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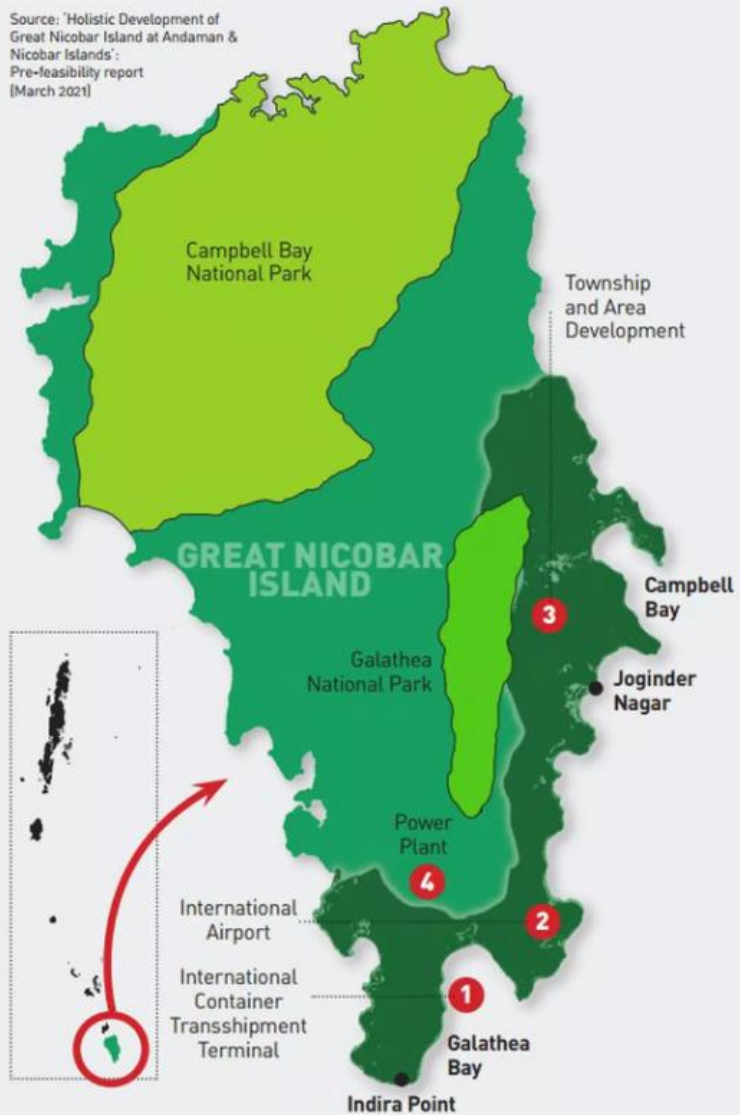
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### 1. Legal Challenges to the Great Nicobar Infrastructure Project

#### Overview of the Project

The Central government’s Rs 72,000 crore Great Nicobar Island (GNI) infrastructure project includes the construction of:

- An airport for civilian and defense use
- An international container transshipment terminal
- A township



## **Legal Challenges Faced**

### **National Green Tribunal (NGT)**

The project has faced legal challenges in the National Green Tribunal (NGT) and the Calcutta High Court, which has jurisdiction over the Andaman and Nicobar Islands.

### **NGT Revisits Green Clearance**

In 2023, the NGT formed a high-powered committee (HPC) to revisit the project's green clearance. The Andaman and Nicobar Islands Integrated Development Corporation Limited (ANIIDCO), the project's implementing agency, submitted the HPC's conclusions, stating that the proposed transshipment port does not fall in the Island Coastal Regulation Zone-IA (ICRZ-IA), where ports are prohibited.

### **Reasons for Revisiting Green Clearance**

In 2022, environmental activist Ashish Kothari and the non-profit Conservation Action Trust (CAT) challenged the environmental and Coastal Regulation Zone clearances granted to the GNI project. The challenges were based on:

- Irreversible damage to biodiversity
- Inadequate environmental impact studies
- Opacity in the clearance process
- Impact on Shompen and Nicobarese tribal communities: Shompens are hunter-gatherers, while the Nicobarese people's ancestral lands are likely to be affected by the project.
- Non-compliance with due process in granting statutory clearances
- Conflict of interest within ANIIDCO

### **NGT's Decision on the Appeals**

A special six-member bench of the NGT, headed by then-chairperson Adarsh Kumar Goel, ruled not to interfere with the forest clearance, emphasizing the need for development and national security. However, the bench highlighted "unanswered deficiencies" related to coral conservation, the port's location in a prohibited area, and limited baseline data collection. An HPC was formed to address these issues and report within two months, with a directive that no irreversible work should proceed until the report's submission.

### **Pending Petitions Before the NGT**

In May, Ashish Kothari filed two new petitions before the NGT's eastern bench:

1. Alleging violation of the 2019 ICRZ notification, seeking to exclude parts of the project from ecologically sensitive coastal areas.
2. Arguing that the MoEFCC was in contempt of the NGT's April 2023 order, citing a lack of communication about the HPC's proceedings and no orders passed after revisiting the clearance.

### **Legal Challenges at the Calcutta High Court**

In 2023, CAT filed a writ petition before the Calcutta High Court against the NGT's April 2023 order, arguing:

- The NGT special bench lacked jurisdiction over the forest clearance challenge.
- The case should have been handled by the NGT's eastern zone.

- The NGT did not properly evaluate the project clearances and inappropriately delegated its decision to an HPC.
- The HPC's formation to revisit the project's environmental clearance was a delegation of NGT's judicial functions, which contravenes Supreme Court orders.

Relevance: GS Prelims & Mains Paper III; Environment

Source: Indian Express

## 2. Why the Odisha government will plant palm trees to combat lightning strikes

### Why in News?

In July, the Odisha government approved a proposal to plant 19 lakh palm trees to ward against the problem of deaths due to lightning strikes, which were designated as a state-specific disaster in 2015.

### How many people have lost their lives to lightning in Odisha?

A total of 3,790 people have lost their lives to lightning strikes in the last 11 years, with 791 alone in the previous three fiscal years due to the increased frequency of lightning strikes. The state most notably recorded 61,000 lightning strikes in a two-hour interval on September 2, 2023, which killed at least 12 people.

| <b>PALM TREE &amp; ITS ADVANTAGES</b>  |  |
|--|--|
| <ul style="list-style-type: none"> <li>➤ Experts say that <b>lightning usually hits</b> the tallest object first. <b>Palm trees</b> being the tallest, they work as a lightning conductor</li> </ul> |   |
| <ul style="list-style-type: none"> <li>➤ While working as a <b>lightning conductor</b>, the <b>palm tree</b> reducing the chances of people getting struck by <b>lightning strikes</b></li> </ul>    |  |
| <ul style="list-style-type: none"> <li>➤ These <b>trees</b> also protect <b>coastal areas</b> from <b>storms</b> and <b>cyclones</b></li> </ul>  |  |
| <ul style="list-style-type: none"> <li>➤ The practice of <b>planting palm trees</b> in villages has been discontinued due to <b>urbanization and infrastructural development</b></li> </ul>          |  |
|  | <ul style="list-style-type: none"> <li>➤ In <b>2018</b>, the <b>forest department</b> had suggested that the <b>villagers</b> be advised to use <b>seeds</b> of the <b>palm fruit</b> and <b>bury them</b> along <b>cultivable fields</b></li> </ul> |

### Why are lightning strikes of particular concern in Odisha?

Scientifically, lightning is a rapid and massive discharge of electricity in the atmosphere some of which is directed towards earth. Odisha is an eastern coastal state situated in the tropical zone, with its hot, dry climate presenting the perfect blend of conditions for lightning strikes. The highest number of cloud-to-lightning (CG) strikes occur in eastern and central India.

### Which populations are at risk?

With 96% of lightning strikes in rural areas, farmers and daily wage earners like agricultural labourers bear the brunt of lightning. Over 80% of the Odisha population depend on agriculture and other allied activities, and work long hours in open fields, making them vulnerable to lightning strikes.

Although most lightning strikes occurred between April and October, most deaths were reported during the peak agriculture season between June and October.

### **How can Odisha defend itself against lightning strikes?**

Palm trees are uniquely suited to be lightning conductors because of their height among other trees. They contain high moisture and sap, can absorb lightning and reduce its direct impact on the ground.

Relevance: GS Prelims

Source: The Indian Express

### **3. How a win-win tech promises to kill weeds in rice and wheat fields, remove need for stubble-burning**

#### **Addressing Agricultural Challenges**

The goal of cultivating rice with less water and reducing the need for stubble-burning, along with growing wheat without ploughing or land preparation, has been pursued by agricultural scientists and policymakers to lower the ecological footprint of these major cereal crops.

#### **Breakthrough with Herbicide-Tolerant Varieties**

##### **New Rice and Wheat Varieties**

- **Rice Varieties:** Two basmati varieties (Pusa Basmati 1979 and Pusa Basmati 1985) and two non-basmati rice hybrids (Sava 134 and Sava 127) have been developed by the Indian Agricultural Research Institute (IARI) and Savannah Seeds Pvt Ltd.
- **Wheat Varieties:** Mahyco Pvt Ltd plans to launch wheat varieties called Goal and Mukut in the upcoming rabi season.

##### **Technology Used**

These new varieties contain a mutated acetolactate synthase (ALS) gene, enabling the use of the herbicide Imazethapyr to control various weeds and grasses.

##### **Current Weed Control Methods**

##### **Rice Cultivation**

- **Traditional Method:** Paddy seeds are raised in nurseries, transplanted into puddled fields, and irrigated frequently to prevent weed growth.
- **Water Usage:** This method requires up to 30 irrigations, consuming more than 200,000 litres of water per acre.

## Wheat Cultivation

- **Traditional Method:** Involves burning paddy stubble, ploughing the field multiple times, and irrigating before sowing wheat seeds.

## Herbicide-Tolerant Solutions

### Direct Seeded Rice (DSR) and Zero-Tillage (ZT) Wheat

- **DSR:** Seeds are sown directly, eliminating the need for nurseries, puddling, transplanting, and field flooding. This method saves approximately 30% of water and reduces labor and fuel costs.
- **ZT Wheat:** Allows wheat sowing without burning stubble or preparing the land, using machinery like the Super Seeder or Happy Seeder. This saves costs and time.

## Application of Imazethapyr

Imazethapyr is sprayed on the crops along with Metribuzin, a selective herbicide already used in wheat, when the crop is about 25 days old.

## Genetic Modification Status

### Non-GM Crops

These herbicide-tolerant varieties are not genetically modified (GM) crops. They contain a mutated ALS gene, altered using chemical mutagens or radiation, allowing them to tolerate Imazethapyr.

## Current Adoption and Benefits

### Current DSR Practices

DSR cultivation currently uses Pendimethalin and Bispyribac-sodium herbicides, which are not effective against all weeds. Imazethapyr, a broad-spectrum herbicide, offers wider weed control and is safer for humans and mammals.

### Adoption and Coverage

- **IARI Distribution:** 200 quintals of seeds for Imazethapyr-tolerant basmati varieties, covering 2,500 acres.
- **Savannah Seeds:** Planted on 15,000 acres across several Indian states.

## Benefits

The adoption of DSR and ZT technologies reduces water and fuel consumption, and prevents environmental pollution from crop residue burning. Additionally, the non-GM status of these crops may facilitate broader acceptance.

Relevance: GS Prelims & Mains Paper III; Environment

Source: Indian Express