



DAILY CURRENT AFFAIRS 24-06-2025

GS-1

1. Subarnarekha River
2. Lake Tahoe

GS-2

3. Operation Midnight Hammer

GS-3

4. Palm Tree
5. Sariska Tiger Reserve

Subarnarekha River

Syllabus: GS-1; Geography- Rivers

Context

- 50,000 people affected by flash flood in Subarnarekha River



1. Origin & Course

- **Source:** Chota Nagpur Plateau (near Nagdi village, Ranchi district, Jharkhand).
- **Length:** 395 km (approx.).
- **Flow:**
 - Flows through **Jharkhand, West Bengal, and Odisha.**
 - Passes through **Ranchi, Jamshedpur, Ghatshila (Jharkhand), and Balasore (Odisha).**
 - **Forms a boundary** between Jharkhand and West Bengal.
 - **Enters Odisha** before draining into the **Bay of Bengal** near **Kirtania port** (Balasore).

2. Tributaries

- **Left Bank:** Kharkai River (major tributary, joins near Jamshedpur).

- **Right Bank: Kanchi, Karkari, and Raru rivers.**

3. Major Dams & Projects

- **Subarnarekha Multipurpose Project:**
 - A joint venture of **Jharkhand, Odisha, and West Bengal.**
 - Includes **Chandil Dam** (Jharkhand) and **Galudih Barrage.**
 - Aims at **irrigation, hydroelectricity, and flood control.**

4. Economic & Industrial Significance

- **Jamshedpur (Tata Steel):** Located on the banks of **Kharkai & Subarnarekha.**
- **Mining:** The river basin has **copper, uranium, and gold deposits** (gold particles found in its sands, hence the name "*Subarnarekha*" meaning "Streak of Gold").
- **Agriculture:** Supports **paddy, maize, and pulses** cultivation.

5. Environmental Concerns

- **Industrial Pollution:** Due to **effluents from Jamshedpur industries.**
- **Sand Mining:** Excessive mining affects river ecology.
- **Floods:** Occasional floods in **Balasore (Odisha).**

6. Cultural & Historical Importance

- **Legend:** Linked to **gold deposits** in ancient times.
- **Tourist Spots:**
 - **Hundru Falls** (Jharkhand) – **Highest waterfall in Jharkhand** (formed on Subarnarekha).
 - **Ghatshila** – Scenic town on its banks.

Previous Year Questions (Prelims)

1. **UPSC 2016:** Which river is known as the "Streak of Gold"?
 - a. Ans: **Subarnarekha**
2. **KPSC (Kerala):** Hundru Falls is located on which river?
 - a. Ans: **Subarnarekha**

Know more

Flash Floods

- Flash floods are sudden, intense floods that occur within a few hours or minutes of heavy rainfall, dam/levee breaks, or glacial lake outbursts. They are highly destructive and pose significant risks to life, infrastructure, and agriculture.

Lake Tahoe

Syllabus: GS-1; Geography Mapping

Context

- Six people were killed when a boat capsized on Lake Tahoe, a popular tourist destination on the border of California and Nevada.

1. Location & Geography

- **Situated in:** The Sierra Nevada Mountains (USA).
- **Bordering States:** California and Nevada.
- **Type:** Freshwater **alpine lake** (one of the largest in North America).
- **Elevation:** ~6,225 ft (1,897 m) above sea level.
- **Size:**
 - **Surface Area:** ~191 sq mi (495 sq km).
 - **Depth: Maximum depth** ~1,645 ft (501 m) – **2nd deepest in the U.S.** (after Crater Lake).
- **Formation: Tectonic** (formed by faulting ~2-3 million years ago).

2. Ecological & Hydrological Importance

- **Water Clarity:** Known for its **exceptional clarity** (due to low nutrient levels).
- **Tributaries:** 63 tributaries, with the **Truckee River** as the only outlet.
- **Biodiversity:** Home to endemic species like the **Tahoe Sucker Fish** and **Mountain Whitefish**.

- **UNESCO Recognition:** Part of the **Lake Tahoe Basin Management Unit** for conservation.

3. Environmental Concerns

- **Threats:**
 - **Pollution:** Urban runoff, algal growth due to nitrogen/phosphate influx.
 - **Climate Change:** Rising temperatures reduce snowpack, affecting water levels.
 - **Invasive Species:** Eurasian watermilfoil disrupts native ecosystems.
- **Conservation Efforts:**
 - **Environmental Improvement Program (EIP):** Funds restoration projects.
 - **Tahoe Regional Planning Agency (TRPA):** Manages sustainable development.

Operation Midnight Hammer

Syllabus: GS-2; International Relations

Context

- **Operation Midnight Hammer** is a reported U.S.-led military strike targeting Iran's nuclear facilities, allegedly conducted on **June 21–22, 2025**.



Key Details of Operation Midnight Hammer

- **Objective:** To cripple Iran's nuclear program by destroying key uranium enrichment facilities.
- **Execution:** A **covert nighttime strike** involving advanced U.S. military assets.
- **Weapons Used:**
 - **GBU-57 Massive Ordnance Penetrator (MOP):** The largest U.S. bunker-buster bomb, used for the first time in combat.
 - **B-2 Stealth Bombers:** Deployed to drop MOPs on hardened underground sites.
 - **Tomahawk Cruise Missiles:** Fired from U.S. submarines in the Persian Gulf and Arabian Sea.
- **Scale of Attack:**
 - Over **125 military aircraft** involved.
 - **14 GBU-57 bombs** and **30+ Tomahawk missiles** launched.

Targeted Nuclear Facilities

1. **Fordow Uranium Enrichment Facility**
 - a. Located **deep inside a mountain**, 29 km north of Qom.
 - b. Houses **~3,000 centrifuges** and spans **54,000 sq ft**.
 - c. Previously banned for enrichment under the **2015 Iran Nuclear Deal (JCPOA)**, but Iran resumed activities after the U.S. withdrew in 2018.
 - d. Struck by **B-2 bombers with MOPs** due to its fortified structure.
2. **Natanz Uranium Enrichment Facility**
 - a. One of Iran's primary enrichment sites.
 - b. Also hit with **GBU-57 bombs**.
3. **Isfahan Nuclear Facility**
 - a. Multi-purpose nuclear research site.
 - b. Targeted with **Tomahawk missiles** (less fortified than Fordow/Natanz).

Strategic Significance

- **First Use of GBU-57 MOP:** Designed to penetrate **up to 200 feet of reinforced concrete**, making it ideal for underground targets like Fordow.
- **Covert Nature:** Conducted at **midnight** to minimize detection and retaliation.
- **Geopolitical Context:**
 - Follows years of failed diplomacy over Iran's nuclear program.
 - Likely a response to Iran's advancing uranium enrichment (near-weapons-grade levels).

Potential Consequences

- **Escalation Risk:** Could provoke Iranian retaliation via proxies (e.g., Hezbollah, Houthis) or direct strikes.
- **Global Oil Market Impact:** Possible disruptions in the Strait of Hormuz, affecting oil prices.
- **Diplomatic Fallout:** Reactions from Russia, China, and European powers critical of unilateral U.S. action.

Palm Tree

Syllabus: GS-3; Agriculture

Context

The National Green Tribunal (NGT) has taken suo motu cognisance of a newspaper report linking large-scale felling of palm trees in Bihar to a sharp rise in lightning-related deaths, and has issued notices to the Central Pollution Control Board (CPCB), Bihar State authorities, and other concerned agencies.

1. Introduction to Palm Trees

- Palms are **perennial, woody plants** belonging to the **Arecaceae family**.
- They are **monocots** (like grasses and orchids) and are primarily found in **tropical and subtropical regions**.
- India has over **100 species** of palms, with Kerala, Karnataka, Tamil Nadu, and the Andaman & Nicobar Islands having significant diversity.

2. Key Features of Palm Trees

- **Stem (Trunk):** Mostly unbranched, cylindrical, and covered with leaf scars.
- **Leaves:** Large, compound (pinnate or palmate), arranged in a crown at the top.
- **Roots:** Fibrous and adventitious (no taproot).
- **Flowers:** Small, clustered in inflorescences, usually unisexual.
- **Fruits:** Drupes (e.g., coconut) or berries (e.g., date palm).

3. Economic Importance of Palm Trees

Palms are "**Kalpavriksha**" (**Tree of Heaven**) due to their multipurpose uses:

A. Food Products

- **Coconut Palm (Cocos nucifera):**
 - **Coconut water** – Nutritious drink.

- **Copra** – Dried kernel used for oil extraction.
- **Toddy** – Fermented sap used as a beverage.
- **Date Palm (*Phoenix dactylifera*):**
- Sweet edible fruits rich in sugar.
- **Toddy Palm (*Borassus flabellifer*):**
- **Neera** – Fresh sap used as a health drink.
- **Palm sugar (jaggery)** – Made from boiled sap.

B. Industrial & Commercial Uses

- **Coir industry** – Coconut husk fibers used for ropes, mats, etc.
- **Palm oil** – Extracted from oil palm (*Elaeis guineensis*), used in cooking & cosmetics.
- **Rattan** – Climbing palms used for furniture and handicrafts.

C. Other Uses

- **Leaves** – Used for thatching, making brooms, baskets, and umbrellas.
- **Wood** – Used in construction and furniture.
- **Religious & Cultural Significance** – Coconut is used in Hindu rituals; palm leaves for writing manuscripts.

4. Ecological Importance

- **Prevent soil erosion** due to deep root systems.
- **Coastal protection** – Coconut palms reduce wind and wave impact.
- **Habitat for wildlife** – Many birds and animals depend on palms for food and shelter.

5. Major Palm Species in India

Palm Species	Scientific Name	Key Features/Uses
Coconut Palm	<i>Cocos nucifera</i>	Oil, coir, toddy, water
Date Palm	<i>Phoenix dactylifera</i>	Edible sweet fruits
Toddy Palm (Asian Palmyra)	<i>Borassus flabellifer</i>	Neera, jaggery, leaves for writing
Areca Nut Palm (Betel Nut)	<i>Areca catechu</i>	Stimulant (used in paan)
Sago Palm	<i>Metroxylon sagu</i>	Sago starch extraction
Oil Palm	<i>Elaeis guineensis</i>	Palm oil for cooking & biodiesel

6. Palm Cultivation in India

- **Major States:** Kerala, Karnataka, Tamil Nadu, Andhra Pradesh, Odisha.
- **Climate:** Thrives in **tropical humid conditions** (25-35°C, high rainfall).
- **Soil:** Well-drained sandy loam (coconut grows best in coastal regions).

7. Government Schemes Related to Palms

- **National Mission on Edible Oils – Oil Palm (NMEO-OP)** – Aims to increase domestic palm oil production.
- **Coconut Development Board (CDB)** – Promotes coconut farming and product development.

Sariska Tiger Reserve

Syllabus: GS-3; Biodiversity

Context

- A plan drawn up to rationalise the boundary of Sariska Tiger Reserve's Critical Tiger Habitat (CTH) may offer a lifeline to over 50 marble and dolomite mines that were closed following a Supreme Court order last year due to their proximity to the CTH.

1. Location:

- Situated in the **Alwar district of Rajasthan**.
- Part of the **Aravalli Range**.

2. Establishment & Status:

- Declared a **Wildlife Sanctuary** in **1955**.
- Upgraded to a **Tiger Reserve** in **1978** under **Project Tiger**.
- Also designated as a **National Park** in **1982**.

3. Area Coverage:

- **Core Area:** ~ 881 sq km.
- **Buffer Zone:** ~ 500 sq km.
- **Total Area:** ~ 1,331 sq km.

4. Flora:

- Dry deciduous forests, grasslands, and rocky landscapes.
- Dominant trees: **Dhok (Anogeissus pendula)**, Bamboo, Salar, Ber, etc.

5. Fauna:

- **Mammals:** Bengal Tiger, Leopard, Striped Hyena, Golden Jackal, Sambar Deer, Chital, Nilgai, Wild Boar.
- **Birds:** Over 200 species, including Grey Partridge, Indian Peafowl, Crested Serpent Eagle.
- **Reptiles:** Indian Python, Monitor Lizard, Russell's Viper.

6. Conservation Issues:

- **Tiger Disappearance (2004-05):** Poaching led to zero tigers; later, **relocation efforts** from Ranthambore helped revive the population.
- **Human-Wildlife Conflict:** Due to villages inside the reserve.
- **Mining Threats:** Illegal mining in the Aravallis affects the ecosystem.

[Know more](#)

