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TODAY'S ANALYSIS

(09 January 2025)

TOPICS TO BE COVERED

- **LANDSLIDE DAMS IN UTTARAKHAND**
- **BHARAT POL**
- **MCQs**



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LANDSLIDE DAMS IN UTTARAKHAND

- A landslide dam happens when a large landslide blocks a river, forming a natural barrier.
- While these dams can create temporary lakes, they are unstable and can break easily.
- When these dams collapse, they can cause **Landslide Lake Outburst Floods (LLOFs)**, which can harm areas downstream.
- Uttarakhand, with its mountainous landscape, is highly vulnerable to these events.
- A study by researchers at IIT Roorkee highlights the increasing risk, especially in the Garhwal region, where landslide dams are a serious concern.

KEY FINDINGS

- **Most Vulnerable Rivers:** The research, published under the title "**Landslide Dam Studies in Uttarakhand, India: Past, Present, and Future**", identifies the **Alaknanda River** as the **most vulnerable** to landslide-induced dams. Other rivers at risk include:
 - **Mandakini River**

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- **Dhauliganga River**
- **Bhagirathi River**
- **Geographical Risk:**
 - Uttarakhand's **unique topography** — narrow valleys, steep slopes, and deep gorges — significantly increases the risk of landslide dams.
 - In such narrow valleys, **landslides are more likely to block rivers, leading to the creation of unstable lakes** that can rupture without warning.
- **Climate Change and Increased Vulnerability:**
 - The study also finds that **climate change** is exacerbating the problem.
 - **Warmer temperatures and unpredictable weather patterns**, including heavy rainfall and **cloudbursts**, have increased the frequency of landslides in the region.
 - Climate-induced changes, such as **glacial melting**, also contribute to **unstable land conditions, making landslide dams** more frequent and dangerous.
- **Landslide Dam Formation Timeline:**
 - Landslide dams have been forming in the region for centuries, with some occurrences dating back to the **Last Glacial Maximum (LGM)** period (29,000-19,000 years ago).

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- Significant events, however, have been recorded more **recently, particularly since the 19th century**. This highlights the growing frequency of such occurrences.
- **Chamoli's High Risk:**
 - **Chamoli district** has been identified as the **most vulnerable area** for landslide dams in Uttarakhand, with other high-risk districts including **Rudraprayag** and **Uttarkashi**, all located in the **Garhwal region**.
 - These areas have witnessed the most frequent and severe incidents of landslide dam formation.
- **Historical Example: Gohna Tal:**
 - One of the most notable landslide dam incidents in the region was the formation of **Gohna Tal in 1893, which was created by a large landslide blocking the flow of a river in Chamoli district**.
 - The **lake created by this blockage partially breached in 1894** and fully ruptured in **1970**, leading to massive downstream flooding.
 - This breach impacted areas as far as **Haridwar**, around **200 km away**.
 - Gohna Tal serves as a chilling reminder of the danger that long-standing landslide dams pose.

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TRIGGERS & IMPACT FACTORS

- **Seasonal Triggers:** The **monsoon season** — particularly the month of **August** — is the peak period for landslide dam events. **During this time, heavy rainfall triggers landslides, which may block rivers** and create natural dams.
- **Cloudbursts and Debris Slides**
 - In addition to heavy rainfall, **cloudbursts** are a common trigger for landslides.
 - The study points out that **debris slides, which are the most common type of landslide** in Uttarakhand's hills, often block rivers, forming unstable natural dams.
 - These debris slides are made of soil, rocks, and trees, and their unpredictability makes them particularly dangerous.
- **Climate Change:**

Increased rainfall intensity and the **higher frequency of cloudbursts**, both linked to **climate change**, are exacerbating the risk. **The more intense weather patterns destabilize slopes**, leading to more frequent landslides and, consequently, more landslide dams.

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HUMAN ACTIVITIES & THEIR ROLE

- **Deforestation:**

- The rapid **deforestation** in the region, **primarily driven by infrastructure development and agriculture**, has weakened the soil's natural resilience.
- The roots of trees help hold the soil together, preventing landslides.
- When these forests are cleared, the **slopes become much more prone to failure**, leading to more frequent landslides and dam formations.

- **Road Construction and Hydropower Projects:**

- **Infrastructure development** such as **road construction** in steep, mountainous areas disrupts the natural landscape, making it more susceptible to landslides.
- The construction of **hydropower projects** also **alters river flows and puts pressure on the natural environment**, contributing to the risk of landslide dams.

PREPAREDNESS & MITIGATION MEASURES

- **Unpredictability of Landslide Dam Stability:**

- A major challenge in managing landslide dams is their **unpredictability**.

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- The stability of these dams is difficult to assess, and they can fail suddenly, triggering destructive floods.
- **Since these dams can exist for decades before breaching**, it's crucial to continuously monitor their condition.
- **Importance of Preparedness:**
 - Despite a decrease in major incidents since **2018**, the study underscores the importance of **disaster preparedness**.
- The unpredictable nature of landslide dam breaches means that local authorities must have effective **early warning systems** in place.
- Communities in **high-risk areas** like **Chamoli**, **Rudraprayag**, and **Uttarkashi** should be regularly educated on evacuation procedures and the signs of an impending dam breach.
- **Monitoring and Risk Assessment:** The study emphasizes the need for **continuous monitoring** of rivers and valleys that are susceptible to landslide dams. Technologies like **remote sensing** and **drone surveillance** can help detect landslides before they block rivers, allowing authorities to take precautionary measures in time.

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BHARAT POL



- On **January 7, 2025**, **Union Home Minister Shri Amit Shah** officially launched the **BHARAT POL** portal, a significant development by the **Central Bureau of Investigation (CBI)** in **New Delhi**.
- This initiative aligns with the government's ongoing efforts to strengthen law enforcement capabilities and improve the efficiency of international police cooperation.
- The **BHARAT POL** portal will provide India's law enforcement agencies (LEAs) with access to **real-time international assistance**, **facilitating better coordination** in the **fight against cross-border crimes**.

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CONTEXT & GOVERNMENT EFFORTS

- Under the **leadership of Prime Minister Shri Narendra Modi**, the central government has undertaken **multiple initiatives to modernize and empower India's law enforcement infrastructure**.
- The launch of the **BHARATPOL portal** is part of these broader efforts to enhance **India's police capabilities** in handling complex, transnational crimes.
- These crimes include **cyber-crime, financial crimes, drug trafficking, human trafficking, online radicalization, and organized crime**.
- The portal aims to address the increasing challenges posed by these crimes, which **often require swift international collaboration**. With **transnational crime syndicates** operating across borders, faster access to global police networks like **INTERPOL** is critical.

HOW BHARAT POL WORKS?

- **Real-Time Access to International Cooperation:** The **BHARAT POL portal** will streamline the process of accessing **international police assistance, making it easier**

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for India's law enforcement agencies to request help in criminal investigations. This includes accessing important **INTERPOL notices**, such as:

- **Red Notices** (for seeking the arrest of fugitives)
- Other **color-coded INTERPOL notices** related to different types of criminal alerts.

• **Collaboration with INTERPOL:**

- The **CBI**, serving as the **National Central Bureau (NCB)** of India for INTERPOL, plays a vital role in facilitating cooperation between Indian law enforcement and global counterparts.
- Through the **BHARAT POL portal**, police officers across **India will have direct access to INTERPOL's network**, ensuring quicker and more efficient responses to criminal investigations.

• **Unified Platform for Stakeholders:** The portal will unify multiple stakeholders involved in criminal investigations:

- **CBI** (Central Bureau of Investigation)
- **INTERPOL Liaison Officers (ILOs)** at the **Central, State, and Union Territory levels**
- **Unit Officers (UOs)** at the **district and police station levels**, such as

Superintendents of Police (SPs) and Commissioners of Police.

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- This integration aims to replace the **traditional methods of communication (e.g., letters, faxes, emails)** with a more efficient, **real-time system**, thus enhancing collaboration and reducing delays.

ADDRESSING GROWING THREAT OF TRANSNATIONAL CRIMES

The portal is designed to meet the rising demand for rapid responses in **international criminal investigations**, especially with the growing footprint of crimes such as:

- **Cybercrime:** With the increasing reliance on **digital platforms, cybercriminals often operate across national borders**, requiring quick international action.
- **Financial Crimes:** Money laundering, fraud, and other financial crimes often involve multiple countries and require coordinated global efforts.
- **Drug and Human Trafficking:** International syndicates involved in **trafficking require fast cross-border cooperation** to dismantle.
- **Online Radicalization:** Terrorist activities and online radicalization require swift action to prevent further harm.

The **BHARATPOL** portal will **enable Indian police officers to receive quicker responses, whether they are seeking information**, issuing arrest warrants, or coordinating investigations with foreign counterparts. **ADDRESS:**



ENHANCING POLICE EFFICIENCY & EFFECTIVENESS

The portal will act as a **transformative tool** for **field-level police officers**, making them more effective in combating crimes and security challenges. By providing:

- **Faster access to international assistance.**
- **Improved real-time coordination** between local law enforcement agencies and international police networks.

The **BHARATPOL portal** will significantly enhance the **efficiency** and **speed** with which crimes are investigated and addressed, particularly those involving international elements.

AWARD CEREMONY

In addition to the launch of the **BHARAT POL portal**, **Shri Amit Shah** will present **Police Medals** to **35 CBI officers** who have been awarded:

- **President's Police Medals for Distinguished Service.**
- **Union Home Minister's Medal for Excellence in Investigation.**

These awards recognize the exceptional service and dedication of CBI officers in enhancing the country's criminal justice system.

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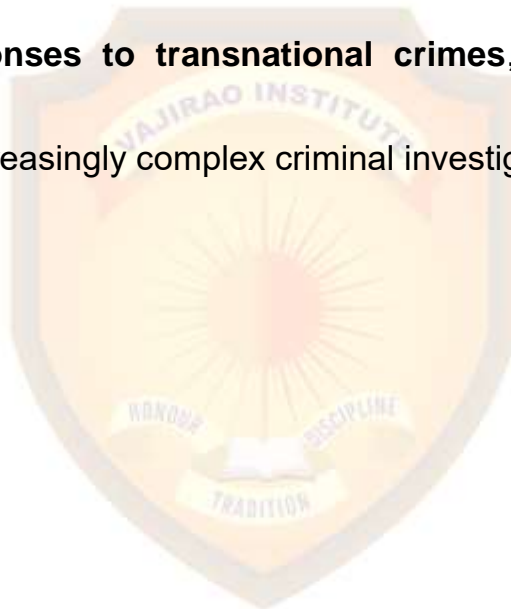
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CONCLUSION

A Major Step Forward for India's Law Enforcement

The **BHARAT POL portal** marks a **transformative leap** in the **modernization of India's law enforcement infrastructure**. By providing **real-time access to international cooperation** and facilitating **quick responses to transnational crimes**, the portal will enhance the country's ability to handle increasingly complex criminal investigations.



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MCQs

1. Consider the following features of Landslide Dams and mark the correct ones:

1. Landslide dams can create temporary lakes.
2. Landslide dams can cause Landslide Lake Outburst floods.

- (A) Only 1
(B) Only 2
(C) Both 1 & 2
(D) Neither 1 nor 2



Ans. (C)

2. Which of these lakes is an example of Landslide Dam lake?

- (A) Sat Tal
(B) Nainital
(C) Roopkund Lake
(D) Gohna Tal

Ans. (D)

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3: Which of these can be the reasons for Landslide Dams formation?

1. Deforestation.
2. Climate Change
3. Road construction

- (A) Only 2
(B) Only 1 & 2
(C) Only 1 & 3
(D) All of the above



Ans. (D)

4. Which organisation in India serves as the National Central Bureau for INTERPOL in India?

- (A) National Investigation Agency
(B) Central Bureau of Investigation
(C) Central Vigilance Commission
(D) Indian Army

Ans. (B)

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5. Which of these are the objectives of BHARAT POL?

1. Faster access to international assistance.

2. Improved real-time coordination between local law enforcement agencies

(A) Only 1

(B) Only 2

(C) Both 1 & 2

(D) Neither 1 nor 2

Ans. (C)



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