



# drishti

## News Analysis (18 Aug, 2021)

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### Upheaval In Meghalaya

#### Why in News

Recently, a former militant of the **Hynniewtrep National Liberation Council (HNLC)**, was killed in a police encounter that has led to a crisis in Meghalaya.

The encounter was reportedly carried out by the police team of **East Khasi Hills and East Jaintia Hills**.



#### Key Points

- **Background:**

- Meghalaya shares a border with Bangladesh and has seen **decades of migration from the neighbouring country** as well as from **other parts of India - Bengal, Punjab and Bihar**.
- This has **sparked anxieties of indigenous communities who feared becoming a "minority in their own homeland"** because of the influx of "outsiders".
- It was a **culmination of these "anti-outsider sentiments" that led to the formation of Meghalaya's first militant group, the Hynniewtrep Achik Liberation Council (HALP), in 1992.**
  - Hynniewtrep represented the Khasi and Jaintia communities and Achik represented the Garo community.
- HALC was later divided and **HNLC** came into being that represented the **Khasi and Jaintia communities** and the **Achik Matgrik Liberation Army that represented the Garo community.**
  - The Achik Matgrik Liberation Army was later replaced by the **Achik National Volunteers Council (ANVC).**
- HNLC claimed to represent only the interest of Khasi Communities, whereas, **the Achik Matgrik Liberation Army** demanded a **separate state for the Garo community.**

- **Present Status of militancy in Meghalaya:**

- The **ANVC** since 2004 has been under an **extended ceasefire agreement with the government** while the **HNLC has been trying to talk peace** with the government but on a conditional basis.
- Over the last several years, militancy in Meghalaya was seen as declining.
  - In 2018, the Centre withdrew the **Armed Forces Special Powers Act (AFSPA)** from Meghalaya after almost 27 years of witnessing a **decline by 80% in insurgency-related incidents.**

- **Insurgencies in other North East states:**

- **Nagaland: Naga Insurgency**
- **Mizoram: Mizo Movement.**
- **Assam Insurgency: United Liberation Front of Assam (U.L.F.A.)** was formed in 1979 for the deportation of illegal migrants.
  - Bodoland Statehood Movement.**
- **Manipur: United National Liberation Front** formed in 1964, with an objective of ending the discrimination against **Manipur.**
- **Arunachal Pradesh:** The only case of indigenous insurgency movement in Arunachal Pradesh was the rise of the **Arunachal Dragon Force (ADF)**, which was rechristened as **East India Liberation Front (EALF) in 2001.**

- **Implications:**
  - **Fatalities:**

Severe fatalities have been reported from the northeast including both civilians and security forces.
  - **Hindrance in India's NE Economic Policies:**
    - In the **oil-rich Assam, militants have periodically targeted oil and gas pipelines for sabotage**, alleging that India is exploiting the natural resources of the state.
    - National projects have either been stalled or have moved with a tardy pace after militants attacks. **Tourism**, which could have flourished in the scenic northeast, has **suffered** a lot due to instability in the region.
  - **Hampers India's Act East policy.**

Militancy has also stalled the prospect of **linking the economy of the northeast with the neighbouring Southeast Asian countries**
  - **Resistance in Education:**

The education sector too has been affected by militancy. **A number of schools in states like Tripura's interior areas have been shut** as teachers avoid the areas due to fear of militant strikes.
- **Measures to Counter Insurgency:**
  - **Operations and special acts:**
    - In the Assam 1990s, two military operations, **Operation Rhino and Bajrang, were launched against U.L.F.A. militants.**
    - Special powers under **AFSPA (Armed Forces Special Powers Act)** were bestowed on armed forces to deal with emergency conditions. It is there in the whole of **Assam, Nagaland, most of Manipur, and some areas of Arunachal Pradesh.**
  - **Peace Talks:**
    - Today, **almost all the major insurgent groups in the region**, except the Meitei insurgents, have entered into a **ceasefire or Suspension of Operation (SoO) agreements** with the Union and/or state governments.
    - They are **engaged in peace talks** with some even disbanding their armed cadres.
  - **Inner Line Permit (ILP):**

**Restrictions are imposed on the entry of outsiders** to maintain the original identity of indigenous people of Mizoram, Nagaland and Arunachal Pradesh entry of outsiders are not allowed without ILP.
  - **Ministry of Development of North Eastern Region (DoNER):**

It is responsible for the matters relating to the planning, execution and monitoring of development schemes and projects in the North Eastern Region, to accelerate the pace of socio-economic development of the region.

- Khasi people are an **indigenous ethnic group of Meghalaya** in north-eastern India. They **have a distinctive culture** and are **the largest tribe** of Meghalaya. Both **inheritance of property and succession to tribal office run through the female line**, passing from the mother to the youngest daughter.
- The Khāsi speak a **Mon-Khmer language of the Austroasiatic stock**.
- They are **divided into several clans**. Wet rice (paddy) provides the main subsistence; it is cultivated in the valley bottoms and in terrace gardens built on the hillsides.

## Garo Community

- The Garos, who call themselves A'chiks, are **the second largest tribe in Meghalaya**.
- The Garos have a **strong tradition that they have come from Tibet**. They have a **number of dialects and cultural groups**. Each of them originally settled at a particular area of the Garo Hills and outlying plain lands.
- However, **the culture of the modern Garo community has been greatly influenced by Christianity**. Nokpantes are the glory of the past and all children are given equal care, rights and importance by the modern parents.
- The Garo marriage is regulated by **two important laws, viz., Exogamy and A'Kim belongs to the same clan**. Marriages are not allowed within the same clan.

## Way Forward

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- Government should **enhance communication and connectivity, infrastructure improvement** for better integration of the region with the mainland.
- **Stringent law and fast criminal justice system** for quick disposal of insurgents attack cases should be imposed.
- Government should promote greater **coordination between central forces and state forces for better tactical response** and **greater cultural interaction** with the rest of the country and socio-economic development that includes a holistic inclusive development.

**Source: IE**

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## India's Water Crisis & Women

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### Why in News

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India is **water-stressed due to changing weather patterns and repeated droughts**. And the worst **sufferers of this crisis are mostly women**.

Water scarcity in India is expected to worsen as the **overall population is expected to increase to 1.6 billion by the year 2050**.

## Key Points

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- **Water Crisis:**
  - Although **India has 16% of the world's population**, the country possesses only **4% of the world's freshwater resources**.
  - In recent times, the water crisis in India has become very critical, **affecting millions of people across India**.
  - As many as **256 of 700 districts in India** have reported 'critical' or 'overexploited' groundwater levels according to the most recent **Central Ground Water Board data** (from 2017).
  - Three-fourths of India's rural families **lack access to piped, drinkable water and must rely on unsafe sources**.
  - India has become the **world's largest extractor of groundwater**, accounting for 25% of the total. Some **70% of our water sources** are contaminated and our major rivers are dying because of pollution.
- **Causes of Water Crisis:**
  - **Population Growth:**
    - There is **insufficient water per person** as a result of population growth.
    - The total amount of **usable water in India has been estimated to be between 700 to 1,200 billion cubic meters (bcm)**  
A country is considered water-stressed if it has less than 1,700 cubic meters per person per year.
  - **Poor Water Quality:**
    - Water in most rivers in India is largely **not fit for drinking**, and in many stretches not even fit for bathing.
    - Poor water quality is the result of **insufficient and delayed investment in urban water-treatment facilities**.
    - Moreover, **industrial effluent standards are not enforced** because the state pollution control boards have inadequate technical and human resources.
  - **Dwindling Groundwater Supplies:**
    - There is dwindling groundwater supplies due to **over-extraction by farmers**.
    - **Deficient rain** in some areas is also **depleting ground water**.
  - **Unsustainable consumption:**
    - Wells, ponds and tanks are drying up as groundwater resources come under **increasing pressure due to over-reliance and unsustainable consumption**.
    - Unequal distribution of water, **contamination/depletion of local water bodies** due to pollution and no proper water treatment facility augment the water crisis in India.

- **Impact on Women:**
  - **Vulnerability of Women:**
    - The crisis of water only puts them at a higher risk of vulnerability. Fetching water in India has been perceived as a **woman's job for centuries**.
    - Women, especially in the rural areas, **walk miles to collect water from the nearest source**.
  - **Reduced Access to Sanitation:**
    - Their marginalisation is compounded by the **indignity and insecurity** of not having a private spot to fulfil their toilet needs.
    - This whole system of women being forced to be water carriers leads to them having very less time for themselves. This further **reduces access to clean sanitation, better physical and mental health of women**.
  - **Water-Wives:**

The entire water management by women has led to **polygamy in one drought-prone village of Maharashtra**. This involves having more than one spouse to collect water. The arrangement is termed as '**water wives**'.  
This is undoubtedly an example of regressive thinking — of women being seen as **substitutes for water pipes or tankers**.

## Way Forward

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- Addressing women's water, sanitation and hygiene requirements is a **critical driver in attaining gender equity** and unlocking the potential of half of the world's population. The water crisis is a women's issue and **feminists need to talk about it**.
- The water levels of the **floodplain aquifers** need to be monitored scrupulously to be well above the river water level to avoid contamination by river water.
- Floodplains can be secured by **planting organic food forests or fruit forests** which don't demand or consume much water.
- In water management, corporations must play a more active role in using their **Corporate Social Responsibility (CSR)** efforts towards innovation and conservation of water and harness water recharge.

**Source: DTE**

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## Plastic Crisis: Sundarbans

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### Why in News

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**Unregulated inflow of relief to the Sundarbans** has resulted in a new crisis in the cyclone-battered region as plastic has been accumulated in the area.

The threat posed by **plastic** is so great for the **Sundarbans** because the region is witnessing **frequent tropical storms**, which lead to **devastation**.

## Key Points

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- **Plastic Pollution:**
  - **Plastic pollution** is caused by the **accumulation of plastic waste in the environment**.
  - It can be categorized in **primary plastics**, such as cigarette butts and bottle caps, or **secondary plastics**, resulting from the degradation of the primary ones.
- **Reasons for Accumulation of Plastic in Sundarban:**
  - **Cyclones:**
    - The region is witnessing **frequent cyclones**, which lead to devastation, followed by the necessity for **relief** and rehabilitation of inhabitants.  
In geography, a location's relief is the **difference between its highest and lowest elevations**.
    - **Plastic waste associated with relief material**, used in the aftermath of **Cyclone Amphan** (May 2020) in the Sundarbans, could cause damage to the eco-sensitive region.  
Prior to this, the region had witnessed cyclones **Fani** (May 2019) and **Bulbul** (November 2019).
  - **Tourism:**

Besides **recent cases of cyclones** in the region, **tourists have also contributed** to the accumulation as they leave behind heaps of plastic waste that is strewn all over the forest.
- **Concerns:**
  - **Increase Toxicity:**
    - The presence of plastic in saline water increases the **toxicity of water** and could also **contribute to the eutrophication of water**.
      - Eutrophication is the **process** by which an **entire body of water, or parts of it**, becomes **progressively enriched with minerals and nutrients**.
      - It also results in oxygen depletion.
    - Given that **Sunderbans is connected to the sea**, the **increase of plastic in the region could lead to plastic waste entering the ocean**.
  - **Threat to food System:**

The **breakdown of plastics** in the water will lead to an **increase in microplastics**, which would subsequently **enter the food system**.
  - **Affects Livelihoods:**

Sunderbans is **largely dependent on fisheries and aquaculture** and any change in the delicate ecosystem can spell doom **not only for the ecology but also for livelihoods**.

- **Some related Initiatives:**

- In 2019, the Union government in a bid to free India of single-use plastics by 2022, had **laid out a multi-ministerial plan** to discourage the use of **single-use plastics across the country**.
- **Plastic Waste Management Rules, 2016** which extended the responsibility to collect waste generated from the products to their producers and brand owners.

## Importance of Sundarbans

- The Sundarbans ecoregion is located in the **tidally active lower deltaic plain** of the **Ganges–Brahmaputra–Meghna (GBM) basin**.
- It hosts the **largest contiguous mangrove forest** and the **only mangrove tiger habitat in the world**.

Mangrove forests perform **multiple ecological functions** such as production of woody trees, provision of habitat, food and spawning grounds for fin-fish and shellfish, provision of habitat for birds and other valuable fauna; protection of coastlines and accretion of sediment to form new land.
- Spread over parts of **Bangladesh and India**, the **Protected Areas (PA)** within the forested parts are designated by the **United Nations Educational, Scientific and Cultural Organisation (UNESCO)** as **World Heritage Sites** in both countries.
- The natural areas spanning **10,000 square kilometres** across the two countries are also **Ramsar Sites or Wetlands** of International Importance.
- The **cleared forest tracts** in the two countries are now collectively home to over 7.5 million people.
- The area is known for its **wide range of fauna**, including **260 bird species** and is home to many **rare and globally threatened wildlife species** such as the **Estuarine Crocodile**, Royal Bengal Tiger, Water Monitor Lizard, **Gangetic Dolphin** and **Olive Ridley Turtles**.

## Way Forward

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- Government should ensure that the **entrances to the Sundarbans Biosphere Reserve** and the Sundarbans Tiger Reserve are **tightly maintained**.
- **Non-governmental Organizations (NGOs)** and **locals** should be **encouraged to collect plastic waste**, which should also be recycled.
- Also, the government should **organize cleanliness drives** to remove plastic from the Sunderbans.

**Source: TH**

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## Defence Testing Infrastructure Scheme

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## Why in News



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Recently, the **Defence Ministry** has announced that it will soon issue **Requests For Proposal (RFPs)** to set up **eight defence testing facilities in the country** in partnership with the **private sector**.

- These RFPs would be issued under the **Defence Testing Infrastructure Scheme (DTIS)**.
- The RFP is a **business document** that announces a **project, describes it, and invites bids for completing it**.

## Key Points

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- **Background:**
  - Under **Make in India**, India has accorded **high priority to development of the manufacturing base of Defence and Aerospace sectors in the country** so as to reduce dependence on imports.
  - Towards this, the establishment of **Defence Industrial Corridors (DICs)** in **Uttar Pradesh and Tamil Nadu** was announced.
  - Several other initiatives like **Revised Make-II procedures, Innovations for Defence Excellence (iDEX) and Defence Investors Cell** have been created with an aim to provide an ecosystem to foster innovation and technology development and encourage Indian industry to invest in Aerospace and Defence sectors.

**Defence Investors Cell** was created to **provide all necessary information** including addressing queries related to investment opportunities, procedures and regulatory requirements for investment in the sector.
- **About DTIS:**
  - The scheme was launched on **8<sup>th</sup> May, 2020** and would run for the **duration of five years**.
  - It envisages **setting up of 6-8 Greenfield Defence Testing Infrastructure facilities** that are required for **defence and aerospace related production**.
  - It also envisages to **set up test facilities** in partnership with private industry.
- **Objectives:**
  - **Promote indigenous defence production**, with special focus on participation of the **Ministry of Micro, Small and Medium Enterprises (MSMEs)** and Start Ups by bridging gaps in defence testing infrastructure in the country.
  - **Provide easy access** and to **meet the testing needs** of the domestic defence industry.
  - **Facilitate indigenous defence production**, consequently reduce imports of military equipment and help make the country self-reliant.

- **Finance and Cooperation:**

- The Scheme has an **outlay of Rs 400 crore** for creating **state of the art testing infrastructure** over the duration of five years.
- The projects under the Scheme will be provided with up to **75% government funding in the form of 'Grant-in-Aid'**.
- The **remaining 25% of the project cost** will have to be borne by the **Special Purpose Vehicle (SPV)** whose constituents will be **Indian private entities and State Governments**.
  - **Only private entities registered in India and State Government agencies** will qualify for forming the implementation agency for the Scheme.
  - The **SPVs under the Scheme** will be registered under **Companies Act 2013**.

**Source: PIB**

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## **Financial Inclusion Index**

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### **Why in News**

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Recently, the **Reserve Bank of India (RBI)** has unveiled the **first composite Financial Inclusion Index (FI-Index)**.

The **annual FI-Index** for the **financial year ended March 2021** crossed the halfway mark to 53.9, as compared to 43.4 for the year ended March 2017.

### **Key Points**

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- **About:**

- The index has been **conceptualised as a comprehensive index** incorporating details of banking, investments, insurance, postal as well as the pension sector in consultation with the government and respective sectoral regulators.
  - It will be **published annually in July every year**.
- It **has been constructed without any 'base year'** and as such it **reflects cumulative efforts** of all stakeholders over the years towards financial inclusion.

- **Aim:**

To capture the **extent of financial inclusion** across the country.

- **Parameters:**
  - It **captures information on various aspects of financial inclusion** in a **single value ranging between 0 and 100**, where 0 represents complete financial exclusion and 100 indicates full financial inclusion.
  - It comprises three **broad parameters (weights indicated in brackets)** viz., **Access (35%), Usage (45%), and Quality (20%)** with each of these consisting of various dimensions, which are computed based on a number of indicators.
    - The index is **responsive to ease of access, availability and usage of services, and quality of services** for all 97 indicators.
- **Importance of FI Index:**
  - **Measures Level of Inclusion:** It provides information on the **level of financial inclusion** and **measures financial services** for use in internal policy making.
  - **Development Indicators:** It can be used **directly as a composite measure** in development indicators.
  - **Fulfill the G20 Indicators:** It enables fulfilment of **G20 Financial Inclusion Indicators** requirements.
    - The G20 indicators **assess the state of financial inclusion and digital financial services**, nationally and globally.
  - **Facilitate Researchers:** It also **facilitates researchers to study the impact of financial inclusion** and other macroeconomic variables.
- **Related Initiatives:**
  - **Pradhan Mantri Jan Dhan Yojana:**
    - It was announced in **August 2014**, which proved to be a steady vehicle for financial inclusion.
    - Till now nearly **43 crore poor beneficiaries in the country** now have a basic bank account under the yojana.
  - **Digital Identity (Aadhaar):**
    - It has **catalyzed inclusion and innovation** in the delivery of **financial services**.
  - **National Centre for Financial Education (NCFE):**
    - The RBI has released the **(NCFE): 2020-2025 document** for creating a financially aware and empowered India.
  - **Centre for Financial Literacy (CFL) Project:**
    - The CFL project has been **conceptualised by the RBI in 2017** as an **innovative and participatory approach** to financial literacy at the Block level involving select banks and **non-governmental organisations (NGOs)**.
    - Initially set up in **100 blocks on a pilot basis**, the project is now being scaled up across the country to every block in a phased manner by March 2024.

**Source: IE**

# New Algal Species: Andaman & Nicobar

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## Why in News

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Recently, a group of botanists has discovered an **algal species** with an 'umbrella head' from the **Andaman and Nicobar Islands**.

- The Andaman and Nicobar Islands are **home to Coral Reefs and are rich in marine biodiversity**.
- In March 2021 two new red algal **Seaweed** species were discovered along India's coastline.

## Algae

- Algae are defined as a **group of predominantly aquatic, photosynthetic, and nucleus-bearing organisms** that **lack the true roots, stems, leaves**, and specialized multicellular reproductive structures of plants.
- Their photosynthetic pigments are **more varied than those of plants**, and their cells have **features not found among plants and animals**.
- They have ecological roles as **oxygen producers and as the food base** for almost all aquatic life.
- They are **economically important as a source of crude oil and as sources of food** and a number of **pharmaceutical and industrial products** for humans. The study of algae is **called Phycology**.

## Key Points

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- **About:**
  - It is a bright green algae with a size as small as **20 to 40 mm**.



- Named after the imaginary sea mermaid, ***Acetabularia jalakanyakae*** is very primitive and is a **single-cell organism**.  
**Jalakanyaka** in Sanskrit literally means **mermaid and a goddess of oceans**.
- It is the **first species of the genus Acetabularia discovered in India**.

- **Characteristics:**
  - It resembles **an umbrella or a mushroom**. It has grooves on its cap measuring 15 to 20 mm in diameter.
  - It is made up of **one gigantic cell with a nucleus**. Its nucleus forms a **rhizoid structure**, which facilitates the **algae to attach itself to shallow rocks**. It is **highly regenerative** in nature.
    - **Rhizoids** are a structure in plants and fungi that functions like a root in support or absorption.
- **Significance:**

As they have a giant cell **it is advantageous for molecular biologists who study cellular processes**; they can **see it and manipulate it with naked eye**. For this reason, Acetabularia is **considered a model organism**.
- **Concern:**
  - They along with various **Coral Reefs** face the threat of sea levels rising due to **Global Warming**.
  - They are highly prone to **Ocean Acidification** caused by global **Greenhouse Gas Emissions** as the plants in the **genus Acetabularia** have rich **calcium carbonate deposits** that account for almost half their dry weight.

**Source: IE**

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## **Maharaja Ranjit Singh**

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### **Why in News**

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Recently, the statue of **Maharaja Ranjit Singh** which was installed in 2019, vandalised by a member of radical outfit **Tehrik-e-Labbaik Pakistan (TLP)**, a **religious organisation** at the Lahore Fort in Pakistan's Punjab province.

### **Key Points**

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- **Early Life:**



- He was born on **13<sup>th</sup> November, 1780** in Gujranwala, now in Pakistan.
- He was the **only child of Maha Singh**, on whose death in 1792 he became **chief of the Shukerchakias, a Sikh group**.
- His inheritance included **Gujranwala town and the surrounding villages**, now in Pakistan.

- **Contribution:**
  - **Founder of the Sikh Empire:**
    - He was the founder of the **Sikh Empire by overthrowing Misls.**
      - At that time, **Punjab was ruled by powerful chieftains** who had divided the territory into Misls.
      - **Misls** refers to the **sovereign states of the Sikh Confederacy** that rose during the **18<sup>th</sup> century in the Punjab region** in the northern part of the Indian subcontinent after the collapse of the **Mughal Empire.**
      - He ruled the **northwest Indian subcontinent** in the early half of the **19<sup>th</sup> century.**
    - He was given the title **Lion of Punjab (Sher-e-Punjab)** for his success in freeing Lahore (his capital) from the Afghan invaders.
  - **Modernization of Army:**
    - He combined the **strong points of the traditional Khalsa army** with western advances in warfare to raise Asia's most powerful indigenous army of that time.
    - He also **employed a large number of European officers**, especially French, to train his troops.
    - He appointed a French General to **modernize his army.**
  - **Wide Empire:**
    - Ranjit Singh's **trans-regional empire (spread over several states)** included the former Mughal provinces of Lahore and Multan besides part of Kabul and the entire Peshawar.
    - The boundaries of his state went up to Ladakh — in the **northeast, Khyber pass (route the foreign rulers took to invade India)** in the northwest, and up to Panjnad in the south where the five rivers of Punjab fell into the Indus.
- **Legacy:**
  - The Maharaja was known for his **just and secular rule.** Both **Hindus and Muslims** were given **powerful positions in his darbar.**
  - He turned **Harimandir Sahib** at Amritsar into the **Golden Temple** by covering it with gold.
  - He is also credited with funding **Hazoor Sahib gurudwara** at the **final resting place of Guru Gobind Singh** in Nanded, Maharashtra.
- **Death:**
  - He died at **Lahore in June 1839**, almost exactly 40 years after he entered the city as a conqueror.
  - In little more than six years after his death, the **Sikh state he had created collapsed** because of the **internecine strife of rival chiefs.**

- **International Recognition:**

- In 2016, the town of **St Tropez in France unveiled the maharaja's bronze statue** as a mark of respect.
- His **throne is displayed prominently at the Victoria and Albert Museum in London.**
- In 2018, London hosted an **exhibition that focused on the history of the Sikh Empire** and the **international relations forged by the Maharaja.**

**Source: IE**

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## **Cattle Island: Hirakud Reservoir**

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### **Why in News**

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The **Odisha Forest and Environment Department** is starting **ecotourism packages** for tourists to islands inside the **Hirakud reservoir.**

**Cattle island**, one of three islands in the Hirakud reservoir, has been selected as a sightseeing destination.

### **Key Points**

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- **Cattle Island:**

- It is located in one of the **extreme points of Hirakud Reservoir.** It is **completely inhabited by wild animals**, and without any trace of humans.
- It is near Kumarbandh village of **Belpahar-Banharpali range** which is about 90 km from **Sambalpur, Odisha.**
- The island is a submerged hill, and before the construction of Hirakud Dam it was a developed village.
  - During the resettlement period, **villagers left some of their cattle behind;** when the dam construction was over, the cattle settled on the hilltop.
  - As the area started to submerge following the dam's construction, the cattle moved up to **Bhujapahad**, an elevated place in Jharsuguda district. Subsequently named '**Cattle island**'.



- **Hirakud Dam:**

- **Establishment:**

- It is a multipurpose scheme conceived by **Er. M. Visveswaraya in 1937**, after recurrence of devastating floods in Mahanadi river.
- Its first hydro power was commissioned in 1956.
- It is the longest dam of India.

- **Location:**

The dam is built across river Mahanadi at about 15 km upstream of Sambalpur town of Odisha.

- The **Mahanadi River system** is the third largest of peninsular India after Godavari and Krishna, and the largest river of Odisha state.
- It rises from a place near **Sihawa in Bastar hills** in the state of **Chhattisgarh** to the **south of Amarkantak**.
- The catchment area of the river extends to **Chhattisgarh, Madhya Pradesh, Odisha, Jharkhand and Maharashtra**.

- **Objectives:**

- **Irrigation:** The project provides 1,55,635 hectares of Kharif and 1,08,385 ha of Rabi irrigation in the districts of **Sambalpur, Bargarh, Bolangir and Subarnapur**.

The water released through the power house irrigates further 4,36,000 ha of regions in Mahanadi Delta.

- **Power Generation:** The installed capacity for power generation is 347.5 MW through its two power houses at Burla, at the right bank and Chiplima, at 22 km downstream of the dam.
- **Flood Control:** The project provides flood protection to Mahanadi basin including 9500 sq. km of delta area in districts of Cuttack and Puri.

- **Wildlife Sanctuary:**

The **Debrigarh wildlife sanctuary** is located near Hirakud dam. It is bounded on the east and north by the huge Hirakud reservoir.

It is one of the select few sanctuaries in the state supporting both terrestrial and aquatic biodiversity.

**Source: TH**

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