian subcontinent that flourished from approximately 3300 to 1700 BCE. This civilization belongs to the Bronze Age.
- **Time Period:** 2600 to 1900 BCE (This period is considered the Mature Phase of the Indus Valley Civilization).
- This civilization is renowned for its well-planned cities, advanced drainage systems, and distinctive art and culture.
- **Geographical Extent:** Stretching from Sutkagen-dor in the west to Alamgirpur in the east, and from Manda in the north to Daimabad in the south.
- **Major Sites:** Harappa, Mohenjo-daro, Kalibangan, Lothal, Dholavira, Rakhigarhi.

Features:

- **Urban Planning:** Well-organized roads, houses built of baked bricks, and an advanced drainage system.
- **Agriculture:** Wheat, barley, cotton, fruits, and vegetables.

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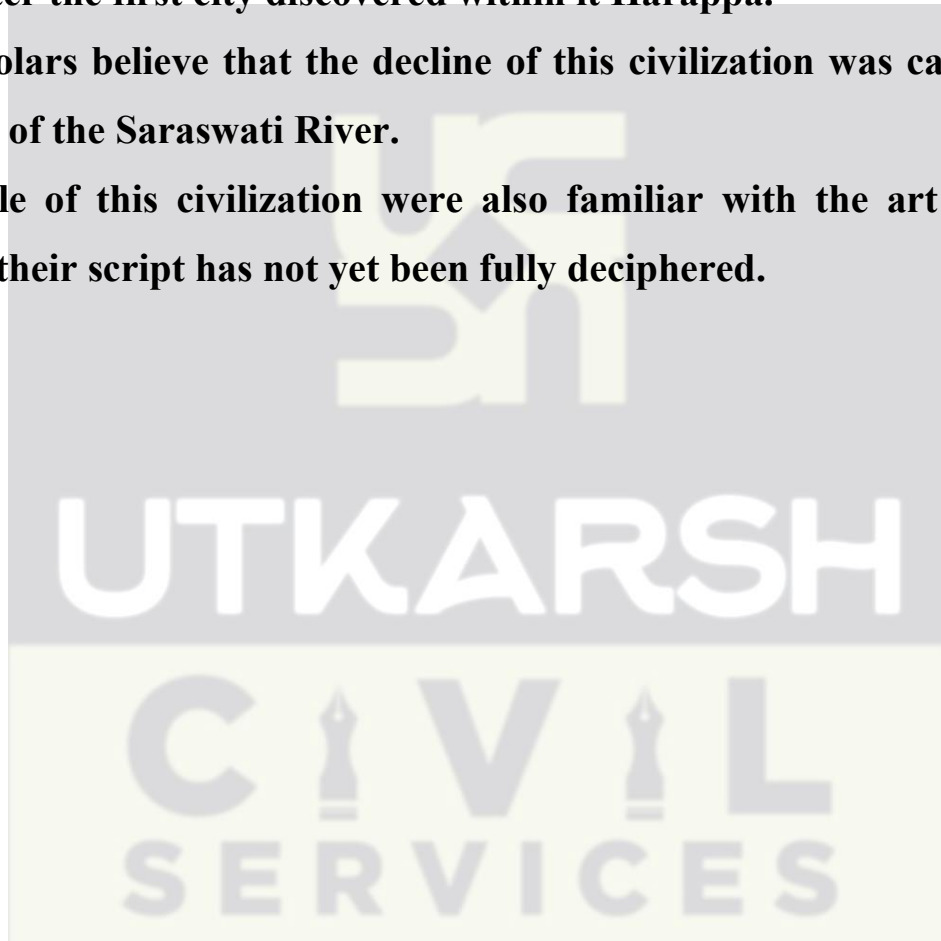
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- **Trade:** With Mesopotamia and other regions.
- **Religion:** Worship of the Mother Goddess and Pashupati.
- The Harappan Civilization is a part of the Indus Valley Civilization, which was in its mature phase from 2600 BCE to 1900 BCE. This civilization is named after the first city discovered within it Harappa.
- Some scholars believe that the decline of this civilization was caused by the drying up of the Saraswati River.
- The people of this civilization were also familiar with the art of writing; however, their script has not yet been fully deciphered.



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'Desert Soilification' Technology Developed by CURAJ



Why in News?

- Scientists at the Central University of Rajasthan (CURAJ), Ajmer, have developed a technique named 'Desert Soilification' to enable wheat cultivation in desert regions.



Key Points:

- Desert Soilification Technology is a biotechnological method that transforms barren desert sand into fertile soil.
- It utilizes bioformulations and polymers to bind loose sand particles together, improve soil texture, and enhance its water-retention capacity.
- This technology has been developed to address the problem of desertification, boost agricultural yields in arid regions, and promote sustainable land use.
- This technology enhances plant resilience, enabling crops (such as wheat, millet, and guar gum) to withstand heat and drought conditions more effectively.
- This process creates a binding effect that increases the soil's water-retention capacity, thereby significantly reducing the need for irrigation.

Bio-friendly Nano-ferrites



Why in News?

- Recently, scientists from Mohanlal Sukhadia University (Udaipur), the Indian Institute of Technology (IIT) Guwahati, and the Bhabha Atomic Research Centre (BARC), Mumbai, have jointly developed indigenous and eco-friendly bio-friendly nano-ferrites.



Key Points:

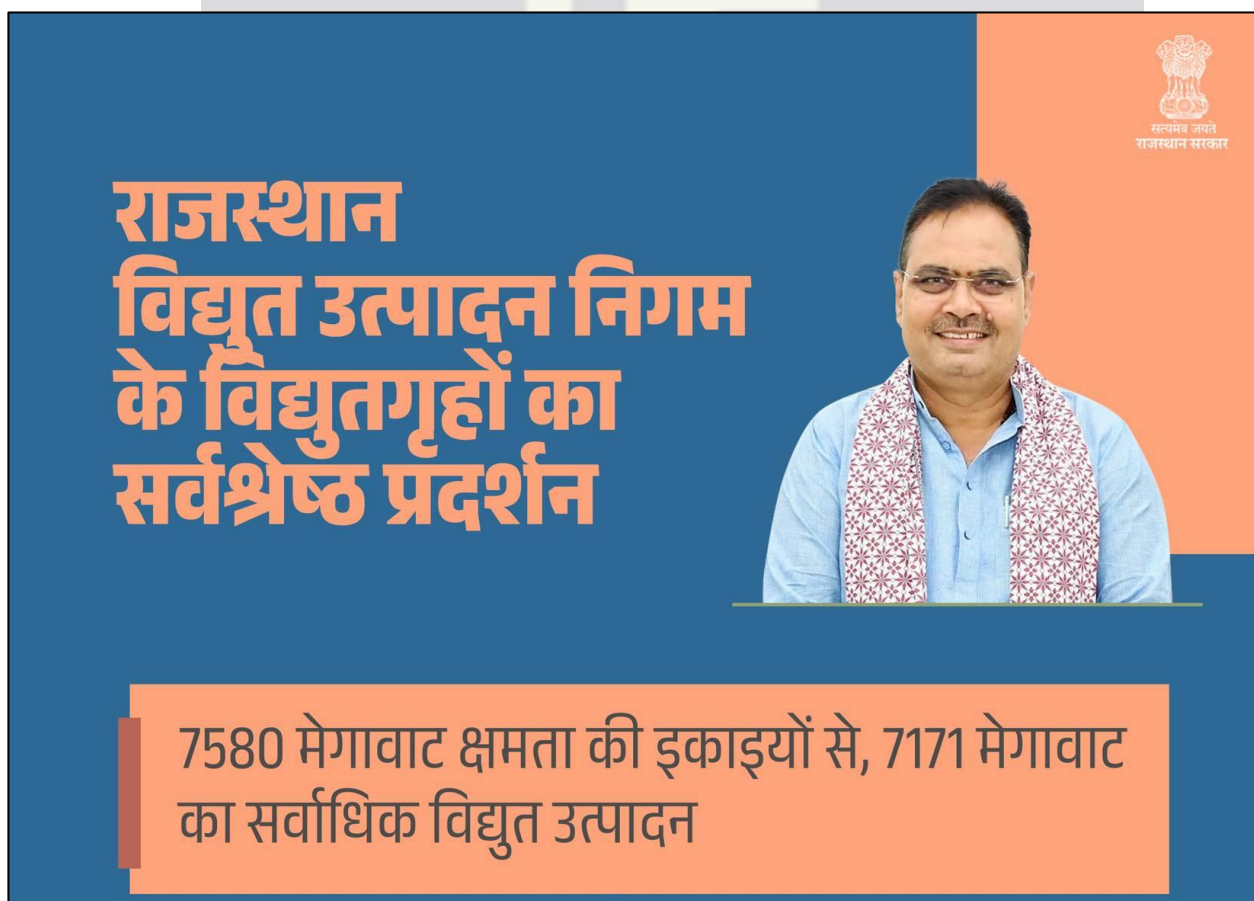
- Bio-friendly nano-ferrites are nanoscale (extremely minute) magnetic materials composed of iron oxides.
- Typically, the synthesis of nanoparticles involves the use of harmful chemicals, which can be toxic to both the environment and the human body; however, these scientists have developed bio-friendly nano-ferrites using a 'green synthesis' approach.
- These bio-friendly nano-ferrites could prove to be a game-changer in cancer treatment. This research has been published in the international journal, Journal of Alloys and Compounds.
- This technology is based on 'magnetic hyperthermia.' In this process, the scientists have synthesized extremely minute magnetic particles using elements such as zinc, magnesium, calcium, and iron.

Best-Ever Performance by Rajasthan Vidyut Utpadan Nigam's Power Stations



Why in News?

- On June 2, 2026, the power stations of the Rajasthan Vidyut Utpadan Nigam achieved their best-ever performance to date, utilizing 23 units with a total coal-based capacity of 7,580 MW.



Key Points:

- The total power generation capacity of the Rajasthan Vidyut Utpadan Nigam's power stations stands at 7,580 MW.
- These power stations recorded a peak power generation of 7,171 MW across their 23 thermal units a figure surpassing the previous record of 6,833 MW generated by coal-based units on January 31, 2025.

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Facts for Prelims:

Suratgarh Super Critical Thermal Power Station:

- The 'Suratgarh Super Critical Thermal Power Station' is Rajasthan's first Super Thermal Power Station. Currently, it is the highest power-generating plant in Rajasthan.
- **Ownership and Operation:** By the Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL).
- **Establishment:** 1998; Thukrana Village, Suratgarh (Sri Ganganagar).
- This power plant comprises 6 units with a generation capacity of 250 MW each, and 2 units with a generation capacity of 660 MW each (250 MW x 6; 660 MW x 2).
- **Total Capacity:** 2,820 MW.
- Commercial operations for Units 7 and 8 each with a capacity of 660 MW and based on supercritical technology commenced at the 'Suratgarh Super Critical Thermal Power Station' on December 1, 2020, and October 7, 2021, respectively.



NEWS IN SHORTS ⚡

S. No.	News
1.	Integrated Financial Management System (IFMS) 3.0 ■ The Integrated Financial Management System (IFMS) 3.0 is a modern and integrated digital platform developed by the Finance Department (Directorate of Treasuries and Accounts) of the Government of Rajasthan. ■ Objective: To make the state's entire financial system more transparent, accountable, secure, and technology-enabled.
2.	Heroes of India Awards – 2026 ■ The 'Heroes of India Awards 2026' ceremony was organized by the Hindustan Book of Records in Jaipur. ■ The primary objective of this prestigious national awards ceremony was to honor individuals across the country who are bringing about positive change in society. ■ For her remarkable contribution in the fields of education and social service, Jyoti Mahajan of Jaipur was honored with the 'Heroes of India Awards 2026' in the 'Woman Achiever of the Year' category. ■ Social Service Honor: Presented to Anil Parikh, Vice President of the 'Vriksham Amritam Seva Sansthan' (Service Institute) in Udaipur. ■ Dr. Chandra Pal Dehadu a state award-winning teacher and resident of Sonadi village in Hanumangarh was also honored.



Geography and Geology



Disruption to the Monsoon due to El Niño

(Source: TIMES OF INDIA)



Why in News?

- The World Meteorological Organization (WMO) has warned that there is an approximately 80% probability of El Niño developing in the coming months.



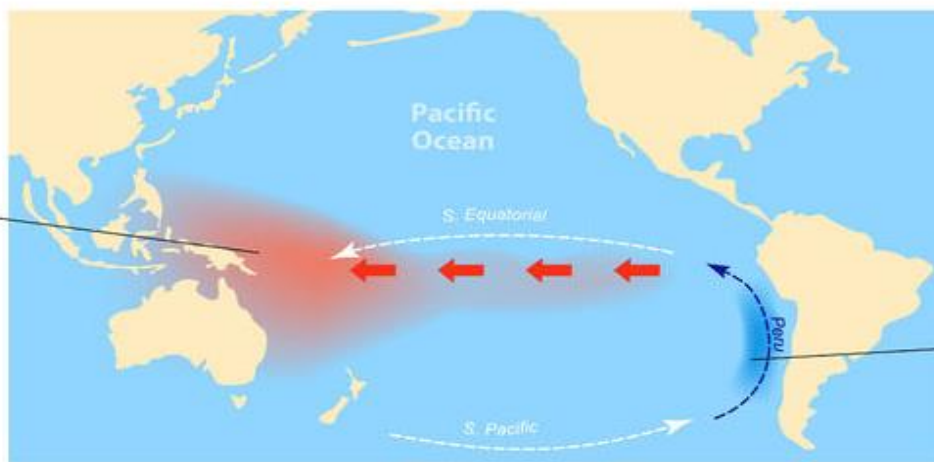
Key Points:

- El Niño and La Niña are the two opposing phases of the El Niño-Southern Oscillation (ENSO).
- The Southern Oscillation refers to the regular inter-annual fluctuation in atmospheric pressure occurring in the tropical Indo-Pacific region.

THE EL NIÑO PHENOMENON

NORMAL YEAR

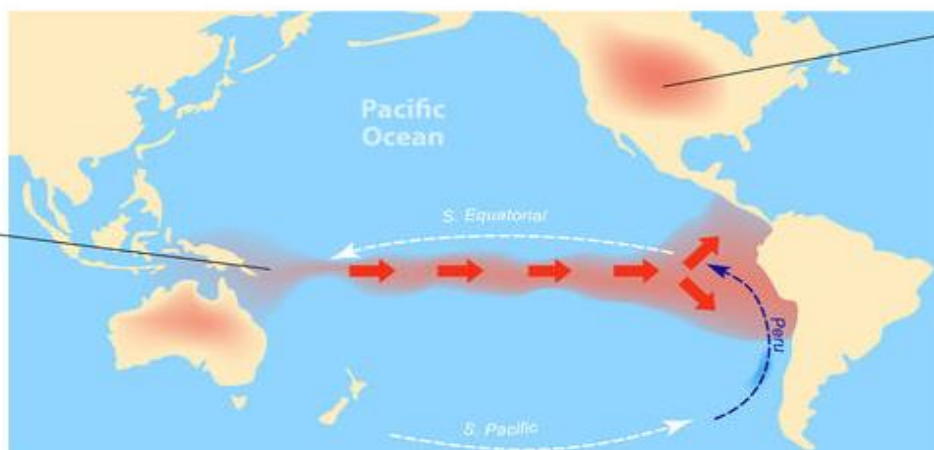
Equatorial winds gather warm water pool toward the west.



Cold water along South American coast.

EL NIÑO YEAR

Easterly winds weaken. Warm water to move eastward.



Warmer winter

-:10:-

El Niño

- In Spanish, El Niño means "The Little Boy."
- It is characterized by an abnormal rise in sea surface temperatures in the central and eastern parts of the equatorial Pacific Ocean.
- This phenomenon typically occurs every 2 to 7 years and remains active for approximately 9 to 12 months.
- Generally, the development of this phenomenon begins between March and June, and it reaches its peak intensity during the period from November to February.

La Niña

- In Spanish, La Niña means "The Little Girl."
- It is characterized by the cooling of sea surface temperatures in the central and east-central equatorial Pacific Ocean.

Impact of El Niño

Global Impact:

- Higher-than-normal rainfall and wetter conditions in regions such as the southern parts of South America, the southern United States, etc.
- Dry conditions in the northern parts of South America, the Caribbean, Australia, and certain parts of South Asia.
- Due to the weakening of oceanic upwelling off the coast of Peru, cold, nutrient-rich water fails to rise to the surface; this reduces phytoplankton productivity and disrupts the marine food chain.

Impact on India:

- When El Niño is active, there is a persistent risk of lower-than-normal rainfall during the Southwest Monsoon. This, in turn, impacts agriculture and water management.
- Conversely, the La Niña phenomenon strengthens the Indian monsoon, resulting in above-normal rainfall.
- The risk of cyclones, wildfires, heatwaves, and other extreme weather events may increase, leading to loss of life and property.



Economic Developments



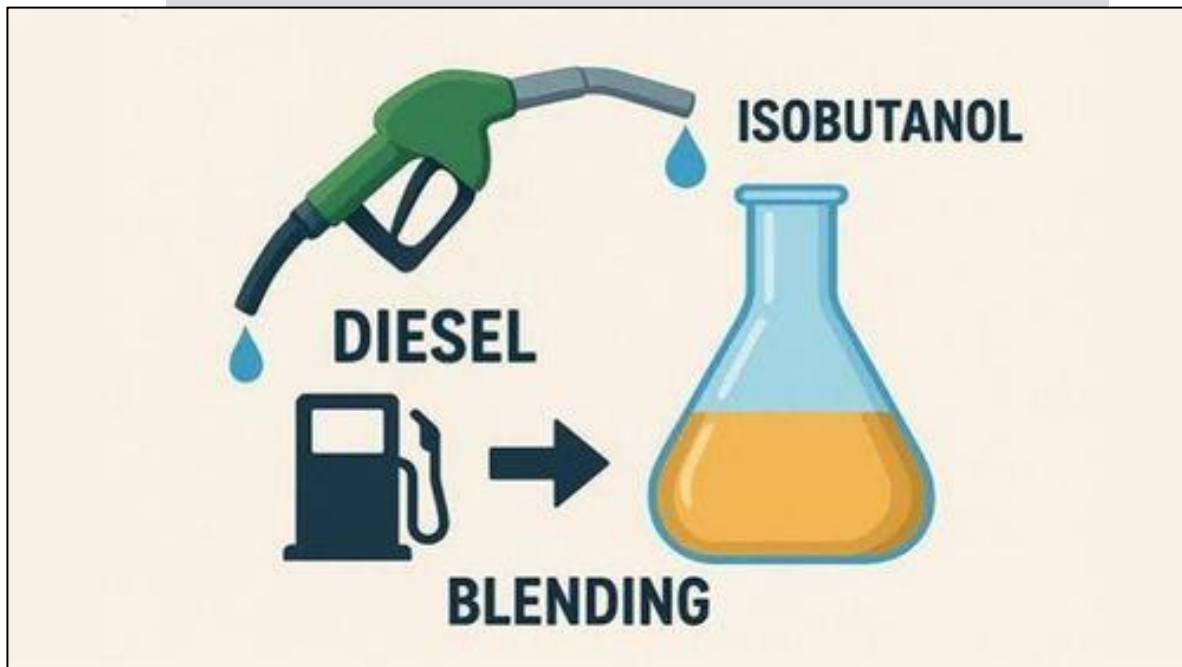
Isobutanol

(Source: HINDUSTAN TIMES)



Why in News?

- India is likely to initiate the blending of Isobutanol into diesel.



Key Points:

Isobutanol

- Isobutanol is a four-carbon alcohol ($C_4H_{10}O$). It is considered a higher-grade alcohol compared to ethanol, as ethanol contains only two carbon atoms.
- It can be produced from renewable sources such as biomass and agricultural waste or through processes associated with ethanol and sugarcane production.
- **Uses:** As an industrial solvent in products such as paints and coatings; as a potential biofuel for transportation; etc.

Utility in Blending with Diesel:

- Isobutanol blends easily with diesel without the need for any additional additives. It possesses a high energy content.
- It is less volatile and less corrosive. Consequently, it offers greater compatibility with existing engines and fuel infrastructure.

-:12:-

Revision of the Base Year for the All-India Index of Industrial Production (IIP)

(Source: PIB)

Why in News?

- The Ministry of Statistics and Programme Implementation (MoSPI) has revised the base year for the Index of Industrial Production (IIP) from 2011-12 to 2022-23 to more accurately reflect India's current industrial structure, production patterns, and economic activities.

Key Points:

- This marks the 10th revision of the base year for the All-India IIP. The first Index of Industrial Production was compiled using 1937 as the base year.

Key Changes in the New IIP Series

Sector	Base Year 2011-12		Base Year 2022-23	
	Share (%)	Item Groups	Share (%)	Item Groups
Mining & Quarrying	14.372	1	11.053	3
Manufacturing	77.633	405	76.062	455
Electricity & Gas Supply	7.995	1	10.865	3
Water Supply, Sewerage & Waste Management	--	--	2.020	2
Total	100	407	100	463

- **Base Year Revision:** The base year for the IIP has been revised to 2022-23.
- **Coverage:** While retaining the existing sectors, activities related to gas supply, water supply, sewerage, and waste management have been added.



- **Inclusive Classification of the Mining Sector:** To ensure a more comprehensive and accurate representation of the mining sector, minor minerals and rare earth minerals have also been included in the classification.
- **Revised Basket of Commodities:** The number of items in the IIP basket has been increased from 839 to 1,042 (comprising 463 item groups).
- **Inclusion of New Products:** Magnetic-stripe cards, CCTV cameras, non-woven textiles, aircraft and spacecraft parts, stents, and vaccines (excluding veterinary vaccines).
- **Items Removed:** Kerosene, fluorescent tubes and CFLs, tubes for bicycles/tricycles/rickshaws, tubes for Light Motor Vehicles (LMVs), printing machinery, and sewing machines.
- **Detailed Classification:** The new IIP features a more detailed and granular classification of industrial activities.
- The mining sector has been classified into the categories of fuel minerals, metallic minerals (including rare earth minerals), and non-metallic minerals (including minor minerals).
- In the electricity index, electricity generated from renewable and non-renewable sources will now be tracked separately.



Schemes and Policies



Mission Snehajori: Assam Muga Silk USP

(Source: PIB)



Why in News?

- "Mission Snehajori: Assam Muga Silk USP" has been launched under the Ministry of Development of North Eastern Region (DoNER).



Key Points:

- Under this mission, a plan has been devised to strengthen the entire value chain of Muga silk by adopting a cluster-based approach.
- This mission will be implemented in collaboration with the Government of Assam, the Central Silk Board, and other relevant stakeholders.

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Mission Snehajori

- **Objective:** To transform Assam's unique Muga silk sector into a high-value luxury textile ecosystem through host-plant cultivation, silkworm seed production, reeling, weaving, branding, export promotion, digital traceability, and tourism.
- **Targets by 2028:** Establishment of 5 modern Muga reeling units and one Muga spun mill; formation of 30 Farmer Producer Organizations (FPOs), etc.

Muga Silk:

- It is one of the five major natural varieties of silk. India produces all five of these varieties.
- Silk is a natural protein fiber. It is produced by silkworms, primarily of the *Bombyx mori* species.
- **Unique Identity:** Muga silk is the world's only natural golden silk. It is India's first GI-tagged silk (2007).
- **Production:** Assam accounts for 90 percent of the world's Muga silk production.
- **Silkworm:** It is derived from the semi-domesticated, 'multivoltine' silkworm, *Antheraea assamensis*.

Prime Minister's Research Chairs (PMRC) Scheme

(Source: NEWS ON AIR)



Why in News?

- The Department of Higher Education, under the Union Ministry of Education, has invited applications for the Prime Minister's Research Chairs Scheme, 2026.



Key Points:

PMRC Scheme

- This is a flagship initiative of the Government of India aimed at strengthening the country's research and innovation ecosystem.
- **Objective:** To attract distinguished researchers, scientists, and professionals of Indian origin from across the globe.
- Under this scheme, experienced global experts are appointed to leading Indian Higher Research Institutions.
- **Eligibility:** Young Research Fellows (0–5 years post-PhD), Senior Fellows (5–10 years post-PhD), and Research Chairs (10+ years post-PhD with demonstrated research leadership).
- **Host Institutions:** Government Higher Education Institutions (HEIs) ranked within the top 100 (in the NIRF Overall/Engineering categories) or the top 50 (in the Research category).

-:17:-



INTERNATIONAL



India-Nepal Border Dispute Region

(Source: THE HINDU)



Why in News?

- The Prime Minister of Nepal spoke of encroachment upon certain Indian territories.



Key Points:

India-Nepal Border

- **Border Length:** The India-Nepal border extends over 1,751 kilometers.
- **Border:** It touches upon 5 Indian states (Sikkim, West Bengal, Uttar Pradesh, Uttarakhand, and Bihar).

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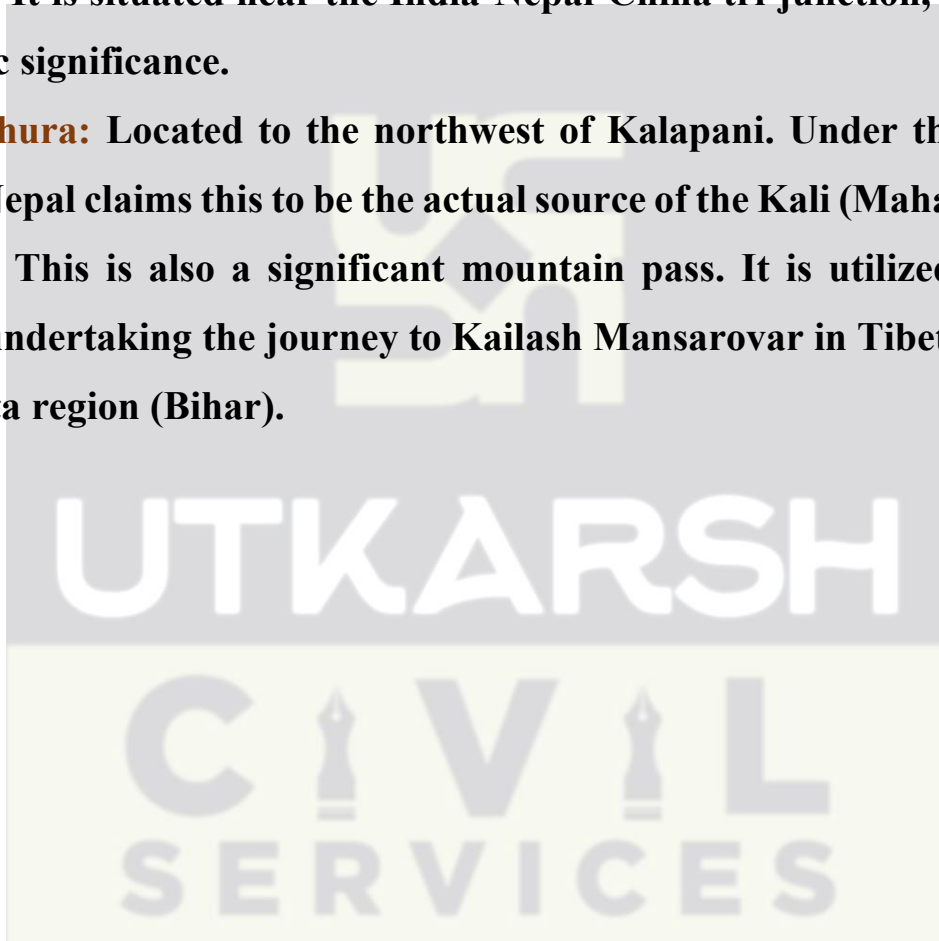
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- Mechi Bridge connects India's Panitanki Bypass (West Bengal) with Nepal's Kakarbhitta.

Disputed Border Areas

- **West:** Kalapani-Limpiyadhura-Lipulekh Tri-junction (Uttarakhand)
- **Kalapani:** It is situated near the India-Nepal-China tri-junction, which lends it strategic significance.
- **Limpiyadhura:** Located to the northwest of Kalapani. Under the Treaty of Sugauli, Nepal claims this to be the actual source of the Kali (Mahakali) River.
- **Lipulekh:** This is also a significant mountain pass. It is utilized by Indian pilgrims undertaking the journey to Kailash Mansarovar in Tibet.
- **East:** Susta region (Bihar).



Blue Helmets

(Source: INDIA TIMES)



Why in News?

- Indian peacekeepers serving with the United Nations Mission in South Sudan (UNMISS) have been awarded the United Nations Medal.



Key Points:

United Nations Peacekeeping (Blue Helmets)

- Origin:** It began in 1948 when the United Nations deployed military observers to monitor a ceasefire agreement in West Asia.
- They are also referred to as 'Blue Helmets' because they wear blue helmets during peacekeeping operations across the globe.
- Deployment Mechanism:** Through the adoption of a resolution by the United Nations Security Council (UNSC).
- Principles of Peacekeeping:** It is based on the principles of consent of the parties involved, impartiality, non-use of force (except in self-defense), and the defense of the mandate.
- The United Nations Department of Peace Operations provides political and executive direction to peacekeeping operations.

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ENVIRONMENT & ECOLOGY



Ground-Level Ozone

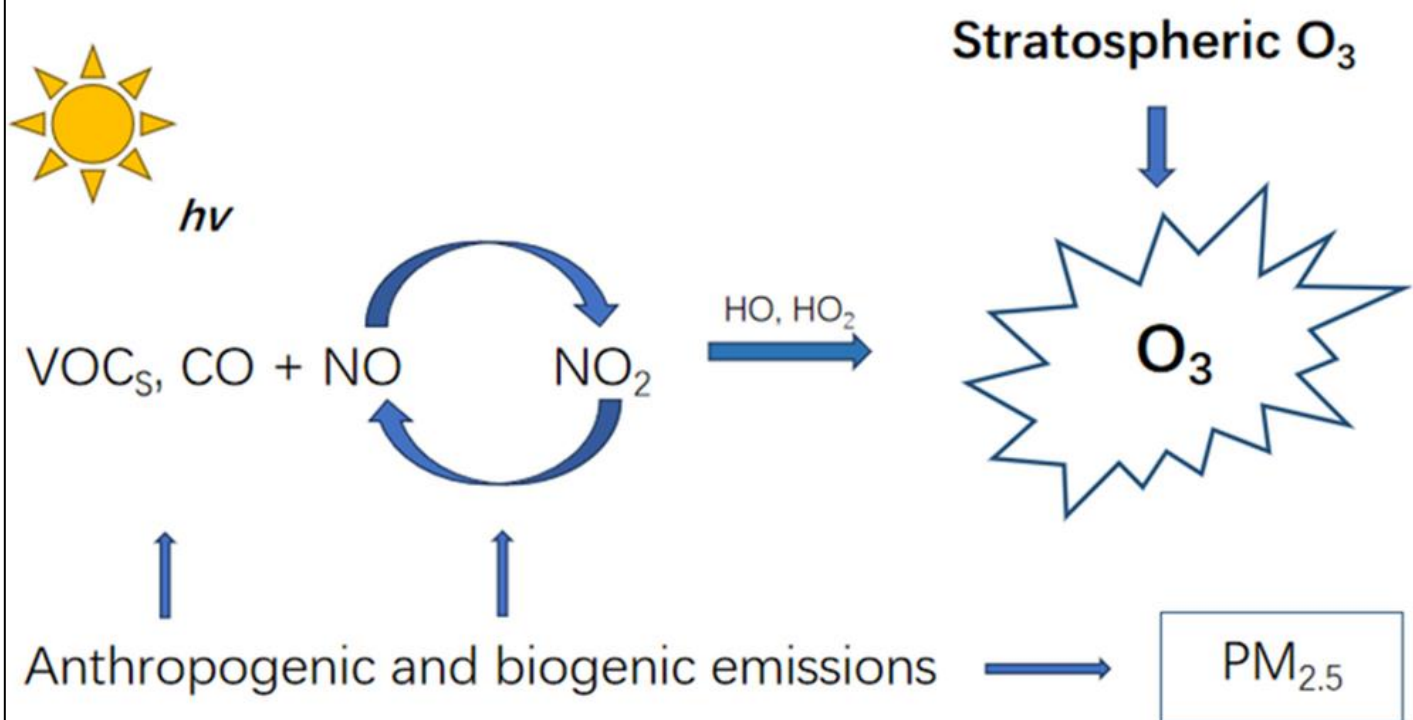
(Source: Times of India)



Why in News?

- A recent analysis has revealed that ground-level ozone (O_3) is emerging as a major challenge regarding air pollution in Delhi.

Formation of Ground-Level Ozone



Key Points:

Ground-Level Ozone (O_3)

- It is a secondary air pollutant (found in the troposphere). It is formed through a reaction between nitrogen oxides (NO_x) and volatile organic compounds (VOCs) in the presence of sunlight.
- **Formation:** $NO_x + VOCs + \text{Sunlight} \rightarrow \text{Ozone } (O_3)$

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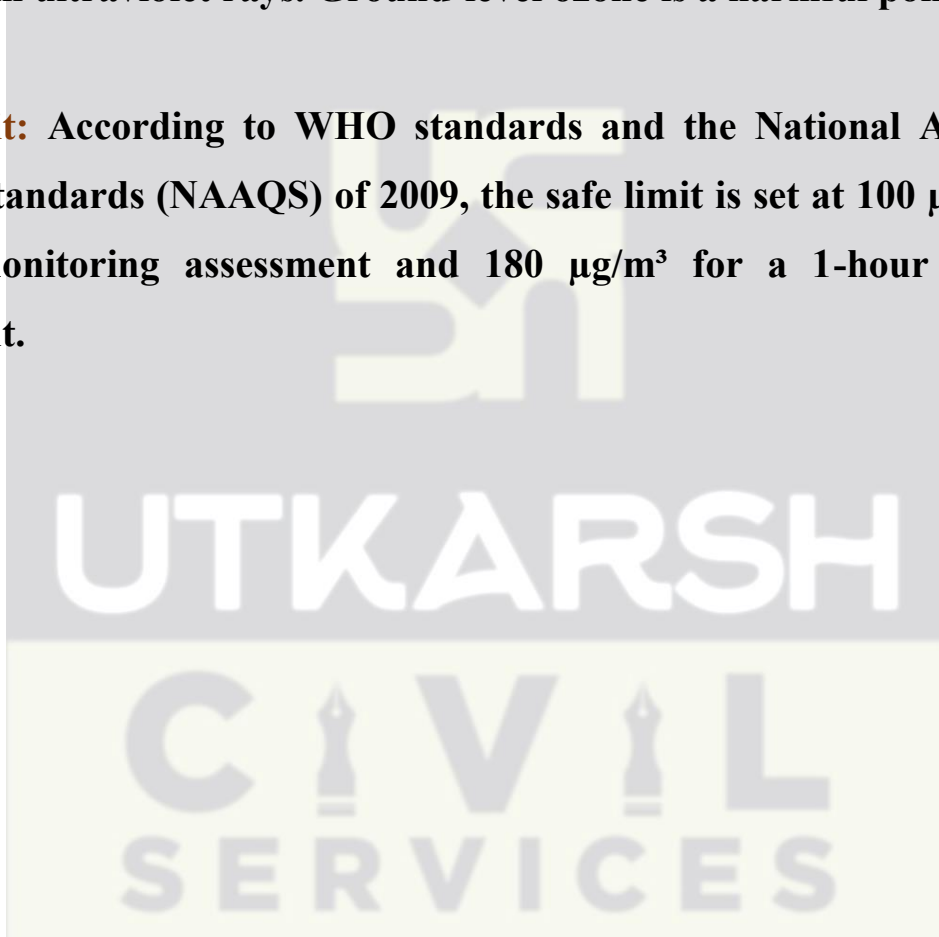
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- **Major Sources:** Vehicles, industries, and thermal power plants.
- Its levels rise significantly during the summer season due to intense solar radiation.
- It is distinct from stratospheric ozone ("good ozone"), which protects the Earth from ultraviolet rays. Ground-level ozone is a harmful pollutant ("bad ozone").
- **Safe Limit:** According to WHO standards and the National Ambient Air Quality Standards (NAAQS) of 2009, the safe limit is set at $100 \mu\text{g}/\text{m}^3$ for an 8-hour monitoring assessment and $180 \mu\text{g}/\text{m}^3$ for a 1-hour monitoring assessment.



⌚ SCIENCE & TECHNOLOGY ⌚

Rudram-II

(Source: NEWS ON AIR)

ANALYSIS OF INDIA'S RUDRAM-II MISSILE TEST

A DEEP DIVE INTO INDIA'S INDIGENOUS PRECISION STRIKE CAPABILITY, STRATEGIC IMPACT, AND THE ROAD AHEAD

PRECISION STRIKE POWER Pin-point accuracy under extreme release conditions	INDIGENOUS CAPABILITY Strengthening India's self-reliance in advanced weapons	STRATEGIC ADVANTAGE Enhancing air-launched precision strike and deterrence posture	CHALLENGES AHEAD Production, integration, and induction will decide real impact	THE ROAD FORWARD From test success to operational readiness
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📌 Key Points:

- India successfully test-fired the indigenous Rudram-II missile.
- Rudram-II**
- This is an indigenous air-to-surface missile. It is launched from an airborne platform.
 - **Developer:** Research Centre Imarat (RCI), Hyderabad a nodal laboratory of the Defence Research and Development Organisation (DRDO).