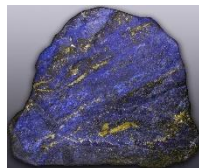


Current Affairs - 24 March 2025

LAPIS LAZULI



Lapis Lazuli: The Earth's Best Blue

- Lapis lazuli is a vivid blue metamorphic rock, known for its striking colour and semi-precious gemstone value.
- It has been highly valued for thousands of years for use in jewellery, ornaments, and pigments.
- Etymology:
 - "Lapis" (Latin) means stone.
 - "Lazuli" (Persian - Lazward) means blue.

Composition of Lapis Lazuli

- The blue colour comes from lazurite (25-40%), a rare mineral.
- The shade of blue depends on the amount and structure of sulphur in lazurite.
- Other minerals present:
 - Pyrite (gives golden streaks and sparkle).
 - Calcite (reduces the blueness).
 - Diopside and Sodalite (found in smaller quantities).

Where is Lapis Lazuli Found?

- Major sources include Afghanistan, Chile, Russia, and the United States.
- The highest-quality lapis lazuli is mined in Badakhshan province, Afghanistan, where it has been extracted for over 6,000 years.

Lapis Lazuli in History

- Ancient Trade and Use in India: Imported to India from Badakhshan as early as 1000 BCE.
 - Ornaments made of lapis lazuli have been discovered at Indus Valley Civilization sites (Mohenjo-daro & Harappa).



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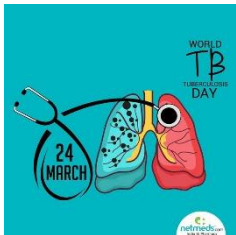


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- Ancient Egypt: Used in jewellery and ground into powder for eye shadow.
- Renaissance Europe: Ground into ultramarine, a rare and expensive blue pigment used by painters.

WORLD TUBERCULOSIS DAY



March 24 is observed as World Tuberculosis (TB) Day to raise awareness about TB and efforts to eliminate it.

- The 2025 theme is “Yes, We Can End TB: Commit, Invest, and Deliver.”
- The President of India commended the National TB Elimination Programme (NTEP) for its public awareness initiatives and significant reduction in TB cases over the past decade.
- India aims to eliminate TB by 2025, ahead of the global target of 2030 set by the WHO End TB Strategy.

About Tuberculosis (TB)

- Tuberculosis (TB) is a bacterial infection caused by *Mycobacterium tuberculosis*, which primarily affects the lungs but can also impact other body parts such as the abdomen, glands, bones, and nervous system.
- It spreads through airborne transmission, mainly inhaling tiny droplets released from the coughs or sneezes of an infected person.

Types of Tuberculosis

Type	Description	Infectious?	Symptoms Present?
Pulmonary TB	Affects the lungs, most contagious type.	Yes	Yes



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Latent TB	The immune system controls the bacteria but does not eliminate it.	No	No
Active TB	The immune system fails to control the infection, allowing it to spread.	Yes	Yes

Symptoms of TB

- Persistent cough for more than 3 weeks, often with blood.
- Weight loss, night sweats, high fever, fatigue.
- Loss of appetite, chest pain, swollen lymph nodes.

Treatment & Prevention

- Curable with Antibiotics: Requires 6-18 months of medication.
- BCG Vaccine: The Bacillus Calmette-Guérin (BCG) vaccine provides moderate protection, mainly for severe TB in infants and children.

Key Highlights of TB in India

- Declining TB Incidence: Tuberculosis incidence in India has dropped to below 200 per lakh (2022) from 237 per lakh (2015), marking a 16% decline.
- Reduction in TB Mortality: TB-related deaths have decreased by 18% since 2015, now at 23 per lakh population.
- Improved Treatment Success Rates:
 - Multi-Drug Resistant TB (MDR-TB) Treatment Success Rate: 74%.
 - Pre-Extensively Drug-Resistant TB (Pre-XDR-TB) Success Rate: 68%.
 - Extensively Drug-Resistant TB (XDR-TB) Success Rate: 45%.
- State-Wise TB Performance Index:
 - Best Performing States: Himachal Pradesh, Odisha, Gujarat.
 - Lowest Performing States: Punjab, Bihar, Karnataka.

Current Affairs - 24 March 2025

FARAKKA BARRAGE



- Location: Situated on the Ganga River in Murshidabad district, West Bengal, approximately 18 km from the Bangladesh border.
- Commissioning: Began operations on April 21, 1975, after 12 years of construction and an expenditure of ₹130 crores.
- Purpose: Diverts 40,000 cusecs of water into the Farakka Feeder Canal to flush out silt from the Bhagirathi-Hooghly River, ensuring smooth navigation for Kolkata Port.
- India and Bangladesh have had multiple agreements over Ganga water sharing, including the 1977 Farakka Agreement and the 1996 Ganga Water Treaty.

Hooghly River & Its Significance

- Also known as the Bhagirathi-Hooghly or Kati-Ganga River.
- A 260 km-long distributary of the Ganges.
- Formation: The Ganga splits in Murshidabad, with one branch forming the Padma River (flows into Bangladesh).
 - The other becomes the Hooghly River, which flows through West Bengal.

Course & Hydrology

- Above Kolkata, the Hooghly River is heavily silted.
- The Farakka Feeder Canal supplies water, especially during the dry season.
- Rivers feeding Hooghly: Haldi, Ajay, Damodar, and Rupnarayan contribute to the lower Hooghly.
- Important Cities: Jiaganj, Azimganj, Murshidabad, Baharampur, Kolkata, and Howrah.
- Bridges:
 - Howrah Bridge (Cantilever) between Howrah and Kolkata.
 - Bally Bridge between Bally and Baranagar.

Current Affairs - 24 March 2025

WHAT IS URBAN HEAT ISLAND (UHI)?



- The UHI effect is a climatic phenomenon observed in urban areas, where temperatures are significantly higher than in surrounding rural areas.
- This discrepancy in temperature is attributed to human activities and urban development, which alter land surfaces and environments.
- It is the result of an accumulation of factors, the main ones being:
 - Reduced green spaces and natural soils: Urbanization contributes to shrinking vegetation in cities (trees, lawns, etc.), resulting in insufficient shading and evapotranspiration, a process that naturally cools the air.
 - Density of buildings and infrastructure: Concrete or asphalt buildings and roads store more heat than vegetated areas, thus exacerbating urban warming.
 - Urban layout: narrow streets and tall buildings create urban canyons where warm air is less able to circulate, amplifying the effect of UHIs.
 - Heat released by human activities: Road traffic, air conditioning systems, and industrial activities generate heat, which is then trapped by greenhouse gases (such as carbon dioxide) that act as a barrier.
- The combined effect of all these factors, together with global warming and increasingly high temperatures, leads to the development of this urban microclimate.
- The term “Urban Heat Island” originates from the visual representation of temperature distribution maps, where urban areas are depicted as “islands” of higher temperatures amidst cooler rural “seas.”
- The heat of the sun is absorbed during the day, only to be released very slowly at night, which limits the cooling of the air, thus contrasting with the cooling in the outlying rural areas.
- Temperature differences at night can be as much as 12°C.

WHAT IS ANTI-DUMPING DUTY?



India recently has imposed anti-dumping duty on five Chinese goods, including vacuum flasks and aluminium foil.

- It is a protectionist tariff that a domestic government imposes on foreign imports that it believes are priced below fair market value.
- Dumping is a process wherein a company exports a product at a price that is significantly lower than the price it normally charges in its home (or its domestic) market.
- The duty is priced in an amount that equals the difference between the normal costs of the products in the importing country and the market value of similar goods in the exporting country or other countries that produce similar products.
- It is imposed to protect local businesses and markets from unfair competition by foreign imports.
- Thus, the purpose of anti-dumping duty is to rectify the trade distortive effect of dumping and re-establish fair trade.
- The use of anti dumping measures as an instrument of fair competition is permitted by the WTO.
- While the intention of anti-dumping duties is to protect local businesses and markets, these tariffs can also lead to higher prices for domestic consumers.
- In the long-term, anti-dumping duties can reduce the international competition of domestic companies producing similar goods.
- In India anti-dumping and anti-subsidies are administered by the Directorate General of Trade Remedies (DGTR), which is operated by the Ministry of Commerce and Industry, and headed by the “Designated Authority”.
- The Department of Commerce recommends the anti-dumping duty, and the Ministry of Finance levies it.

Current Affairs - 24 March 2025

What is Countervailing duty (CVD)?

- It is a specific form of duty that the government imposes to protect domestic producers by countering the negative impact of import subsidies.
- CVD is thus an import tax by the importing country on imported products.
- The duty nullifies and eliminates the price advantage enjoyed by an imported product.
- The WTO permits the imposition of CVD by its member countries.

Countervailing duty v/s Anti-dumping duty:

- Anti-dumping duty is imposed to prevent low-priced foreign goods from damaging the local market.
- On the other hand, CVD will apply to foreign products that have enjoyed government subsidies, which eventually leads to very low prices.
- While the anti-dumping duty amount depends on the margin of dumping, the CVD amount will completely depend on the subsidy value of the foreign goods.

SUKHNA WILDLIFE SANCTUARY



The Punjab Government, in its affidavit submitted before the Supreme Court (SC) recently, stated that the Eco Sensitive Zone (ESZ) around the Sukhna Wildlife Sanctuary limit will remain at 100 meters for the Nayagaon municipal committee instead of 1 to 3 km.

- It is a protected area located in Chandigarh, near the famous Sukhna Lake at the foothills of the Shivalik range.
- The lake was created by the architect Le Corbusier in 1958 by diverting the Sukhna Choe, a seasonal stream that flows down from the Shivalik hills.
- The sanctuary was developed as a result of afforestation done for soil conservation around Sukhna Lake.

Current Affairs - 24 March 2025

- Spreading over an area of 2600 hectares, Sukhna Wildlife Sanctuary was established in 1998.
- The place is quite unstable geographically and becomes prone to soil erosion by surface runoff during rains.
- It has sandy soil of Shivalik with pockets of clay embedded at places.
- Apart from the Sukhna Lake, there are around 150 small and large water bodies in the sanctuary that form its catchment area.
- Vegetation: It is characterized by a mix of forests, grasslands, and wetlands, with the Sukhna Lake forming an important part of the ecosystem.
- Flora: The common flora of the sanctuary includes Khair, Phulai, Kikar, Shisham, Moonj, Amaltas, Jhingan, Amla, Rati, Vasaka, and many more.
- Fauna:
 - Squirrel, Common-Mongoose, Indian Hare, Porcupine, Jungle Cat, Jackal, Wild boar, etc, are the mammals found in the sanctuary.
 - Peacock, Hill myna, Jungle crow, Black drongo, Parrots, Doves, and others are the common birds of this region. Migratory birds also flock around this place.

WHY THE U.S. WANTS GREATER ACCESS TO INDIA'S FARM MARKET

The US Department of Agriculture's (USDA) recent report suggests that India's demand for feed and ultimately the need for substantial imports of ingredients such as corn and soyabean is going to substantially increase "by the early 2030s".

U.S. Push for Market Access Amid Tariff Threats:

- Amid renewed threats from U.S. President Donald Trump to impose **reciprocal tariffs** on Indian exports starting **April 2**, Washington is pushing for **greater market access for key agricultural commodities**—particularly **corn, soyabean, and cotton**.
- These three crops are **major U.S. exports**, with their combined shipment value peaking at **\$62 billion in 2022**.

Current Affairs - 24 March 2025

- With **China scaling back** its purchases of these commodities, India is emerging as an important potential buyer.

Corn and Soyabean: India's Growing Feed Demand

- According to a recent U.S. Department of Agriculture (USDA) report, India is expected to see surging demand for animal-based products like milk, eggs, fish, and meat due to rising population and income levels.
- This will lead to a **sharp rise in demand for livestock feed**, especially corn and soyabean meal—both of which are core components of animal feed.

Barriers to U.S. Access in India:

- Despite the growing demand, **tariff and non-tariff barriers** currently block U.S. farm exports to India.
- **Customs duties:** 45% on soyabean; 50% on corn
- **Ban on genetically modified (GM) products:** India restricts imports of GM corn and soyabean, which effectively shuts out U.S. supplies.
- Given this, the U.S. is expected to **press India to relax these restrictions**, potentially making access to Indian agricultural markets a **key trade negotiation point**.

Conclusion:

As trade negotiations intensify, the U.S. sees a major opportunity in India's rising demand for **corn, soyabean, and cotton**. However, this potential can only be realised if **tariffs are lowered** and **GM import restrictions are eased**.

With declining cotton output, rising feed needs, and evolving consumption patterns, India's agricultural import policy will play a **crucial role in shaping global agri-trade dynamics** in the years to come.
