



Balalatha's

CSB IAS ACADEMY

The Road Map to Mussoorie...

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## OPIUM CULTIVATION IN INDIA

Context: Legal cultivation of **opium poppy (*Papaver somniferum*)** in India is restricted to a few regions, primarily in the **Malwa region of Madhya Pradesh** and the **Mewar region of Rajasthan**.

- **Opium poppy (*Papaver somniferum*)** is a flowering plant cultivated for the latex-rich capsules that produce opium and its derivatives.
- It is the world's primary natural source for morphine, codeine, thebaine, and other alkaloids used in medical and illicit drug markets.
- In India, opium production became a **government-controlled monopoly** under the East India Company and later the British, with major factories at **Ghazipur and Patna**.
- After Independence, cultivation and manufacturing came under the Central Government (1950).
- India regulates all activities through the NDPS Act, 1985, and is the only country producing licit opium gum for pharmaceuticals.
- **Characteristics:**
  - **Climate Needs:** Thrives in cool, dry regions with low humidity and well-drained soils.
  - **Latex Production:** When the green capsule is lanced, a milky latex emerges that naturally contains morphine, codeine and other alkaloids
- **Harvest Process:** Farmers manually score the pods, collect the dried latex the next day and submit it to authorised government centres for weighing, grading and processing.
- **Crop Cycle:** The poppy is an **annual winter crop** that matures in about 120 days, enabling systematic monitoring and controlled harvesting by regulatory authorities.
- The crop is typically **sown after Deepavali and harvested after Holi in March**.
- India strictly licenses cultivation only in MP, Rajasthan and UP with **annual yield criteria** and tight monitoring.
- Legal cultivation of **opium poppy (*Papaver somniferum*)** in India is restricted to a few regions, primarily in the **Malwa region of Madhya Pradesh** and the **Mewar region of Rajasthan**.
- Thousands of farming families in districts such as **Mandsaur, Neemuch, Ratlam (MP)** and **Pratapgarh, Chittorgarh, Kota, and Jhalawar (Rajasthan)** cultivate the crop under licences issued by the Union government.
- These regions together produce **about 85% of India's legally grown opium**.
- The cultivation, licensing, and procurement are regulated by the **Central Bureau of Narcotics**, which issues two types of licences:
  - **Opium gum licence:** Farmers extract latex by **lancing poppy capsules**.

- **Concentrate of poppy straw (CPS) licence:** the entire poppy capsule and straw are procured without lancing.
- The farming process requires **skilled labour and careful protection of fields**, as farmers must guard crops from animals such as **nilgai** and ensure controlled harvesting of latex.
- The extracted **raw opium latex is procured by the government**, while by-products like **poppy seeds (khus khus/posto dana)** are also obtained from the crop.

Source: The Hindu: Licensed Bloom (Page I & II)

## SWOT SATELLITE

Context: Recently, NASA has developed a new map of the ocean floor by using satellite data from SWOT Satellite.

- The **Surface Water and Ocean Topography (SWOT)** satellite was launched in 2022.
- It is a joint mission of **NASA and CNES (French Space Agency)**.
- Satellite will collect detailed measurements of how water bodies on Earth change over time.
- **Features SWOT Satellite**
  - It uses a specialised instrument called the **Ka-band Radar Interferometer (KaRIn)** to measure the height, width, and elevation of surface water bodies such as rivers, lakes, reservoirs, and oceans.
  - SWOT offers high spatial resolution by bouncing microwaves off water surfaces and calculating return time, allowing dynamic water movement tracking.
- The satellite covers over 55% of large-scale global floods during their lifecycle through frequent Earth orbits.

- The satellite circles Earth and can scan about 90 per cent of the planet every 21 days.
- It is equipped to observe the entire length of nearly all rivers wider than 330 feet and more than 1 million lakes and reservoirs larger than 5 acres.
- It will precisely measure fine differences in surface elevations around smaller currents and eddies, where much of the oceans' drawdown of heat and carbon is believed to occur.

Source: Indian Express

## TERMS IN NEWS

### Microgravity

- It is a condition of **apparent weightlessness** experienced in space when objects are in free-fall orbit around Earth.
- Microgravity does not mean the absence of gravity.
- At orbital altitudes (~250 miles above Earth), gravity is ~89% as strong as on Earth.
- Objects appear to float because they are in continuous free fall around the Earth, a state first explained by **Isaac Newton's orbiting cannonball thought experiment**.
- **Weightlessness ≠ no gravity**; rather, it results from free-fall motion, where objects, spacecraft, and astronauts all fall simultaneously.
- In such an environment, physiological changes occur, affecting bones, muscles, blood circulation, metabolism, and thermoregulation.
- **Thermoregulation** is crucial during long-duration space travel, where the microgravity environment significantly alters normal physiological responses.

## PLACES IN NEWS

## Sukhna Lake



- It is an **artificial lake** located in the city of **Chandigarh** at the foothills of the Shivalik hills.
- This 3 sq.km. **rain fed lake** was created in 1958 by damming the **Sukhna Choe**, a seasonal stream coming down from the Shivalik Hills.
- The lake is 1.52 km long and 1.49 km wide.
- The lake is fringed by a golf course to the south, and Nek Chand famous Rock Garden of Chandigarh to its west.
- The lake is declared **National Wetland** by the Government of India.
- During winter, Sukhna Lake transforms into a haven for diverse migratory birds such as Siberian ducks, storks, and cranes, hosting around 30 resident and migratory species.
- The lake is also a part of the **Sukhna Wildlife Sanctuary**.
- Sukhna Lake has the longest channel for rowing and yachting events in Asia.
- The Punjab and Haryana high court has declared Sukhna Lake a **“living entity”** or **“legal person”** with rights, duties and liabilities of a living person. It also declared all citizens of Chandigarh as **loco parentis** (in the place of a parent) to save the lake from extinction.

## SPECIES IN NEWS

## Steppe Eagle



- It is a member of the subfamily Aquilinae, also known as the **“booted eagles”**.
- The Steppe eagle is a **large, bulky, and robust-looking eagle**. It is mainly **dark brown in color** with a longish but very thick neck and a relatively small head
- It is found in a number of habitats including **steppe, desert, semi-desert, open savanna, pastures, agricultural fields, paddy fields, grassland, and open woodland**.
- It is mainly found in **Europe, Asia, and Africa**
- It is a specialized predator of ground squirrels on the breeding ground.
- **It is the only eagle to nest primarily on the ground.**
- It mainly breeds in central Asian countries, including Kazakhstan, Russia, and Mongolia, it undertakes an **annual southward migration as temperatures drop**.
- Steppe eagles are carnivores and prey mainly on small-sized mammals, with some birds (such as queleas) and reptiles and
- The major threats to the Steppe eagle include habitat loss, persecution, wildfires, predation (and trampling by cattle) of chicks.
- **IUCN Red List: Endangered**

## PRACTICE QUESTIONS

**Q1. With reference to Opium cultivation in India, consider the following statements:**

1. India is the only country producing licit opium gum for pharmaceuticals.
2. The cultivation is strictly regulated by the Central Bureau of Narcotics.
3. In India, opium is typically a summer crop sown in March.

Which of the statements given above is/are **correct**?

- A) 1 and 2 only
- B) 2 and 3 only
- C) 1 and 3 only
- D) 1, 2, and 3

**Q2. The "SWOT Satellite," recently seen in the news, is a joint mission between:**

- A) ISRO and NASA
- B) NASA and ESA
- C) NASA and CNES
- D) ISRO and ROSCOSMOS

**Q3. Which of the following best describes the state of "Microgravity" as experienced in space?**

- A) It refers to the complete absence of gravity in orbital altitudes.
- B) It is a condition of apparent weightlessness resulting from continuous free-fall.
- C) It occurs because gravity is only 1% as strong at orbital altitudes compared to Earth.
- D) It is a state where objects stop falling toward the Earth.

**Q4. Consider the following statements regarding "Sukhna Lake":**

1. It is a natural freshwater lake located in the Shivalik hills.
2. It has been declared a "living entity" with legal rights by the Punjab and Haryana High Court.
3. It serves as a winter home for migratory birds like Siberian ducks.

Which of the statements given above are **correct**?

- A) 1 and 2 only
- B) 2 and 3 only
- C) 1 and 3 only
- D) 1, 2, and 3

**Q5. Regarding the "Steppe Eagle," consider the following:**

1. It is currently categorized as "Critically Endangered" on the IUCN Red List.
2. It is the only eagle species to nest primarily on the ground.
3. It is a specialized predator that primarily breeds in Central Asian countries.

Which of the statements given above is/are **correct**?

- A) 1 and 2 only
- B) 2 and 3 only
- C) 3 only
- D) 1, 2, and 3

### Answers

1. A
2. C
3. B
4. B
5. B