

## Today's Prelims Topics

### Hornbill Festival

#### Context

Hornbill Festival has completed **25 years** of celebration.

#### About Hornbill Festival

- It is a 10 day annual tourism promotional event organised by the Nagaland State Govt. to showcase its rich and traditional cultural heritage in all its ethnicity, diversity and grandeur.
- It is named after the **Hornbill bird** given its association with the socio-cultural life of the Nagas through folklore, dances, songs and usage of the **bird's feather as motifs on ceremonial attires and men's headgear**.
- It was started in **2000**.

#### Facts

- **Pakke Paga Hornbill Festival (PPHF)** is celebrated in Arunachal Pradesh.
- It is celebrated by the Nyishi community (**largest ethnic group in Arunachal Pradesh**).

#### About Hornbill

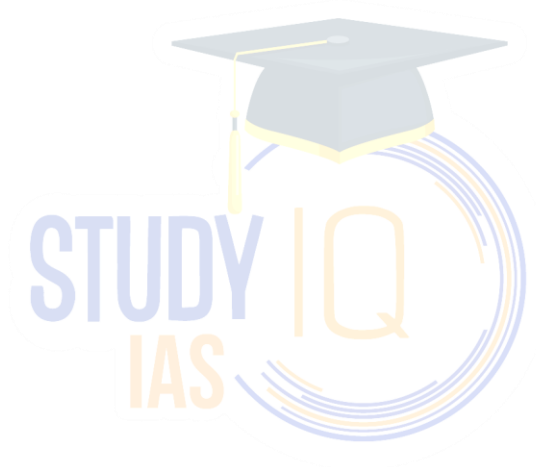


- Hornbills are called "**gardeners or farmers of the forest**" for playing a key role in dispersing seeds of tropical trees.
- They are one of the biggest **frugivores (fruit-eating birds)** in the Asian rainforest.
- Great Hornbill is the **state bird of Kerala and Arunachal Pradesh. (Not of Nagaland)**
- **Diversity:**

- There are about **62 hornbill species world-over.**
- **India is home to 9** of them including the Great Hornbill, the Malabar Pied, Hornbill and the Rufous-necked Hornbill.
- **Range:**
  - It is found in the **Indian subcontinent and Southeast Asia.**
  - **Major Habitat in India:** Namdapha National Park ( highest density of hornbills across Asia) & Western Ghats.
- **Threats:** Illegal logging, forest clearance, hunting for meat & medicinal value of body parts.
- **Conservation Status:**
  - **IUCN:** Vulnerable
  - **WPA :** Schedule I
  - **CITES:** Appendix I.

**Source:**

- [PIB - completion of 25 years of Hornbill Festival](#)



## International Advisory Body for Submarine Cable Resilience

### Context

The International Telecommunication Union and the International Cable Protection Committee have jointly launched the **International Advisory Body for Submarine Cable Resilience**.

### About International Advisory Body for Submarine Cable Resilience

- This initiative aims to strengthen the resilience of submarine cables, which are essential to the functioning of the global digital economy.
- **Role and Functions:**
  - Promote best practices across governments and industries to reduce risks, improve cable resilience, and ensure swift repair.
  - Provide strategic guidance on issues like increasing traffic, aging infrastructure, and environmental threats to submarine cables.
- **Members:** 40 members from around the world—including ministers, heads of regulatory authorities and senior experts in telecommunications

### About Submarine Telecom Cables

- Submarine cables are fiber-optic cables that run along the ocean floor, carrying data between continents. They are also known as **undersea cables**.
- They are the backbone of the global internet, responsible for the majority of international communications, including video calls, email, and webpages.

### International Telecommunication Union (ITU)

- It is a **United Nations agency** that coordinates global telecommunications networks and services. (ITU became a specialized agency of the United Nations in 1947).
- ITU was founded in **1865** with the **International Telegraph Convention**. (HQ -Geneva, Switzerland).

### International Cable Protection Committee (ICPC)

- It is a global forum for governments and commercial entities involved in the submarine cable industry
- It was founded in **1958**.

### Source:

- [PIB- International Advisory Body Formed to Strengthen the Resilience of Submarine Telecom Cables](#)

## National Mission on Libraries

### Context

The Union Minister for Culture and Tourism has provided information regarding the National Mission on Libraries Scheme in Rajya Sabha.

### About National Mission on Libraries (NML)

- It was launched by the **Union Ministry of Culture** to modernize and improve public libraries and services.
- It was established in **2012** based on recommendations from the **National Knowledge Commission**.
- **NML has 4 main components:**
  - **National Virtual Library of India (NVLI):** A digital repository of cultural heritage with multilingual search
  - **NML Model Library Scheme:** Upgrades public library infrastructure and improves accessibility
  - **Quantitative and Qualitative Survey:** Gathers feedback from users and non-users
  - **Capacity Building:** Upskills library professional
- **Objectives:**
  - Provide digital content-based services to citizens
  - Improve library infrastructure and accessibility.
  - Upskill library professionals

### Source:

- [PIB - National Library Mission](#)

## Enhancing Natural Pearl Production

### Context

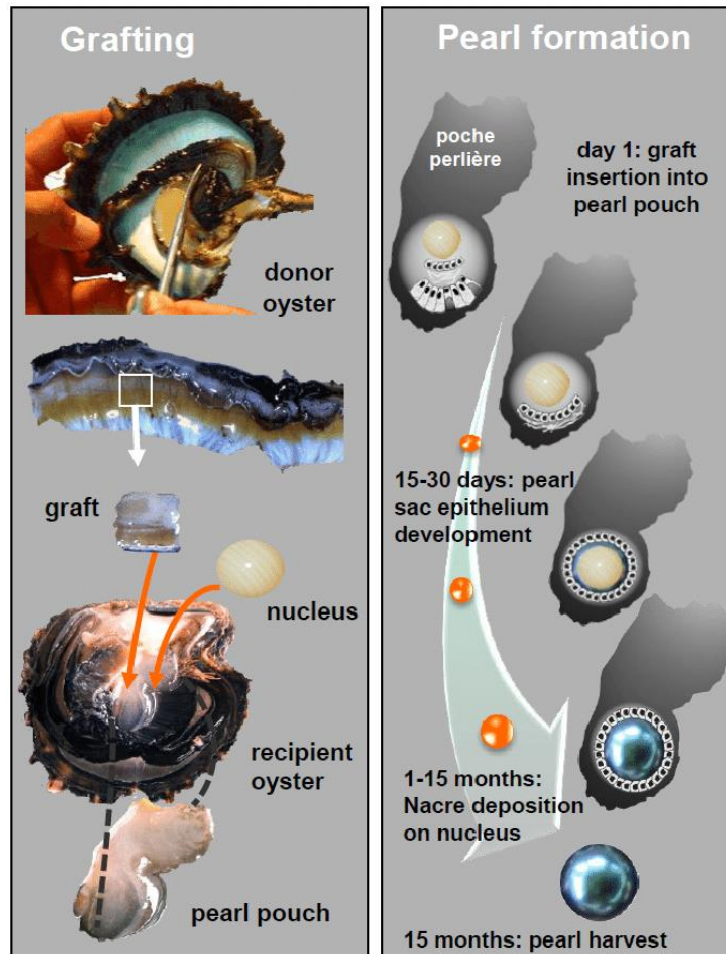
The Government of India, through the **Department of Fisheries (DoF)** has implemented various initiatives to promote natural pearl farming across the country.

### About Natural Pearls

- **Natural pearl farming** involves the cultivation of pearls through sustainable methods in freshwater or marine environments.
- Pearls are the **only gemstones** in the world that come from a living creature.
- **Mollusks** such as **oysters and mussels** produce pearls.
- **States Practicing Pearl Farming:** Gujarat, Maharashtra, Bihar, Odisha, Kerala, Rajasthan, Jharkhand, Goa and Tripura.
- **Advantages of Pearl Farming:** Alternate source of income for farmers, Low Environmental Impact, Employment Opportunities & Promotes Eco-Tourism

### Process of Natural Pearl Farming

- **Selection of Mollusks**
  - Marine pearl oysters (e.g., Pinctada species) and freshwater mussels are commonly used.
  - The mollusks must be healthy and suitable for culturing.
- **Seeding/Grafting Process**
  - A small irritant, typically a bead or tissue, is introduced into the mollusk.
  - This process stimulates the secretion of nacre (the material that forms the pearl).
- **Culturing Period**
  - The mollusks are placed in controlled environments such as cages or rafts in water bodies.
  - The cultivation period ranges from 6 months to several years, depending on the type of pearl and environmental conditions.
- **Harvesting**
  - Pearls are carefully extracted without damaging the mollusk.
  - High-quality pearls are sorted and graded based on size, shape, color, and luster.
- **Post-Harvest Processing**
  - Pearls may undergo cleaning, polishing, and grading before being marketed.



Source:

- [PIB - Enhancing Natural Pearl Production](#)

## Copper shortage in Domestic Industry

### Context

India faces a potential copper shortage as new **Quality Control Order (QCO)** norms for refined copper imports restrict non-Bureau of Indian Standards (BIS)-certified imports.

### Challenges with BIS Certification

- In **2023-24**, India sourced **80% of its copper imports from Japan**.
- The QCO mandates BIS certification for refined copper imports to prevent substandard supplies. Due to this imports from **non-certified producers**, including **Japan, are barred**.
- The certification process requires a **resistivity test**, involving:
  - Production of thin copper wires.
  - Testing at BIS-approved labs in India.

### About Copper

- Copper is a good conductor of electricity and is ductile (able to be drawn out into a thin wire).
- It is used by the automobile and defence industries, and in the electrical industry for making wires, electric motors, transformers, and generators.
- **Copper Reserves & Production:**
  - **Highest Reserve Worldwide:** Chile, DR Congo, Peru and China.
  - **Highest Production Worldwide:** Chile, Australia, Peru, Russia
- **India:**
  - India has low grade copper ore Copper Reserves in India
  - Total Reserves around 46 million tonnes.
  - **States with Highest Reserves: Rajasthan (50%) Madhya Pradesh (24%) Jharkhand (19%)**
  - **Production wise:**
    - 1st - Madhya Pradesh (Important Mines- Malanjkhand & Balaghat)
    - 2nd- Rajasthan (Khetri- Singhana belt in Jhunjhunu district)
    - 3rd Jharkhand (Singbhum)

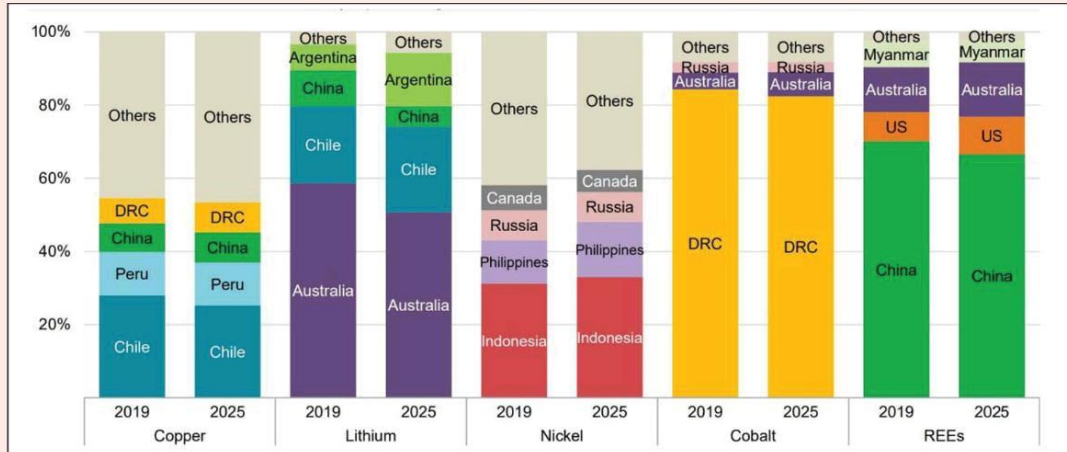
### UPSC PYQ

**Q.** About three-fourths of the world's cobalt, a metal required for the manufacture of batteries for electric motor vehicles, is produced by? **(2023)**

- (a) Argentina
- (b) Botswana
- (c) the Democratic Republic of the Congo
- (d) Kazakhstan

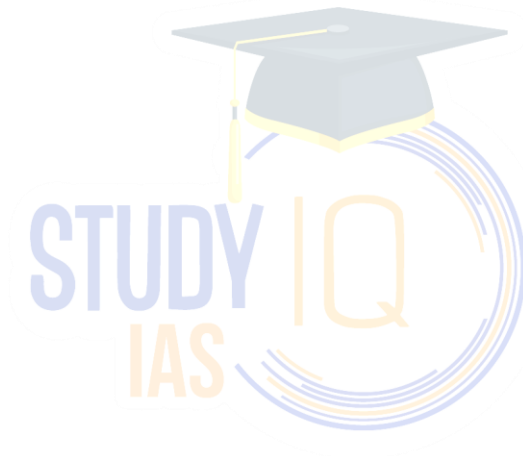
**Answer: C**

**Figure VII.11: Concentration of production of selected minerals in 2019 and 2025**



Source:

- [Indian Express - Copper shortage in domestic industry](#)





## Anna Chakra

### Context

The Union Food and Public Distribution Minister unveiled two transformative tools aimed at modernizing India's Public Distribution System (PDS) and subsidy mechanisms: **Anna Chakra & SCAN**.

### About Anna Chakra

- **Developed by:** Department of Food and Public Distribution in partnership with the World Food Programme (WFP) and IIT-Delhi's FITT (Foundation for Innovation and Technology Transfer).
- **Objective:** To improve the efficiency of the Public Distribution System (PDS) by **optimizing the logistics network, ensuring timely delivery of essential commodities and reducing costs**.
- **Key Features:**
  - It is integrated with the PM Gati Shakti platform, which includes geo-locations of 4.37 lakh Fair Price Shops (FPS) and 6,700 warehouse
  - It is also integrated with the **Freight Operations Information System (FOIS) of Indian Railways** via the **Unified Logistics Interface Platform (ULIP)** for interstate PDS movement.
  - It uses advanced algorithms for route optimization to identify the most efficient delivery routes.

### About Subsidy Claim Application for NFSA(SCAN)

- **Objective:** To modernize and expedite the settlement of food subsidy claims under the National Food Security Act (NFSA) through end-to-end automation.
- **Key Features:**
  - It will provide for a **single window submission of subsidy claims by states**, claim scrutiny and approval by Department of Food Public Distribution facilitating expeditious settlement process.
  - The portal will ensure **end-to-end workflow automation** of all the processes for release and settlement of food subsidy using rule-based processing.

### Source:

- [PIB - Anna Chakra', the Public Distribution System Supply chain optimisation tool](#)

## Editorial Summary

### State and The Challenge Before the Finance Commission

#### Context

- The Government of Tamil Nadu recently hosted the 16th Finance Commission, which was chaired by Arvind Panagariya.
- The Commission is strategically positioned to tackle India's pressing fiscal challenges and address the imbalance in the financial relationship between the Union and the States.

#### Responsibilities of the Finance Commission

- **Distribution of Taxes:** Recommending the division of the net proceeds of taxes between the Union and the States (vertical devolution) and among the States (horizontal devolution).
- **Grants-in-Aid:** Proposing measures to provide grants-in-aid to States in need of financial assistance.
- **Enhancing Fiscal Stability:** Suggesting measures to improve fiscal consolidation and encourage States to follow sound fiscal management practices.
- **Addressing Special Needs:** Making recommendations on special provisions for States facing unique challenges, such as natural disasters or socio-economic disparities.
- **Policy Recommendations:** Advising on the promotion of fiscal efficiency, equity, and transparency in resource allocation.

#### Previous Shortfalls

- **Ineffective Redistribution:** Horizontal devolution mechanisms often failed to drive real growth in underdeveloped States despite allocating higher resources.
- **Decline in Effective Devolution:** The Fifteenth Finance Commission recommended a 41% vertical share for States, but actual devolution was only 33.16% due to increasing cess and surcharges by the Union government.
- **Inconsistent Fiscal Autonomy:** Centrally Sponsored Schemes (CSS) imposed higher financial burdens on States without sufficient autonomy to tailor programs to local needs.
- **Overreliance on Static Metrics:** Distribution formulas often relied on backwardness indices, overlooking evolving needs like urbanisation, demographic transitions, and economic performance.
- **Limited Incentives for Performers:** High-performing States like Tamil Nadu often felt penalized for their success, receiving fewer resources relative to their contributions to national GDP.

#### Current Challenges Faced by States

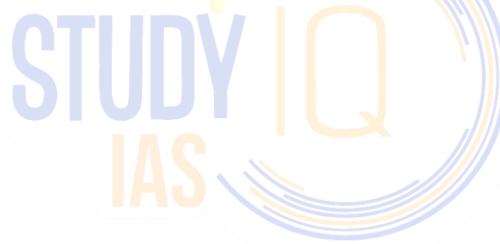
- **Demographic Shifts:** States with aging populations face declining tax revenues and increasing welfare costs.
- **Urbanisation Pressure:** Rapid urbanisation in States like Tamil Nadu has led to higher demands for infrastructure and urban planning resources.
- **Middle-Income Trap:** Progressive States risk stagnating economically before achieving sustained high-income status, especially without adequate fiscal support.

- **Climate Resilience:** Extreme weather events and environmental challenges necessitate significant investment in mitigation and adaptation strategies.
- **Balancing Redistribution with Growth:** Striking a balance between aiding underdeveloped States and incentivizing high-performing States remains contentious.

#### Future Outlook

- **Enhanced Fiscal Autonomy:** Increasing States' share in the divisible pool to 50% and allowing greater flexibility in spending CSS funds can empower States to address local priorities effectively.
- **Performance-Linked Allocation:** Evolving a balanced approach where high-performing States receive adequate incentives alongside equitable redistribution to underdeveloped States.
- **Focus on Urbanisation:** Allocating targeted funds for urban infrastructure in rapidly urbanizing States to ensure sustainable development.
- **Climate and Demographic Planning:** Developing frameworks to support aging populations and address climate vulnerabilities through dedicated grants and incentives.
- **Data-Driven Decision-Making:** Incorporating dynamic metrics such as real-time economic performance, migration trends, and environmental changes in resource allocation formulas.
- **Aligning with Global Opportunities:** Leveraging trends like “friendshoring” and “reshoring” to position States as global manufacturing and investment hubs.

Source: [The Hindu: States and the challenge before the Finance Commission](#)



## Prospects and concerns for the Rabi crop

### Context

- High October temperatures and shortages of di-ammonium phosphate (DAP) fertilizer have significantly impacted the planting of rabi (winter-spring) season crops in India.
- However, conditions improved after mid-November, leading to a recovery in sowing activities.

### Cropping Seasons in India

DIFFERENCES	Rabi	Kharif	Zaid
SOWN (Between)	October to December	July (Onset of Monsoon) to August	March to May
HARVEST	April to June	September to October	Summer Months
WATER SUPPLY	Rains due to Western Temperate Cyclones	Monsoon Rains	Irrigation
CROPS	Wheat, barley, peas, gram and mustard. (5 Crops)	Paddy, maize, jowar, bajra, tur (arhar), moong, urad, cotton, jute, groundnut and soyabean. (11 Crops)	Watermelon, muskmelon, cucumber, vegetables, fodder crops; and Sugarcane (needs a year to grow).
PLACES	Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Uttarakhand and Uttar Pradesh (6 Places)	Rice - Assam; West Bengal; coastal regions of Odisha, Andhra Pradesh, Telangana, Tamil Nadu, Kerala; Maharashtra (Konkan coast), Punjab, Haryana, Uttar Pradesh and Bihar (12 States)	Uttar Pradesh, Punjab, Haryana, Gujarat, and Tamil Nadu.

### Overview of Rabi Crop Planting

- **Initial Delays:** High temperatures in October resulted in a slow start for the sowing of wheat, mustard, chana (chickpea), masoor (red lentil), and other rabi crops.
  - Farmers had sown only 41.30 lakh hectares (lh) of wheat by November 8, down from 48.87 lh the previous year.
  - Similar declines were noted for mustard (50.73 to 49.90 lh) and chana (27.42 to 24.57 lh).
- **Temperature Data:** In October 2023, average maximum, minimum, and mean temperatures were 0.68°C, 1.78°C, and 1.23°C above normal, respectively.
  - Average minimum temperatures were the highest since 1901 in several regions of India.
- **Delayed Sowing:** The typical planting window for rabi crops extends from October to mid-November, but farmers in Uttar Pradesh began sowing only around October 20-22 due to the heat.

### Factors Affecting Crop Growth

- **Soil Moisture and Water Availability:** Surplus monsoon rains have significantly improved water levels in major reservoirs, reaching 86.7% of full capacity as of November 1, compared to 70.5% last year.
  - This water availability encourages farmers to plant aggressively.
- **Impact of La Niña:** The developing La Niña phenomenon is expected to bring cooler-than-normal winters and increased rainfall, which could further support crop growth and mitigate late sowing impacts.

- **Fertilizer Shortages:** DAP shortages have been a significant issue; it contains 46% phosphorus, essential for early root development.
  - Farmers faced long queues for DAP and resorted to alternative fertilizers with lower phosphorus content.
  - Sales and opening stocks of DAP were lower than the previous year.

#### Recovery in Sowing

- Wheat acreage rose to 200.35 lh, compared to 187.97 lh at the same time last year.
  - Chana also saw an increase to 78.52 lh from 74.39 lh.
- Despite overall recovery in other crops, mustard planting continued to lag behind last year's figures (75.86 lh vs. 80.06 lh).

#### Food Inflation and Key Commodities

- **High Food Inflation in October:** Food inflation hit 10.9% year-on-year; vegetables saw a staggering 42.2% increase.
- **Easing Prices for Vegetables:** Winter vegetables like tomatoes, carrots, and spinach are arriving in markets, leading to reduced prices.
  - E.g., Onion prices at Lasalgaon market (Maharashtra's largest onion market) fell from ₹5,500/quintal to ₹3,700/quintal in late November.
- **Concerns for Wheat and Edible Oils:**
  - **Wheat:** Government wheat stocks stood at **222.64 lakh tonnes (lt)** as of November 1, 2024.
    - With an average monthly depletion of **25-30 lt**, opening stocks in April 2025 are projected to be **72-98 lt** – barely meeting the **normative minimum requirement of 74.6 lt**.
    - Uncertainty over the upcoming rabi wheat crop size may prompt the government to **reduce the current 40% import duty** to ensure supply and control prices.
  - **Edible Oils:** Rising global prices due to Indonesia's plan to increase mandatory palm oil blending in diesel from **35% to 40%** starting 2025.
    - Also proposed hike in palm oil export taxes.
    - These factors make edible oil imports costlier for India, further pressuring domestic prices.

#### Future Outlook

The government may consider reducing import duties on wheat and edible oils due to concerns over crop yields and food security as elections approach.

Source: [Indian Express: Prospect For Rabi Crop](#)

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## Detailed Coverage

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### Stone Crushing Industry Impact on Human Health and Agriculture Output

#### Context

The population, animals and plants near the stone crusher industries impacted by harmful dust originate from the Industries.

#### What is a Stone Crushing Industry?

- The **stone crushing industry** involves the extraction, processing, and production of crushed stone, gravel, and other aggregate materials used primarily in construction and infrastructure projects.
- This sector forms a **critical part of the construction industry** and contributes significantly to industrial and economic development.

#### Significance of Stone Cutting and Crushing Industries in India

- **Contribution to Infrastructure Development:** The industry plays a critical role in providing raw materials like aggregates, stones, and crushed rock essential for construction activities.
  - Supports the construction of schools, hospitals, and public infrastructure in urban and rural areas.
- **Employment Generation:** Provides direct and indirect employment to a significant number of workers, especially in rural and semi-urban areas.
- **Boost to the Economy:** Generates revenue for the government through taxes, mining royalties, and export duties.
- **Support for Ancillary Industries:** Drives growth in allied industries such as cement, steel, and transportation.
  - Creates demand for heavy machinery and equipment like crushers, loaders, and excavators.
- **Export Potential:** India is a major exporter of natural stone, including granite, marble, and sandstone.
- **Rural and Regional Development:** Stimulates local economies by creating small-scale industrial clusters in stone-rich regions.
  - Facilitates the development of infrastructure in backward areas, encouraging regional balance.
- **Support for Traditional Art and Architecture:** Promotes India's rich heritage of stone crafts, including sculptures, monuments, and traditional architecture.
  - Revives traditional skills in stone carving and cutting, preserving cultural heritage.

#### Impacts

##### On Human Health

- **Respiratory Problems:** Exposure to dust from stone crushing activities is linked to a high prevalence of respiratory diseases.

- Studies indicate that up to 89% of stone-cutting workers report chronic respiratory symptoms, including chest tightness, chronic cough, and shortness of breath.
- The concentration of particulate matter (PM2.5 and PM10) in workplaces often exceeds safe levels.
  - This leads to conditions such as silicosis, asthma, and chronic obstructive pulmonary disease (COPD) among workers and nearby residents.
- **Other Health Issues:** In addition to respiratory ailments, individuals living near stone crushing sites experience a range of health problems, including eye irritation, skin diseases, headaches, and hearing loss.
  - Surveys have shown that the prevalence of these conditions is notably higher in populations within 500 meters of stone crushing operations.
  - The long-term exposure to silica dust can lead to severe health complications, including lung fibrosis and increased mortality rates among workers.
- **Economic Burden:** The health impacts translate into significant economic costs for affected individuals due to increased medical expenses and loss of productivity.

### On Agricultural Output

- **Soil Degradation:** The dust generated by stone crushing not only pollutes the air but also settles on soil surfaces, altering its pH and reducing fertility.
  - This contamination can hinder plant growth by affecting germination rates and nutrient uptake.
  - **E.g.,** Studies indicate that crops such as rice show reduced germination frequency and lower yields in areas affected by stone dust pollution.
- **Crop Yield Reduction:** Research has demonstrated that stone dust adversely affects various growth parameters in plants, including shoot length, root length, chlorophyll content, and overall yield.
  - This decline in agricultural productivity poses a threat to food security for communities relying on agriculture for their livelihoods.
- **Water Quality Issues:** The runoff from stone crushing sites can contaminate local water sources, further impacting agricultural practices by affecting irrigation water quality.
  - Contaminated water can lead to reduced crop yields and compromised food safety.

### On Animals

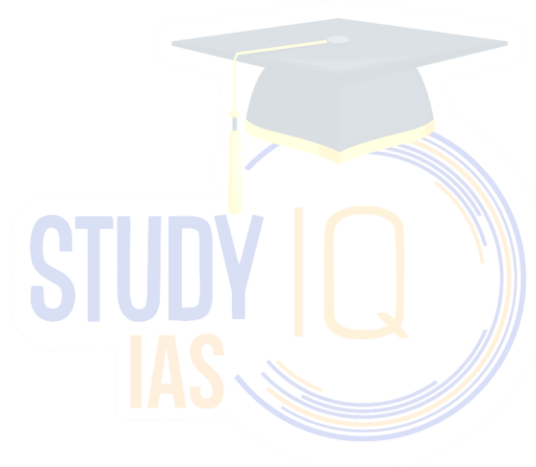
- **Habitat Avoidance:** The cumulative effects of noise pollution can lead to a decline in local biodiversity as sensitive species either adapt poorly or are unable to thrive in altered environments. This loss can destabilize ecosystems and disrupt food webs.
- **Communication Interference:** Many animal species rely on vocalizations for communication, mating calls, and warning signals.
  - Noise pollution from stone crushing can mask these sounds.
  - This interference can lead to decreased mating success and increased vulnerability to predators.

### Mitigation Measures

- Regular health checkups and use of safety gear like masks and earplugs for workers.
- Installing dust suppression mechanisms like water sprays at crushing sites.

- Creating green buffer zones around stone-cutting units to limit dust dispersion.
- Educating farmers about dust impacts and encouraging organic soil rejuvenation techniques.
- Enforcing strict environmental regulations for stone-cutting industries.

Source: [The Hindu: Living Under Dust Blanket](#)





## India Bhutan Relation

### Context

Bhutanese King Jigme Khesar Namgyel Wangchuck recently visited India.

### India Bhutan Relations: An Overview

#### Evolution of Ties

India and Bhutan share a **unique and special relationship** that is based on a long history of cultural, economic, and political ties.

- **Strategic Importance:** Despite its small size, Bhutan occupies a strategically important position in South Asia and has been a key partner for India in regional cooperation efforts.
- **Establishment of Diplomatic ties:** Diplomatic relations between India and Bhutan were established in 1968 with the establishment of a **special office of India in Thimphu**.
- **1940 treaty of Friendship and cooperation:** The basic framework of India-Bhutan bilateral relations is **the Treaty of Friendship and Cooperation signed in 1949** between the two countries and revised in February 2007.
  - The 1949 Treaty ensured peace and non-interference in each other's internal affairs.
  - The 2007 Treaty replaced the previous requirement for Bhutan to seek India's advice on foreign policy and highlighted the importance of sovereignty and collaboration rooted in shared interests.
- The Golden Jubilee of the establishment of formal diplomatic relations between India and Bhutan was celebrated in the year 2018.

### Areas of Cooperation and Significance

Dimension	Details
<b>Strategic</b>	<ul style="list-style-type: none"> <li>● Bhutan is located between India and China, and its strategic location helps protect <b>India's Siliguri Corridor</b> (also known as Chicken's Neck- a narrow stretch of land of about 22 kilometres.).</li> <li>● The <b>Doklam standoff in 2017</b> showed how important Bhutan is to India's security</li> </ul>
<b>Economic</b>	<ul style="list-style-type: none"> <li>● In 1972 <b>1st Trade and Transit agreement</b> was signed which has undergone five revisions till date (1983, 1990, 1995, 2006 and 2016).                             <ul style="list-style-type: none"> <li>○ The current Agreement on Trade, Commerce and Transit is valid till <b>2026</b>..</li> </ul> </li> <li>● <b>Credit Facility:</b> India has agreed to consider Bhutan's request to extend an additional <b>Standby Credit Facility (SCF)</b> for a period of five years.</li> <li>● India plans to <b>double its financial assistance</b> to Bhutan, increasing it from the <b>current ₹5,000 crore over the 2019-2024 period to ₹10,000 crore for the period extending to 2029</b>.</li> <li>● <b>Financial partnership:</b> The launch of the RuPay card and BHIM app has enhanced financial partnership between India and Bhutan.</li> </ul>

<p><b>Cultural and Educational</b></p>	<ul style="list-style-type: none"> <li>● India also offers various scholarships for Bhutanese students through <b>Nehru-Wangchuck Scholarships, Ambassador’s Scholarship.</b></li> <li>● The <b>India-Bhutan Foundation</b>, established in 2003, aims to enhance people-to-people exchanges in the cultural field.</li> <li>● <b>Bhutan's Druk Research &amp; Education Network (DrukREN)</b> was integrated with India's <b>National Knowledge Network</b>, a pivotal step in advancing eLearning initiatives and knowledge exchange.</li> </ul>
<p><b>Energy</b></p>	<ul style="list-style-type: none"> <li>● India has constructed <b>three Hydroelectric Projects in Bhutan</b> (and exporting surplus power to India)—<b>Chukha HEP, Kurichhu HEP, and Tala HEP.</b> India is also building <b>Mangdechhu, Punatsangchhu 1 and 2 Hydroelectric Power Projects in Bhutan.</b></li> </ul>
<p><b>Regional</b></p>	<p>Both nations cooperate in regional forums such as <b>BIMSTEC and SAARC.</b></p>
<p><b>Environmental</b></p>	<p>India is supporting Bhutan in its efforts to become <b>carbon negative.</b></p>
<p><b>Connectivity</b></p>	<ul style="list-style-type: none"> <li>● Efforts were expedited towards the <b>Kokrajhar (Assam)-Gelephu rail link</b>, promoting enhanced connectivity between regions.</li> <li>● Additionally, support was extended for the <b>construction of Gelephu airport</b>, aimed at attracting investment and facilitating economic growth.</li> <li>● A new land route was opened to boost trade between India and Bhutan. This route links West Bengal’s Jaigaon with Ahlay, Pasakha in Bhutan</li> <li>● Future initiatives between the two nations will focus on connectivity, infrastructure, trade, and energy sectors. <ul style="list-style-type: none"> <li>○ Specific projects include establishing <b>new rail links between Barhath-Samtse</b>, as well as <b>strengthening waterway navigation on the Brahmaputra.</b></li> </ul> </li> </ul>
<p><b>Security</b></p>	<ul style="list-style-type: none"> <li>● The Indian Military Training Team (IMTRAT) is permanently based in western Bhutan and assists and trains the Royal Bhutan Army.</li> <li>● The <b>Eastern Air command of the Indian Air force provides Bhutan with Air security</b>, as the country does not have an air force.</li> <li>● India’s Border Road Organisation, has built the majority of roads in Bhutan under project ‘<b>DANTAK</b>’</li> </ul>

### Challenges In India-Bhutan Relations

- **Chinese Influence:** India backs Bhutan's claim over Doklam as it is **strategically important for India's security.**
  - **Dominance of the region by China could threaten the Siliguri Corridor**, a narrow stretch that connects the Indian mainland with its north-eastern states.

- **Issues in hydropower trade:** India's past changes in power purchasing policy, refusal to admit Bhutan into the National Power Grid, etc has created a rift in the relationship.
- **Hideout for militants:** Militant outfits like **United Liberation Front of Assam (ULFA)**, **National Democratic Front of Bodos (NDFB)**, etc use the dense forests of Southern Bhutan as their hideouts and operate against India.
  - **Operation All Clear (2003-04)** was the first action against these militants by Bhutan.
- **BBIN initiative:** The **Bangladesh-Bhutan-India-Nepal (BBIN) Motor Vehicle Agreement**, proposed by India to improve connectivity in the region, is on hold by Bhutan due to environmental concerns.
- **Access to trade:** Bhutan is diversifying its market by reaching out to Bangladesh, with the two countries having signed a preferential trade agreement in 2021.

### Way Forward

- **Initiating Trilogue:** Opening such communication channels can minimise uncertainties as questions of peace and conflict cannot be resolved by potential stand-offs (like Doklam) in the future.
- **Diversifying economic engagements:** For now, India's economic relations with Bhutan continue to be dominated by hydropower projects.
  - Strengthening collaboration in fields such as fintech, space tech, and biotech between the two countries can lead to a stronger partnership.
- **Improving people-to-people ties:** Soft power diplomacy can be induced through Buddhism and by encouraging more tourist exchanges between the two countries.
- **Security measures: Establishment of contact points** between countries and mechanisms for real-time sharing of information in criminal matters,
  - **Capacity building and skill development** of law enforcement personnel manning border check-posts,
  - **Development of a Standard Operating Procedure (SOP)** on repatriation for the Indo-Bhutan border.

Source: [The Hindu: Bhutan and India discuss Gelephu, hydel power plans](#)