

**DAILY  
CURRENT  
AFFAIRS  
ANALYSIS**



LAKSHYA ACADEMY®

**04 NOVEMBER 2023**

# 1 - How Sikkim's storm affected hydroelectric projects:

## GS III

### Infrastructure related issues

- **Context:**

- A unexpected surge in the Teesta river recently destroyed parts of National Highway 10, the Chungthang Dam, and Sikkim's villages.

- **What caused the floods to occur?**

- The Teesta River floods in West Bengal and Sikkim were caused by a phenomena known as GLOF (Glacial Lake Outburst Flood).
- A glacier's flank, front, interior, base, or surface can all produce a glacial lake face fracture, or GLOF, which is an abrupt outburst of water.
- In the instance of the Sikkim floods, it's possible that a sizable piece of glacier ice fell into the lake, generating waves that overturned the moraine barrier, resulting in a GLOF and catastrophic flash floods in the Teesta downstream.

- **Hydropower project status:**

- The 1,200 MW Teesta Stage III hydroelectric project in north Sikkim's Chungthang hamlet failed.
- The Chungthang dam, in which Sikkim Urja owns a majority ownership in the State government, has ceased to produce energy and has submitted an insurance claim.
- Following the floods, all of Sikkim's operational hydroelectric generating projects on the Teesta River are essentially non-operational, including the Teesta Stage III hydropower project.
- Because of the floods, Sikkim's 1,806 MW of hydroelectric power has stopped producing electricity.
- The Sikkim government has not yet provided a monetary estimate for the extent of the damage.
- Floods caused by GLOF will cause losses in the thousands of crores, far more than the ₹7,425 crore estimated loss from the 2011 Sikkim earthquake.

- **Path ahead:**

- Scientists and activists are urging reconsideration of planned hydroelectric developments.
- Following the catastrophe, the government ought to reconsider the impending Teesta VI project and abandon the planned Teesta IV project.

- The State's Vigilance Police was instructed by the Sikkim government to carry out a thorough investigation into any criminal irregularities in the Teesta III dam project construction and to produce a report.
- *Source → The Hindu*

## 2 - Project Udbhav:

### GS II

#### Government Policies and Interventions

- **Context:**
- The Indian Defence Minister recently unveiled Project Udbhav.
- **Regarding the project:**
- The project's goal is to provide a distinctive and comprehensive strategy to handle current security issues by fusing traditional military knowledge with modern tactics.
- The United Service Institution of India (USI) and the Army are collaborating on Project Udbhav.
- A think tank for defence services is called the United Service Institution of India (USI).
- **It will encourage the development of hitherto unexplored ideas and hypotheses about:**
- tactical reasoning
- warfare and statecraft
- encourage a deeper comprehension of
- enhance the curriculum for military training.
- **The following are Project Udbhav's main deliverables:**
- gain knowledge of the historical military system and native military culture by studying the development of the Indian military system and strategic ideas;
- teaching academics, senior military commanders, and junior military leaders the ideas, concepts, and lessons found in classical writings; and
- assisting in the establishment of a knowledge base for academics and defence professionals to do additional research that will clarify the significance of these findings in light of current events.
- *Source → The Hindu*

## 3 - Architecture of Dogra:

### GS I

### Indian Culture

- **Context:**

- Unusual architectural features brought to Kashmir by Dogra Hindu lords between 1846 and 1947 are brought to light by a project that aims to restore the former splendour of Srinagar's Maharaj Gunj market.

- **Regarding Maharaj Gunj:**

- There is a beautiful blend of colonial and vernacular architecture in the Maharaj Gunj market area.
- The majority of the mixed-use residential buildings that line the streets are built in the taq or dhajji dewari architectural styles, with stores on the ground floor and apartments on the upper floors.
- It is situated in the heart of Srinagar's ancient city, in Shehar-e-Khaas.
- Maharaja Ranbir Singh founded the Maharaj Gunj market to stimulate trade and commerce in Kashmir.

- **Dogra building design:**

- Jammu serves as a crossroads where several civilizations converged to create the unique Dogra culture.
- Jashrotra Palace, Billawar Palace, Mubarakmandi, and Bahubatri Fort are outstanding examples of Jammu architecture.
- The kings who constructed all of these structures were the Dogra rulers of Jammu.
- These palaces include arched terraces, "mehraab" style doors, and domes atop them.
- A good illustration of the fusion of shikhara and dome design is the Mubarak Mandali domes.
- The majority of the stones in the Jammu Kandi belt are sandstones and pebbles, which are utilised very kindly for beatification.
- Rajasthani architecture, known as the jharokha type of balcony, is exhibited in Mubarkmandi.
- The Krimchi temples in Udhampur combine the native architecture of Jammu with the Hellenistic (Greek) school of building design.

- *Source → The Hindu*

## 4 - Paintbrush Swift Butterfly:

### GS III

#### Environmental Conservation related issues

- **Context:**
- The Chamba district of Himachal Pradesh is the first place where the paintbrush swift has been seen on camera and recorded.
- **Important information:**
- Approximately 25% of all butterfly species in India are found in this state.
- Within the family HesperIIDae is the paintbrush swift (*Baoris farri*).
- Ever since its discovery in 1878, the species has never been captured on camera in Himachal Pradesh.
- It has never before been captured on camera and documented.
- More than 145 years ago, lepidopterist Frederic Moore made the first description of it, originating in the eastern Himalayas.
- Under Schedule IV of the Wildlife (Protection) Act, 1972, this species is legally protected in India.
- Its habitat is spread throughout south, central, and northeastern India; Uttarakhand is where it is rarest.
- *Source → The Hindu*

## 5 – Fluorescence:

### GS III

#### Science and Technology related issues

- **Rayleigh dispersion:**
- There are several ways in which matter and radiation interact.

- Because air molecules scatter light, especially light with shorter wavelengths, the sky appears blue.
- The visible spectrum's shortest wavelength, blue light, is scattered the most and gives the impression that the sky is blue.
- We refer to this as Rayleigh scattering.
- **Mie dispersing:**
- Mie scattering, which is the result of light being scattered by bigger particles like water droplets, is what causes clouds to appear white.
- **Translucency:**
- Fluorescence is an additional mode of engagement.
- A substance that has absorbed light or other electromagnetic radiation emits light when it undergoes fluorescence.
- It's a type of light reflection.
- It occurs when an object absorbs higher energy light, such as blue light, and releases lower energy light, such as red light.
- Usually, it occurs when a photon, or particle of light, is absorbed by an electron, which then releases its stored energy and descends again.
- The spin of the electron cannot alter during this procedure.
- Phosphorescence is the term for the process if its spin shifts.
- **The uses of fluorescence:**
- **Fluorescence has a wide range of useful uses, such as:**
- the mineralogy
- gemology
- medication,
- chemical sensors (spectroscopy using fluorescence),
- brightly coloured labels
- colours
- physiological sensors
- detection of cosmic rays
- **Vacuum fluorescent screens, as well as:**
- tubes for cathodes
- The fluorescent lamp emits UV light onto a substance through an electric discharge.
- It is absorbed by the substance and released again as visible light.

- **Mammal fluorescent species:**

- Researchers have discovered that several mammals' bodies glow as well.
- According to a recent study, every known order of mammalian mammals had some form of fluorescence on their bodies.
- Additionally, the fur of about 107 species fluoresced.
- It's still unclear why this ability exists.

- *Source → The Hindu*



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