NITIN SIR CLASSES

THE HINDU
INDIA'S NATIONAL NEWSPAPER SINCE 1878

Daily News Analysis

The Hindu Important News Articles & Editorial For UPSC CSE

Wednesday, 29 Oct, 2025

Edition : International Table of Contents

NITIN SIR CLASSES

THE HINDU
INDIA'S NATIONAL NEWSPAPER SINCE 1878

Daily News Analysis

Page 01 : GS 1 & 3 : Geography & Disaster Management

Cyclone Montha — a severe cyclonic storm — made landfall near Kakinada, Andhra Pradesh, on Tuesday evening (7 p.m.), causing widespread rainfall, damage to crops and infrastructure, and large-scale evacuations. The cyclone, originating in the Bay of Bengal, is another reminder of India's increasing vulnerability to extreme weather events due to climate change and coastal exposure.

Cyclone Montha makes landfall; rain batters several parts of A.P.

35,000 people evacuated; crops on 43,000 hectares submerged

Power infrastructure, including substations, suffer massive damage

Twenty trains and more than 50 flights cancelled

Swept away: A home destroyed by the cyclonic swell in Kakinada district of Andhra Pradesh on Tuesday. PTI, DEEPAK

T. Appala Naidu
Nellore Sravani
VIJAYAWADA

The severe cyclonic storm Montha began its landfall near Kakinada in Andhra Pradesh around 7 p.m. on Tuesday, the India Meteorological Department (IMD) said.

Between 11.30 a.m. and 5.30 p.m., the storm moved with a speed of 17 kmph. It was positioned around 120 km east of Machilipatnam, 110 km south of Kakinada, and 220 km south-southwest of Visakhapatnam in Andhra Pradesh, and 460 km southwest of Gopalpur in Odisha at 5.30 p.m.

The storm triggered very heavy rain in the State and neighbouring Odisha.

After lashing north coastal Andhra on Monday, the rainfall activity moved to SPSR Nellore and Prakasam districts in south coastal Andhra. Many places in these two districts received more than 100 mm rainfall between 8.30 a.m. and 7 p.m.

The IMD said Ulavapadu in SPSR Nellore district recorded the day's maximum rain of 167 mm, followed by Kavali and Dagadarthi of the same district at 162.75 mm and 147.5 mm. In Prakasam district, Singarayakonda, Pakala and Ongole received 131.5 mm, 122 mm and 100.5 mm rain respectively.

Kakinada received only light showers till 7 p.m.

The IMD withdrew red alerts issued for a few districts for Wednesday, and issued orange alerts for the districts of Srikakulam, Parvathipuram Manyam, Vizianagaram, Visakhapatnam, Alluri Sitharama Raju, Anakapalli, Eluru, NTR, Krishna, Guntur, Palnadu, Bapatla, and Nandyal.

The two days of heavy to very heavy rain in the State has left crops on more than 43,000 hectares submerged and affected 83,000 farmers, according to initial assessments made by the agricultural department. Paddy and cotton were the worst hit.

The total estimated loss to the power sector has crossed ₹2,200 crore, with massive damage to substations, transformers, and power lines.

In Visakhapatnam district, which recorded more than 147 mm rainfall on Monday, the municipal corporation cleared 119 fallen trees.

The Kakinada district administration has kept ready 401 relief camps. At least 35,000 people have been evacuated so far.

"The number of people to be evacuated is expected to rise as 67 villages and five towns and Kakinada city are falling in the cyclone-affected area," said Kakinada District Collector S. Shan Mohan. Nearly 1,600 school bus services have been deployed to evacuate people.

Chief Minister N. Chandrababu Naidu directed that the NDRF and SDRF teams be deployed in and around Kakinada, where the cyclone is likely to make landfall.

Trains, flights cancelled

Twenty trains, 10 originating in Visakhapatnam, and 11 operating from various divisions of South Central Railway (SCR) in Andhra and one from Bhubaneswar, passing through Visakhapatnam, were cancelled due to heavy rain and gales on Tuesday.

A total of 32 flights from Visakhapatnam were cancelled. The lone flight which operated was a nine-seater Vizag-Jeypore flight.

The Vijayawada-Vizag-Vijayawada IndiGo flight for Wednesday has been cancelled. The other flights from Visakhapatnam to various destinations are expected to operate normally on Wednesday , said airport director N. Purushottam.

The Vijayawada airport cancelled 16 flights, while four flights from Tirupati were cancelled.

MORE REPORTS
PAGE 3
EDITORIAL
PAGE 6

What is Cyclones

- Cyclones are rapid inward air circulation around a low-pressure area. The air circulates in an anticlockwise direction in the Northern hemisphere and clockwise in the Southern hemisphere.
- Cyclones are usually accompanied by violent storms and bad weather.
- The word Cyclone is derived from the Greek word Cyclos meaning the coils of a snake. It was coined by Henry Peddington because the tropical storms in the Bay of Bengal and the Arabian Sea appear like coiled serpents of the sea.

Classification

- There are two types of cyclones:
  1. Tropical cyclones; and
  2. Extra Tropical cyclones (also called Temperate cyclones or middle latitude cyclones or Frontal cyclones or Wave Cyclones).

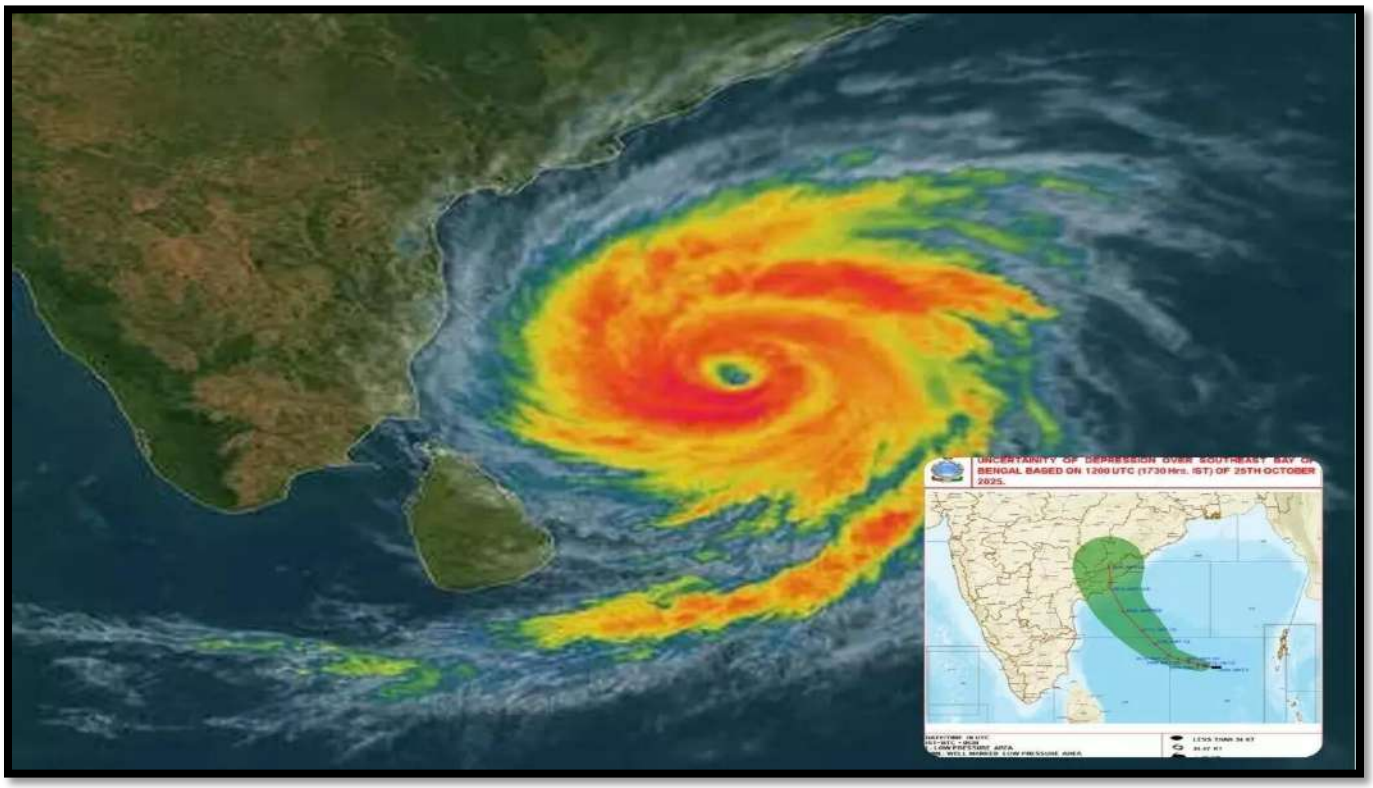
Formation and Development

Daily News Analysis

- The system originated as a well-marked low-pressure area over the southeast Bay of Bengal on 24 October 2025.
- It intensified into a deep depression by 26 October, with wind speeds rising to 80–100 km/h.
- Supported by warm sea surface temperatures (above 28°C), low vertical wind shear, and ample moisture inflow, it developed into a severe cyclonic storm by 28 October.
- IMD projected its landfall between Machilipatnam and Kalingapatnam, near Kakinada, with gusts up to 110 km/h and "very rough to high" sea conditions.

Location and Movement

- As of 27 October 2025, Cyclone Montha was positioned over the west-central Bay of Bengal, about 350 km southeast of Kakinada, moving north-northwest at around 14 km/h.
- Its impact extended beyond Andhra Pradesh to Tamil Nadu, Odisha, and coastal Telangana, leading to widespread rainfall and gusty winds across these regions.



Nomenclature of Tropical Cyclones

Daily News Analysis

- The naming of tropical cyclones is a recent phenomenon. The process of naming cyclones involves several countries in the region and is done under the aegis of the World Meteorological Organization (WMO).
- For the Indian Ocean region, a formula for naming cyclones was agreed upon in 2004. Eight countries in the region - Bangladesh, India, Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand - all contributed a set of names which are assigned sequentially whenever a cyclonic storm develops.
- Hudhud, Titli, Phethai, Fani, Vayu and Amphan are among the names of cyclones in the Indian Ocean region.

Worldwide Terminology of Tropical Cyclones

- They are given many names in different regions of the world – eg.they are known as Typhoons in the China Sea and Pacific Ocean; Hurricanes in the West Indian islands in the Caribbean Sea and Atlantic Ocean; Tornados in the Guinea lands of West Africa and southern USA.; Willy-willies in north-western Australia and Tropical Cyclones in the Indian Ocean.

Daily News Analysis

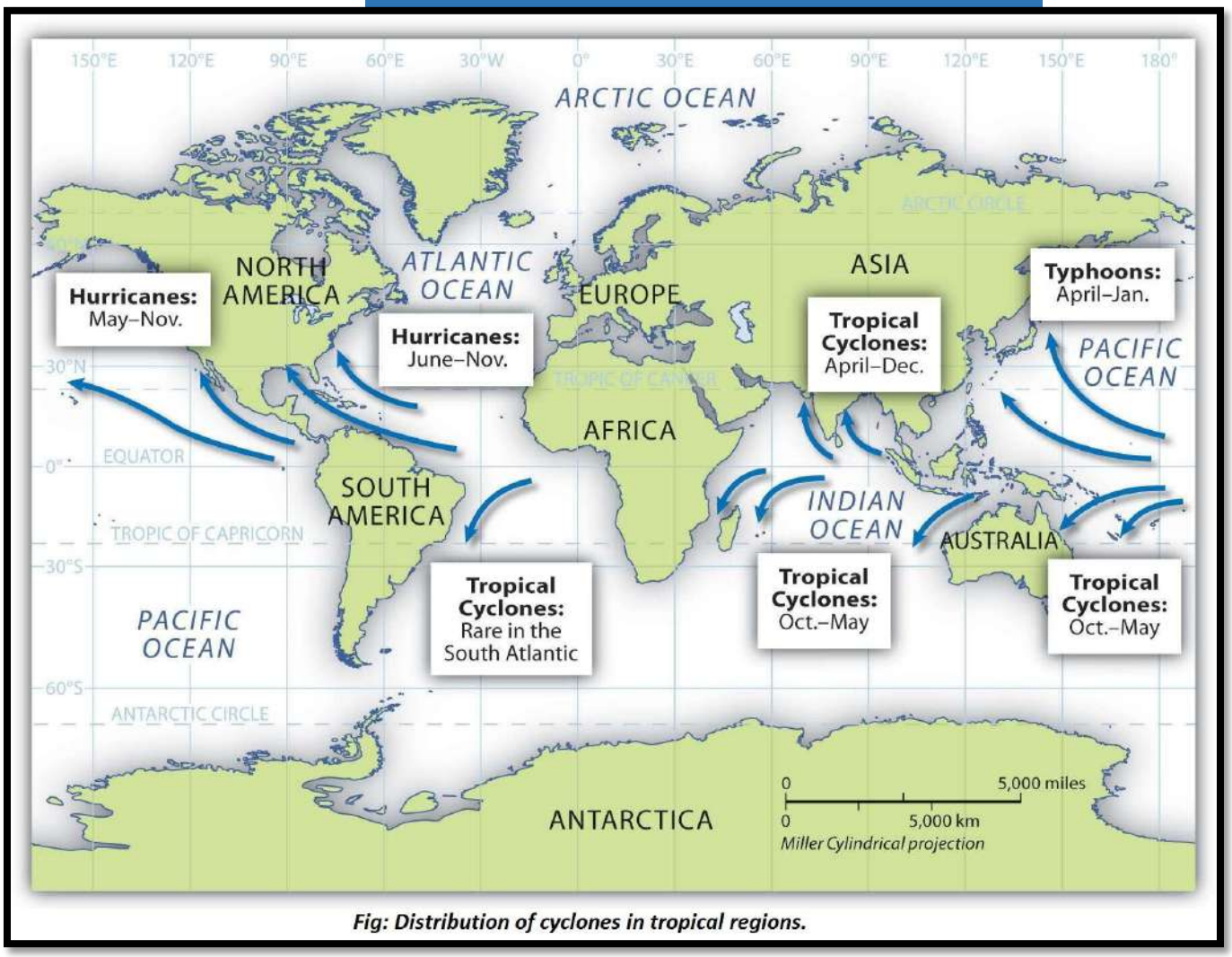


Fig: Distribution of cyclones in tropical regions.

Government Preparedness and Response

Authorities across the eastern coast undertook extensive preventive measures:

- Andhra Pradesh Government:
  - Implemented an action plan—stocking essential supplies, positioning PDS items, ensuring power and telecom readiness.
  - Evacuation of vulnerable groups, including pregnant women, and establishment of temporary shelters.

- Coordination: IMD, NDRF, SDRF, Indian Coast Guard, and the Army remained on high alert.
- Fishing Ban: Over 900 fishing vessels were guided back to shore; fishing activities were suspended.
- Alerts:
    - Red alerts issued for coastal districts — Kakinada, Konaseema, West Godavari, Krishna, Bapatla, Prakasam, Nellore.
    - Orange/yellow alerts for Tamil Nadu, Odisha, and Telangana.
- Schools closed till 31 October in high-risk areas.
- Public advisories discouraged unnecessary travel and promoted early evacuation.

Vulnerable Zones

The most exposed areas include:

- Godavari delta, Rayalaseema, and adjoining mandals due to:
    - Dense coastal population in low-lying flood-prone areas.
    - Agricultural dependency on coastal ecosystems.
    - Weak rural infrastructure, complicating evacuation and relief.
- Heavy rainfall (>210 mm in 24 hrs) in Rayalaseema risks flash floods and landslides.
- The fisheries sector faces acute livelihood losses — over 985 boats were recalled.
- In Odisha, alerts were issued across 30 districts, ensuring regional coordination.

Impacts of Cyclone Montha

1. Heavy Rainfall:
    - IMD warned of extremely heavy rainfall (≥21 cm/24 hrs) in coastal Andhra and southern Odisha.
2. High Wind Speeds:
    - Sustained winds of 90–100 km/h, gusting up to 110 km/h, caused tree uprooting, building damage, and power outages.
3. Storm Surge & Flooding:
    - Coastal flooding of up to 1 metre above astronomical tide predicted around the landfall zone.
4. Marine Hazards:
    - Sea conditions hazardous from 26–29 October; all fishing suspended.
5. Regional Weather Effects:
    - Widespread rainfall over Telangana, Chhattisgarh, and West Bengal, disrupting transport and relief operations.

Significance

- First major landfalling cyclone of 2025 on the Indian mainland.
- Highlights the increasing frequency and intensity of cyclones due to climate change in the Bay of Bengal.

- Tests India's disaster management framework, from NDMA to state and district response teams.
- Underscores the importance of ecosystem-based adaptation, resilient coastal infrastructure, and community preparedness.
- Emphasizes the need for sustainable livelihood support for farmers and fishing communities post-disaster.

UPSC Prelims Practice Question

Ques: Which of the following conditions are favourable for the formation of tropical cyclones like Montha?

1. High sea surface temperature (above 26°C)

2. Low vertical wind shear

3. Presence of Coriolis force

4. Dry air intrusion in upper atmosphere

Select the correct answer using the code given below:

(a) 1 and 2 only

(b) 1, 2 and 3 only

(c) 1, 2 and 4 only

(d) 2, 3 and 4 only

Ans : b)

UPSC Mains Practice Question

Ques: Cyclone Montha demonstrates both the strengths and gaps in India's disaster preparedness system. Critically examine. **(150 Words)**

NITIN SIR CLASSES

THE HINDU
INDIA'S NATIONAL NEWSPAPER SINCE 1878

Daily News Analysis

Page 01 : GS 3 : Indian Economy / Prelims

Daily News Analysis

India's Index of Industrial Production (IIP) growth slowed to 4% in September 2025, marking a three-month low and indicating signs of moderation in industrial momentum. Although this is higher than the 3.2% growth recorded in September 2024, it represents a slowdown compared to the 4.3% seen in July 2025. The data, released by the Ministry of Statistics and Programme Implementation (MoSPI), also show that growth in the first half (April–September) of FY 2025–26 is the slowest in at least five years, highlighting structural challenges in India's industrial recovery.


Industrial slowdown

The chart shows the year-on-year growth (in %) in the Index of Industrial Production between September 2024 and 2025

IIP growth dips to three-month low of 4% in Sept.

T.C.A. Sharad Raghavan
NEW DELHI

Industrial activity dipped marginally to a three-month low of 4% in September. The data also show that the growth in industrial activity during the first half of the financial year was the slowest in at least five years.

Growth in the Index of Industrial Production (IIP), released by the Ministry of Statistics and Programme Implementation, stood at 3.2% in September last year. However, growth had since accelerated to 4.3% by July 2025, following which it slowed again.

The overall index grew 3% in the April-September period, the first half of the financial year 2025-26. This is the slowest in at least five years, the period for which data are readily available.

The index grew 24% in the first half of 2021-22, owing to the low base of the previous pandemic-affected year 2020-21. In the first half of 2022-23, the index grew 7%, which slowed to 6.3% and 4.1% in the corresponding periods of 2023-24 and 2024-25.

In September, the slowdown in industrial growth was mainly led by the mining, primary goods, and consumer non-durables sectors. Activity in the mining sector contracted 0.45% in September 2025 from growth of 6.6% in August 2025 and 0.2% in September last year.

The consumer non-durables sector continued to contract for the second consecutive month in September 2025, by 2.9%, compared with a contraction of 6.4% in August 2025, and a growth of 2.2% in September last year.

Impact of GST cuts

According to Madan Sabnavis, chief economist at the Bank of Baroda, this could be due to the fact that the Goods and Services Tax (GST) rate cuts were implemented late in the month.

"As the GST cuts have targeted this industry, it can be assumed that the real impact will be seen in October-November as dealers have been facing a challenge of selling products with the older price labels," Mr. Sabnavis said.

Growth in the consumer durables segment sector surged to 10.2% in September 2025, from 3.5% in August 2025, and 6.3% in September last year.

The primary goods sector saw growth slowing to 1.4% in September 2025 from 5.4% in the previous month and 1.8% in September last year.

Growth in the manufacturing sector accelerated to 4.8% in September 2025 from 3.8% in the previous month and 4% in September 2024.

What is the Index of Industrial Production?

- IIP is an indicator that measures the changes in the volume of production of industrial products during a given period.
- It is compiled and published monthly by the National Statistical Office (NSO), Ministry of Statistics and Programme Implementation.
- It is a composite indicator that measures the growth rate of industry groups classified under:
- Broad sectors, namely, Mining, Manufacturing, and Electricity.
- Use-based sectors, namely Basic Goods, Capital Goods, and Intermediate Goods.
- Base Year for IIP is 2011-2012.

Significance of IIP:

- It is used by government agencies including the Ministry of Finance, the Reserve Bank of India, etc, for policy-making purposes.
- IIP remains extremely relevant for the calculation of the quarterly and advance GDP (Gross Domestic Product) estimates.

About Eight Core Sectors:

- These comprise 40.27% of the weight of items included in the Index of Industrial Production (IIP).
- The eight core sector industries in decreasing order of their weightage: Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement> Fertilizers.

Key Highlights

- **Overall IIP growth:**

- September 2025: 4% (vs. 4.3% in July 2025 and 3.2% in September 2024).
- April–September 2025–26: 3% growth — slowest in five years.

- **Historical comparison:**
  - 2021–22 (base effect year): 24%
  - 2022–23: 7%
  - 2023–24: 6.3%
  - 2024–25: 4.1%
  - 2025–26: 3% (so far)
- **Sector-wise performance (September 2025):**
  - Manufacturing: +4.8% (up from 3.8% in August)
  - Mining: -0.45% (contracted from +6.6% in August)
  - Primary goods: +1.4% (down from 5.4% in August)
  - Consumer durables: +10.2% (up sharply from 3.5% in August)
  - Consumer non-durables: -2.9% (second consecutive contraction)

Key Analysis

1. Structural Slowdown in Industrial Momentum : The slowdown to 4% growth reflects a broader deceleration in industrial momentum amid weak demand and uneven sectoral recovery. The mining and consumer non-durable goods sectors particularly dragged overall growth, offsetting gains in manufacturing and consumer durables.

2. Manufacturing Resilience : Manufacturing — which forms nearly 77% of the IIP weight — showed improvement at 4.8%, indicating a mild rebound in industrial production despite weak external demand. This suggests that domestic consumption, particularly for durable goods, has started to recover.

3. Weakness in Primary and Mining Sectors : The mining sector's contraction (-0.45%) points to subdued activity in coal, crude oil, and natural gas production — key inputs for industries. Reduced mining output often indicates lower energy demand and investment sentiment.

4. Consumer Non-Durables Under Pressure : The consumer non-durables sector (FMCG, packaged food, etc.) contracted for the second consecutive month, reflecting weak rural demand and price stickiness. Economists attribute this partly to delayed GST rate cuts, which came late in September, causing dealers to hold back sales of older, higher-priced inventory.

5. Impact of Policy and Demand Conditions: The recent GST cuts aimed at stimulating consumption in non-durable sectors may show results in October–November 2025, as price normalization takes place. The rise in consumer durables (10.2%) suggests urban discretionary spending is improving, supported by festive demand and higher credit availability.

6. Broader Economic Implications : A slower IIP growth trajectory signals that industrial output is yet to achieve stable momentum post-pandemic recovery. With the manufacturing PMI showing moderate expansion and exports remaining subdued, the slowdown calls for renewed focus on:

- Enhancing rural consumption,
- Reviving private investment, and
- Addressing supply-side constraints in energy and logistics.

Conclusion

The dip in IIP growth to 4% in September 2025 underscores persistent structural weaknesses in India's industrial economy despite localized recovery in manufacturing and consumer durables. While the near-term outlook may improve with festive demand and GST adjustments, sustained growth will depend on broad-based investment, infrastructure push, and export revival. Policymakers must balance demand stimulation with supply-side reforms to ensure that India's industrial sector contributes consistently to overall GDP growth.

UPSC Prelims Practice Question

Ques: Consider the following statements about the Index of Industrial Production (IIP):

1. It measures the volume of production of a basket of industrial products in India.

2. The base year for the current IIP series is 2011–12.

3. It is released by the Department for Promotion of Industry and Internal Trade (DPIIT).

Which of the above statements is/are correct?

(a) 1 only

(b) 1 and 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

Ans: b)

UPSC Mains Practice Question

Ques: Analyze the role of fiscal and monetary policies in stimulating industrial growth in India in the context of recent IIP trends. **(150 Words)**

Daily News Analysis

Page 07 : GS 3 : Environment & Disaster Management / Prelims

The Himalayan region — spread across 12 Indian States and Union Territories — is one of the world's most ecologically fragile and disaster-prone zones. In recent decades, it has witnessed a rapid rise in climate-induced disasters such as floods, landslides, glacial lake outburst floods (GLOFs), and avalanches. Despite this, early warning systems (EWS) — a proven tool for disaster mitigation — remain poorly developed and sparsely deployed in the region.

THE HINDU
INDIA'S NATIONAL NEWSPAPER SINCE 1878

Daily News Analysis

Setting up an early warning system for the Himalayas poses unique challenges

Climate change and development works have made the Himalayas acutely vulnerable to floods, landslides, and lake bursts, killing hundreds. Why are early warning systems not a priority? Scientists say that a network of rugged, easy-to-operate early warning systems to monitor activity across the Himalayan mountains is essential

Divya Gandhi

On the first weekend of this month, Mount Everest (on the Tibetan side) turned dystopian: a sudden blizzard, torrential snowfall, and lightning strikes hit the mountain's vicinity, trapping a thousand trekkers who were gradually rescued with the help of local villagers trudging through knee-deep snow. In other parts of the Himalayas, at the same time, a heavy downpour and snowfall, led to floods and landslides, killing scores in Nepal and Darjeeling.

This is the latest among scores of disasters in the Himalayas, which are only increasing: of the 687 disasters that the country experienced between 1900 and 2022, as many as 240 were in the Himalayas, according to a 2024 *Down To Earth (DTE)* report. They include glacial lake outbursts, landslides, floods, wildfires, and earthquakes. Between 1902 and 1962, the region recorded just five disasters.

There has been a rapid increase in disasters in the Himalayas. AP

Abysmally poor

"Since then, there has been a rapid decade-on-decade increase in disasters. In 1963-1972, the region reported 11 disasters, followed by 13 disasters in 1973-82. The last decade (2013-2022) saw the highest number of disasters at 68, and they accounted for 44% of all the disasters reported in India," the *DTE* report explained. Quoting NASA's landslide data, *DTE* said the region experienced 1,121 landslide events between 2007 and 2017.

"I've come to the Himalayas around 20 times, but I've never experienced weather like this," a long-time hiker, Dorg Shuchang, 27, told the *BBC*. Climate change is indeed making this seismically vulnerable range increasingly unpredictable: the region is experiencing "a faster rate of warming than the global average, ranging from 0.15° to 0.60° C per decade," according to a paper published last year in *Springer Nature*.

So why do we have an abysmally poor number of early warning systems (EWS), a practical mitigator of disasters, in one of the world's most volatile regions to predict events and save lives?

AI's help

As peer-reviewed studies portend a deepening crisis in the Himalayas, there is clearly a dire need for EWS for imminent earthquakes, landslides, snow storms, lake outburst floods, and extreme temperatures in this tempestuous mountain range that encompasses 12 Indian States and Union Territories.

Considering the sheer scale of the problem, "we need to install many more EWS, one in each valley, across the entire Himalayan arc (there are indeed cases of trans-boundary floods)," glaciologist Argha Banerjee, working on Himalayan glaciers at IISER Pune, told *The Hindu*. "We do not have an indigenous low-cost EWS that is weather-proof, easy-to-install and operate (by local people), uses multiple input parameters (in-situ and remote), and transmits live data (many of these valleys are remote, out of the reach of mobile networks)."

A functional early warning system can clearly save lives, he said.

There are challenges to monitoring the 2,400 km range: drones have a scale problem and "are only good for localised studies, and hard to fly in glacierised, windy, rugged Himalayan conditions," Dr. Banerjee said.

But artificial intelligence (AI) models, he added, could surely help in transforming live data to credible warnings. There is scope for satellite use, although satellite links are very expensive and may not be scalable. "There is some scope for them, although data collection from satellites needs to be rapid.

Per Dr. Banerjee: "It is important to involve and train local people to maintain, operate the EWS, and also to react to the warning."

Hazard map

There have been promising precedents of Himalayan disasters averted: the recent glacier-collapse/debris flow at Blatten village in the Swiss Alps was prevented from exploding into a humanitarian crisis when a shepherd called the downstream village, saving hundreds of lives.

There have been promising precedents of disasters averted: the recent glacier collapse at Blatten village in the Swiss Alps was prevented from exploding into a crisis when a shepherd called the downstream village, saving hundreds of lives

Researchers from the Chinese Academy of Sciences published a paper in 2022 on how they created an EWS for glacial lake outburst floods (GLOFs) in Chirenmaco, a high-risk glacial lake in the central Himalayas using an unmanned boat.

EWS "prevents loss of life and reduces the economic and societal impacts of disasters," the authors of the paper, published in the *International Journal of Disaster Risk Reduction*, wrote. It consisted of monitoring lake-level change, end moraine displacement, ice collapse, and downstream runoff. The data can be transmitted via satellites and a mobile network to the data centre.

A hazard map was created of flood depth and velocity and translated into four intensity levels.

"In the future, more refined and accurate simulation results can be relied upon to establish this hazard map, which has implications for determining evacuation locations in downstream areas, constructing GLOF prevention and mitigation facilities, and implementing economic development measures," according to the paper.

Vinod Kumar Gaur, a Bengaluru-based seismologist and former director of the National Geophysical Research Institute, is closely involved in the implementation of three EWSs, the third one still at an elementary stage relating to cloudbursts. One of these was recently funded by the Environment Ministry to produce an operational system to provide advanced, sub-kilometre scale (a few hundred metres) hailstorm alerts to apple orchard managers in Uttarakhand and Himachal.

Not a priority

"The systems are based on a melding of local data and AI-aided predictions and a rigorously downscaled atmospheric model at the local scale with a capability to capture local land surface and hydrometeorological processes," said Dr. Gaur.

Indeed, there's no time to lose: a study published last year in the journal *Climate Change* predicted that 90% of the Himalayas will experience drought lasting over a year if global warming increases by 3°C. We get clues into this scenario from the fact that wildlife here is trapped in an "altitude squeeze," as a warming mountain range pushes musk deer and snow trout to higher ground, according to a recent UN report.

Himalayan catastrophes are not being given the priority they deserve: either by scientists, engineers, funding agencies, industry, or policy makers in central and local authorities, Dr. Banerjee said. "I think Himalayan people need it, and it is an urgent need. This should be a national priority."

THE GIST

There has been an increase in disasters. From 1963 to 1972, the region reported 11 disasters, followed by 13 in 1973-82. The last decade (2013-2022) saw the highest number of disasters at 68, accounting for 44% of all disasters reported in India

An EWS requires data and processing ability. Drones and satellites can provide the input, and AI models could help convert live data into credible warnings

Researchers say Himalayan catastrophes are not being given priority by stakeholders. Considering the impact of warming on mountain dynamics, EWS is an urgent requirement and should be a national priority

Background: Rising Himalayan Vulnerability

- As per a Down To Earth (2024) report, of the 687 disasters India faced between 1900 and 2022, 240 occurred in the Himalayas.
- The last decade (2013–2022) alone accounted for 68 major disasters, nearly 44% of India's total.
- NASA data (2007–2017) records over 1,121 landslides across the Himalayan belt.
- The Himalayas are warming at a rate of 0.15°C to 0.60°C per decade, significantly faster than the global average, according to Springer Nature (2023).

These statistics underline an alarming trend — the Himalayas are becoming a hotspot of compound climate risks, where natural hazards are intensifying due to both climate change and unplanned human interventions like road cutting, hydropower tunneling, and deforestation.

Why Early Warning Systems are Critical

Early Warning Systems (EWS) can help anticipate, monitor, and communicate imminent hazards, providing communities and authorities valuable lead time to act. They are essential for:

- Glacial Lake Outburst Floods (GLOFs)
- Cloudbursts and flash floods
- Landslides and avalanches
- Extreme temperature and snowfall events

However, the Himalayan region continues to lack a comprehensive, scalable, and community-driven early warning network.

Challenges in Setting Up EWS in the Himalayas

1. Complex Terrain and Harsh Weather

- The rugged topography, remote valleys, and high altitudes make the installation and maintenance of monitoring instruments extremely difficult.
- Harsh weather often damages sensors, cameras, and power systems.

2. Lack of Indigenous, Low-Cost Technology

- India currently lacks a locally designed, weather-proof, and low-maintenance EWS that can be operated by local communities.
- Imported technologies are expensive and ill-suited for the Himalayan terrain.

3. Poor Connectivity and Data Gaps

- Many valleys are beyond the reach of mobile or satellite networks, impeding live data transmission.
- Sparse ground-based observation stations limit real-time monitoring and forecasting accuracy.

4. Institutional and Financial Neglect

- Disaster preparedness in the Himalayas has not been a national policy priority.
- Coordination among scientists, engineers, policymakers, and local bodies remains weak.

- Funding for research and deployment is limited and fragmented.

5. Limited Community Involvement

- Local communities are rarely trained or integrated into the operation and maintenance of EWS systems.
- This reduces both the system's reliability and the people's trust in alerts.

Emerging Solutions and Innovations

Artificial Intelligence (AI) and Satellite Integration

- Scientists propose AI-driven models to convert live data into credible, real-time warnings.
- Satellites and drones can assist monitoring, though scalability and cost remain issues.

Learning from Global Examples

- In Switzerland, a shepherd's local warning averted a glacier-collapse disaster — showing the value of local participation.
- China's Cirenmaco Lake EWS (2022) uses unmanned boats to monitor lake levels, ice collapse, and runoff — data transmitted via satellites for real-time alerts.
- Similar hazard maps can be built in India to identify evacuation routes and safe shelters.

Indian Efforts

- In India, three pilot EWS projects are being developed, including one for hailstorm prediction in Himachal Pradesh and Uttarakhand.
- These use AI-aided, downscaled atmospheric models to capture local weather and hydrological processes.

Way Forward

To strengthen Himalayan resilience, India must:

1. Develop indigenous, modular, and low-cost EWS technologies that are easy to install and maintain.
2. Deploy one EWS per major Himalayan valley — covering all high-risk river basins and glacial zones.
3. Train and empower local communities as first responders and system operators.
4. Integrate AI, IoT, and satellite data into a centralized national Himalayan disaster warning network.
5. Ensure inter-state and transboundary cooperation (India–Nepal–Bhutan–China) for data sharing.
6. Increase funding and policy priority under NDMA and the National Mission for Sustaining the Himalayan Ecosystem (NMSHE).

Daily News Analysis

Conclusion

The frequency and intensity of Himalayan disasters reflect a pressing climate emergency. An effective early warning system is not just a scientific necessity but a moral and developmental imperative for the millions living in these fragile ecosystems. Without prioritizing predictive and preventive frameworks, India risks turning the "Third Pole" into a permanent disaster zone. Building resilient, community-linked, and technology-driven EWS networks across the Himalayas must now be treated as a national security and sustainability priority.

UPSC Mains Practice Question

Ques. Which of the following statements about the Early Warning Systems (EWS) in the Himalayas is/are correct?

1. They help in predicting disasters such as glacial lake outburst floods, landslides, and cloudbursts.

2. Most valleys in the Indian Himalayan Region are already equipped with fully functional EWS.

3. Artificial Intelligence can play a role in transforming live data into credible disaster warnings.

Select the correct answer using the code below:

(a) 1 only

(b) 1 and 3 only

(c) 2 and 3 only

(d) 1, 2 and 3

Ans : b)

UPSC Mains Practice Question

Ques. The Himalayas are facing an increasing number of climate-induced disasters, yet early warning systems remain underdeveloped. Discuss the reasons for this neglect and suggest measures to strengthen disaster preparedness in the Himalayan region. **(250 Words)**

NITIN SIR CLASSES

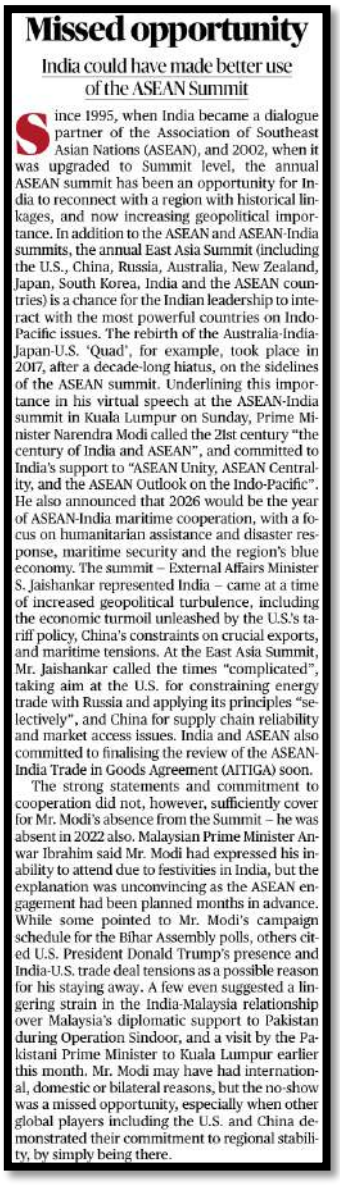
THE HINDU
INDIA'S NATIONAL NEWSPAPER SINCE 1878

Daily News Analysis

Page : 08 : GS 2 : International Relations / Prelims

Daily News Analysis

India's relationship with the Association of Southeast Asian Nations (ASEAN) forms the backbone of its Act East Policy and its larger Indo-Pacific engagement. Since becoming a Dialogue Partner in 1995 and attaining Summit-level partnership in 2002, the ASEAN platform has provided India with an avenue to deepen its political, economic, and strategic ties with a region of immense geopolitical value. However, Prime Minister Narendra Modi's absence from the recent ASEAN and East Asia Summits marked a missed opportunity for India to consolidate its influence in the region at a critical juncture of shifting power dynamics.



Missed opportunity

India could have made better use of the ASEAN Summit

Since 1995, when India became a dialogue partner of the Association of Southeast Asian Nations (ASEAN), and 2002, when it was upgraded to Summit level, the annual ASEAN summit has been an opportunity for India to reconnect with a region with historical linkages, and now increasing geopolitical importance. In addition to the ASEAN and ASEAN-India summits, the annual East Asia Summit (including the U.S., China, Russia, Australia, New Zealand, Japan, South Korea, India and the ASEAN countries) is a chance for the Indian leadership to interact with the most powerful countries on Indo-Pacific issues. The rebirth of the Australia-India-Japan-U.S. 'Quad', for example, took place in 2017, after a decade-long hiatus, on the sidelines of the ASEAN summit. Underlining this importance in his virtual speech at the ASEAN-India summit in Kuala Lumpur on Sunday, Prime Minister Narendra Modi called the 21st century "the century of India and ASEAN", and committed to India's support to "ASEAN Unity, ASEAN Centrality, and the ASEAN Outlook on the Indo-Pacific". He also announced that 2026 would be the year of ASEAN-India maritime cooperation, with a focus on humanitarian assistance and disaster response, maritime security and the region's blue economy. The summit – External Affairs Minister S. Jaishankar represented India – came at a time of increased geopolitical turbulence, including the economic turmoil unleashed by the U.S.'s tariff policy, China's constraints on crucial exports, and maritime tensions. At the East Asia Summit, Mr. Jaishankar called the times "complicated", taking aim at the U.S. for constraining energy trade with Russia and applying its principles "selectively", and China for supply chain reliability and market access issues. India and ASEAN also committed to finalising the review of the ASEAN-India Trade in Goods Agreement (AITIGA) soon.

The strong statements and commitment to cooperation did not, however, sufficiently cover for Mr. Modi's absence from the Summit – he was absent in 2022 also. Malaysian Prime Minister Anwar Ibrahim said Mr. Modi had expressed his inability to attend due to festivities in India, but the explanation was unconvincing as the ASEAN engagement had been planned months in advance. While some pointed to Mr. Modi's campaign schedule for the Bihar Assembly polls, others cited U.S. President Donald Trump's presence and India-U.S. trade deal tensions as a possible reason for his staying away. A few even suggested a lingering strain in the India-Malaysia relationship over Malaysia's diplomatic support to Pakistan during Operation Sindoor, and a visit by the Pakistani Prime Minister to Kuala Lumpur earlier this month. Mr. Modi may have had international, domestic or bilateral reasons, but the no-show was a missed opportunity, especially when other global players including the U.S. and China demonstrated their commitment to regional stability, by simply being there.

What is ASEAN?

- The Association of Southeast Asian Nations (ASEAN) is a regional grouping that aims to promote economic and security cooperation among its ten members: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.
- Establishment: It was established on 8 August 1967 in Bangkok, Thailand, with the signing of the ASEAN Declaration (Bangkok Declaration) by the founding fathers of ASEAN: Indonesia, Malaysia, Philippines, Singapore and Thailand.
- Aim: The motto of ASEAN is "One Vision, One Identity, One Community".
- Secretariat: ASEAN Secretariat is located in Jakarta, Indonesia.
- ASEAN countries have a total population of 662 million people and a combined gross domestic product (GDP) of $3.2 trillion as of 2022.... Read more at: https://vajiramandravi.com/upsc-exam/asean/

Main Analysis

1. Importance of the ASEAN Summit for India

- The ASEAN and East Asia Summits serve as major diplomatic platforms where India interacts with the world's most powerful nations — including the U.S., China, Japan, Russia, and Australia — on issues central to the Indo-Pacific.
- The rebirth of the Quad in 2017 on the sidelines of the ASEAN Summit underscores its strategic significance.
- India has repeatedly expressed support for "ASEAN Centrality" and the ASEAN Outlook on the Indo-Pacific (AOIP), both key to regional stability and multilateral cooperation.

2. India's Commitments at the 2025 Summit

- External Affairs Minister S. Jaishankar represented India, reaffirming support for:

- ASEAN unity and centrality.
- Maritime cooperation, blue economy, and humanitarian assistance.
- Finalising the ASEAN-India Trade in Goods Agreement (AITIGA) review to boost economic engagement.

- 2026 has been designated as the "Year of ASEAN-India Maritime Cooperation" — a step towards enhancing regional connectivity and disaster response.

3. The Missed Opportunity

- Despite strong statements, PM Modi's absence (for the second consecutive year) sent mixed diplomatic signals.
- Malaysia cited "festivities in India" as the reason, but the explanation appeared weak given the summit's prior scheduling.
- **Possible factors:**
  - Domestic political commitments (Bihar elections).
  - Bilateral strain with Malaysia over its past diplomatic stance.
  - Sensitivity around U.S.-India trade negotiations.
- In contrast, leaders of other major powers — including the U.S. and China — attended in person, projecting commitment to regional affairs.

4. Strategic Implications

- ASEAN remains divided over great-power rivalries — especially U.S.-China competition — making India's presence crucial to balance power and strengthen multilateralism.
- India's no-show risks diluting its Act East Policy and allows China to consolidate influence in Southeast Asia.
- It also undermines India's image as a consistent stakeholder in the Indo-Pacific narrative.

What Opportunities does ASEAN Provide for India?

- **ASEAN is significant for India in several ways:**
  - Potential market: ASEAN constitutes the 3rd largest market in the world. This can help India utilize its export potential.
  - Convergence with Indo-Pacific strategy: ASEAN is a crucial component of India's "Act East" policy and its "Indo-Pacific" strategy, reflecting the convergence of interests in the region.
  - Countering China's influence: Strengthening relations with ASEAN countries can serve as a counterbalance to China's influence in the region.
  - Connectivity with North East: Connectivity initiatives with ASEAN can boost economic development in India's northeastern states by positioning them as a hub for regional trade and commerce.
  - Important for rule-based order: ASEAN plays a central role in promoting a rules-based security architecture in the Indo-Pacific region, which is essential for the region's stability and prosperity.

What are the Areas of Cooperation Between India and ASEAN?

- India and the ASEAN have a wide range of areas of cooperation as ASEAN is one of the important pillars of India's Act East Policy.
- **Some of the areas of cooperation are:**
    - Annual summit: India currently has annual summits with ASEAN.
    - The formal engagement began with "Sectoral Dialogue Partner" in 1992 and subsequently as a "Dialogue Partner" in 1996. It was upgraded to the Summit level in 2002
    - Trade and Investment: India and ASEAN have signed an FTA that has boosted trade and investment between the two.
    - ASEAN is India's 4th largest trading partner. Total trade stood at $110.4 billion in 2021-22.
    - ASEAN-India Business Council (AIBC) was set up in 2005 with the aim of fostering closer business linkages.
    - Regional connectivity: India is working on enhancing connectivity with ASEAN countries through the India-Myanmar-Thailand (IMT) Trilateral Highway, the Kaladan Multimodal Transit Transport Project etc.
    - Defense and Security: India and ASEAN have strengthened defence cooperation by conducting joint military exercises such as the ASEAN-India Maritime Exercise and the ASEAN Defense Ministers' Meeting Plus (ADMM+).
    - Example: India places ASEAN at the centre of its Indo-Pacific vision of Security and Growth for All in the Region (SAGAR).
    - Socio-cultural cooperation: India and ASEAN have promoted cultural exchanges to enhance people-to-people ties.
    - Example: Inviting ASEAN students to India each year for the Students Exchange Programme, Special Training Course for ASEAN diplomats, Exchange of Parliamentarians, ASEAN-India Network of Think Tanks, ASEAN-India Eminent Persons Lecture Series, etc.
    - Education and research: India has established the ASEAN-India Centre at the Research and Information System for Developing Countries (RIS) to promote research and studies on ASEAN-India relations.
    - Delhi Dialogue, 2009: It is an annual Track 1.5 forum for discussing politico-security, economic and socio-cultural issues between ASEAN and India.
    - Funding: Financial assistance has been provided to ASEAN countries from the ASEAN-India Cooperation Fund, ASEAN-India S&T Development Fund and ASEAN-India Green Fund.

What are the Issues and Challenges in India-ASEAN Relations?

- While India and ASEAN have made significant progress in their bilateral relationship, there are still some issues and challenges that hinder their cooperation.
    - Trade Imbalances: India's trade deficit with ASEAN has increased over the years. This has led to concerns in India about the benefits of the ASEAN-India Free Trade Agreement.

- Imports to ASEAN amounts to $68 billion as compared to $42 billion exports in 2021-22
- Nature of engagement: India still engages with ASEAN countries more on a bilateral basis rather than through a multilateral approach.
- Competing regional agreements: Engagement with other regional agreements like the RCEP and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) diverts attention and resources away from the ASEAN-India relationship.
- Chinese presence: The existence of other regional powers like China limits the ability of ASEAN to harness India's potential for regional stability.
- Limited Connectivity: Despite efforts to enhance connectivity, physical and digital connectivity between India and ASEAN countries remains limited, which affects trade, investment, and people-to-people ties.

What Should be the Way Forward to Improve India-ASEAN Relations?

- Some of the steps that can be taken to improve India-ASEAN relations include:
  - Enlarging QUAD: The concept of QUAD can be expanded to include the ASEAN countries and become a QUAD+ arrangement.
  - Maritime Security in the Indo-Pacific: ASEAN countries have limited military ties with China due to maritime disputes. India can fill this gap and become a significant military partner in the region.
  - Strengthening cultural connect: Tourism can be further encouraged between India and the ASEAN with some creative branding by the two sides.
  - Strengthen connectivity: Strengthening land, air, and sea linkages will enhance people-to-people flows, as well as boost business, investment, and tourism.
  - Collaborating in International and Regional forums: India and ASEAN countries can work together to promote their common interests in international and regional forums such as the United Nations, East Asia Summit, and ASEAN Regional Forum.

Conclusion

While India continues to emphasize "ASEAN centrality" and "maritime cooperation," diplomatic presence and personal engagement at such summits are equally important. Prime Ministerial participation symbolizes commitment and leadership — both of which are essential for maintaining India's credibility in the Indo-Pacific.

- As the region faces increasing turbulence due to economic protectionism and maritime tensions, India must ensure that its Act East Policy translates from rhetoric into active, high-level engagement. In diplomacy, showing up is half the strategy — and this was an opportunity India could have used far more effectively.

Daily News Analysis

UPSC Prelims Practice Question

Ques : The East Asia Summit (EAS) includes which of the following members?

1. India

2. China

3. United States

4. Russia

Select the correct answer using the code given below:

A) 1 and 2 only

B) 1, 2 and 3 only

C) 1, 2, 3 and 4

D) 2, 3 and 4 only

Ans: c)

UPSC Mains Practice Question

Ques: Discuss the strategic importance of the ASEAN-India partnership in the context of changing power dynamics in the Indo-Pacific region. **(150 Words)**

Daily News Analysis

Page 14 : GS 2 : International Relations / Prelims

In a major economic development, China and the Association of Southeast Asian Nations (ASEAN) have signed an upgraded version of their Free Trade Agreement (FTA 3.0). The deal comes amid escalating trade tensions triggered by U.S. tariffs and growing global economic fragmentation. The agreement aims to strengthen trade, investment, and supply chain resilience between China and Southeast Asia — a region central to the Indo-Pacific economic landscape.

NITIN SIR CLASSES

THE HINDU
INDIA'S NATIONAL NEWSPAPER SINCE 1878

Daily News Analysis

China and ASEAN, hit by U.S. tariffs, sign upgraded free trade agreement

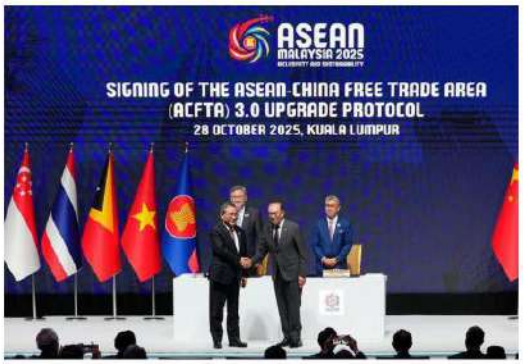
The deal would pave the way for improved market access in agriculture, digital economy and pharmaceuticals between the two sides; the 11-member bloc is Beijing's largest trading partner, with bilateral volume totalling $771 billion last year

Reuters
KUALA LUMPUR

China and the ASEAN bloc of Southeast Asian nations signed an upgrade to their free trade agreement on Tuesday, with leaders hailing the deal which spans the digital and green economy, and other new industries.

The 11-member Association of Southeast Asian Nations is China's largest trading partner, with bilateral trade totalling $771 billion last year, according to ASEAN statistics.

China is seeking to intensify its engagement with ASEAN, a region with a collective gross domestic product of $3.8 trillion, to counter hefty import tariffs imposed by U.S. President Donald Trump's administration on countries around the world. "We must accelerate trade and investment liberalisation and facilitation and strengthen industrial integration and interdependence," Chinese Premier Li Qiang said at the ASEAN leaders' meeting on Tuesday.



China's Premier Li Qiang, left, and Malaysia's Anwar Ibrahim at the signing of the ASEAN-China Free Trade Area 3.0 in Kuala Lumpur. AP

Beijing has been seeking to position itself as a more open economy, despite criticism of its expanding export restrictions on rare earths and other critical minerals.

The so-called 3.0 version of the free trade agreement between ASEAN and China was signed into effect at a summit of the bloc's leaders in Malaysia, which Mr. Trump attended on Sunday at the start of a trip through Asia. Negotiations on the upgraded ASEAN-China deal began in November 2022 and concluded in May this year, just after Mr. Trump's tariff offensive kicked into gear. The first FTA came into force in 2010.

"The upgrade will further reduce trade barriers, strengthen supply chain connectivity, and unlock opportunities in future growth areas," Singapore's Prime Minister Lawrence Wong said.

China has previously said the agreement would pave the way for improved market access in sectors such as agriculture, the digital economy and pharmaceuticals between China and ASEAN. Both China and ASEAN are part of the Regional Comprehensive Economic Partnership, the world's largest trading bloc, which covers nearly a third of the global population and about 30% of global gross domestic product. Malaysia hosted an RCEP summit in Kuala Lumpur on Monday, the first in five years. The bloc is seen by some analysts as a potential buffer against tariffs imposed by the United States, though its provisions are considered weaker than some other regional trade deals due to competing interests among its members.

Main Analysis

1. Background of China–ASEAN Economic Ties

- ASEAN became China's largest trading partner in 2020, overtaking the European Union.
- In 2024, bilateral trade reached $771 billion, highlighting deep economic interdependence.
- The first FTA (ASEAN–China Free Trade Area) came into effect in 2010, promoting tariff reduction and market integration.
- Negotiations for the upgraded FTA 3.0 began in November 2022 and concluded in May 2025, coinciding with the U.S.'s tariff escalation under President Trump's administration.

2. Key Features of FTA 3.0

- Broader Scope: Extends beyond goods trade to include the digital economy, green economy, pharmaceuticals, and agriculture.
- Supply Chain Connectivity: Seeks to enhance regional integration and reduce dependence on Western markets.
- Tariff Reduction: Aims to further liberalise trade and investment flows across the region.
- Future-oriented Cooperation: Emphasises emerging sectors like digital trade, green technology, and sustainable industries.

3. Strategic Context

- **Response to U.S. Tariffs:** The upgraded FTA is partly a strategic counter to U.S. protectionism, as Washington's tariff policies have disrupted global trade flows. China is leveraging ASEAN as a trade diversification hub to mitigate U.S.-China economic tensions.
- **Economic Diplomacy:** Through FTA 3.0, Beijing projects itself as a champion of free trade and open markets, despite criticism of its own export restrictions on rare earths and critical minerals.
- **Regional Comprehensive Economic Partnership (RCEP):** Both China and ASEAN are members of RCEP, the world's largest trading bloc, which covers 30% of global GDP and one-third of global population. The upgraded FTA complements RCEP by deepening bilateral liberalisation within the China–ASEAN corridor.

4. Implications for ASEAN

- Economic Diversification: Helps ASEAN economies hedge against Western market volatility.
- Enhanced Investment: Boosts opportunities in green industries and digital infrastructure.
- Dependency Risks: However, it may increase ASEAN's economic reliance on China, raising concerns about asymmetrical power dynamics.

5. Implications for India

- India's exit from RCEP in 2019 has already limited its regional trade footprint.
- The China–ASEAN FTA upgrade further sidelines India in shaping Indo-Pacific trade norms.
- It underlines the urgency for India to strengthen its own bilateral and multilateral trade partnerships — particularly with ASEAN under the Act East Policy and with the U.S., EU, and Japan under the Indo-Pacific Economic Framework (IPEF).

Conclusion

The ASEAN–China FTA 3.0 marks a significant step towards regional economic consolidation amid rising protectionism. While it promises greater connectivity, market access, and green cooperation, it also reinforces China's centrality in Southeast Asia's economic landscape. For ASEAN, the challenge lies in balancing engagement

with China while preserving strategic autonomy. For India, the development is a reminder to re-energize its trade diplomacy and avoid strategic isolation in an increasingly Asia-centered global economy.

UPSC Prelims Practice Question

Ques : W Which of the following countries are NOT members of ASEAN?

1. Myanmar

2. Laos

3. Sri Lanka

4. Cambodia

Select the correct answer using the code given below:

A. 1 and 2 only

B. 3 only

C. 4 only

D. 2 and 3 only

Ans: b)

UPSC Mains Practice Question

Ques: The upgraded ASEAN–China Free Trade Agreement (FTA 3.0) represents a shift in the Indo-Pacific's economic architecture. Analyse its strategic implications for India's Act East Policy. **(150 Words)**

NITIN SIR CLASSES

THE HINDU
INDIA'S NATIONAL NEWSPAPER SINCE 1878

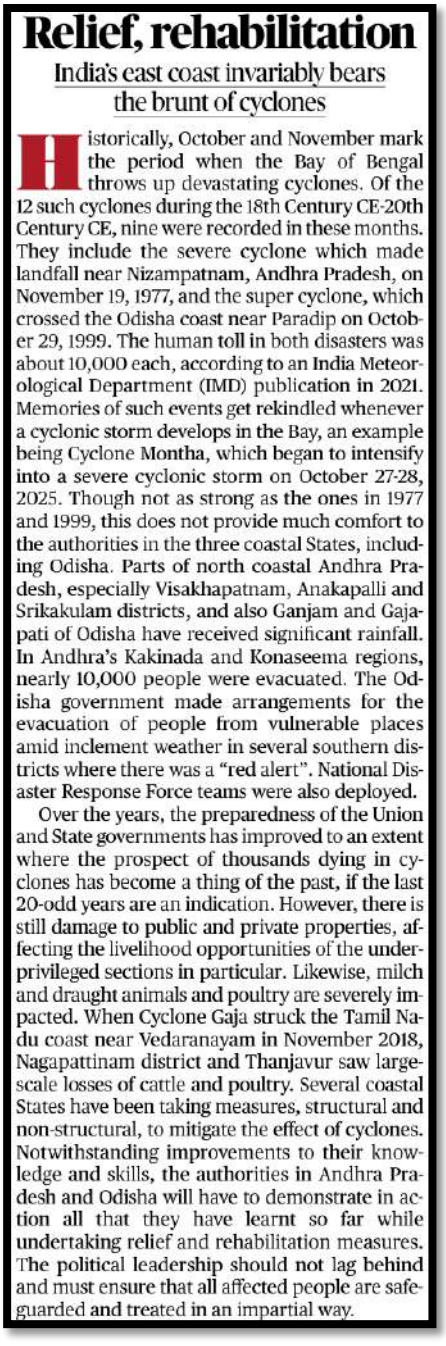
Daily News Analysis

Page : 08 Editorial Analysis

Daily News Analysis

GS. Paper 3– Disaster Management

UPSC Mains Practice Question: Discuss how India's east coast has become highly vulnerable to tropical cyclones. Evaluate the progress made in disaster preparedness and the remaining challenges in relief and rehabilitation efforts. **(150 Words)**



Relief, rehabilitation

India's east coast invariably bears the brunt of cyclones

Historically, October and November mark the period when the Bay of Bengal throws up devastating cyclones. Of the 12 such cyclones during the 18th Century CE-20th Century CE, nine were recorded in these months. They include the severe cyclone which made landfall near Nizampatnam, Andhra Pradesh, on November 19, 1977, and the super cyclone, which crossed the Odisha coast near Paradip on October 29, 1999. The human toll in both disasters was about 10,000 each, according to an India Meteorological Department (IMD) publication in 2021. Memories of such events get rekindled whenever a cyclonic storm develops in the Bay, an example being Cyclone Montha, which began to intensify into a severe cyclonic storm on October 27-28, 2025. Though not as strong as the ones in 1977 and 1999, this does not provide much comfort to the authorities in the three coastal States, including Odisha. Parts of north coastal Andhra Pradesh, especially Visakhapatnam, Anakapalli and Srikakulam districts, and also Ganjam and Gajapati of Odisha have received significant rainfall. In Andhra's Kakinada and Konaseema regions, nearly 10,000 people were evacuated. The Odisha government made arrangements for the evacuation of people from vulnerable places amid inclement weather in several southern districts where there was a "red alert". National Disaster Response Force teams were also deployed.

Over the years, the preparedness of the Union and State governments has improved to an extent where the prospect of thousands dying in cyclones has become a thing of the past, if the last 20-odd years are an indication. However, there is still damage to public and private properties, affecting the livelihood opportunities of the underprivileged sections in particular. Likewise, milch and draught animals and poultry are severely impacted. When Cyclone Gaja struck the Tamil Nadu coast near Vedaranayam in November 2018, Nagapattinam district and Thanjavur saw large-scale losses of cattle and poultry. Several coastal States have been taking measures, structural and non-structural, to mitigate the effect of cyclones. Notwithstanding improvements to their knowledge and skills, the authorities in Andhra Pradesh and Odisha will have to demonstrate in action all that they have learnt so far while undertaking relief and rehabilitation measures. The political leadership should not lag behind and must ensure that all affected people are safeguarded and treated in an impartial way.

Context :

Every year, India's east coast faces the wrath of tropical cyclones originating in the Bay of Bengal, especially during October and November, when climatic and oceanic conditions are highly favourable for storm formation. Historically, the east coast — particularly the States of Odisha, Andhra Pradesh, and Tamil Nadu — has borne the brunt of some of the most devastating cyclones in India's recorded history.

The emergence of Cyclone Montha (October 2025) once again highlights the region's chronic vulnerability and brings into focus India's evolving disaster preparedness and the continuing need for effective relief and rehabilitation mechanisms.

Key Analysis

1. Historical Context and Vulnerability Pattern

- According to IMD data, nine out of twelve major cyclones (18th–20th century) occurred in October–November.
- Notable examples:
  - 1977 Andhra Pradesh cyclone (Nizampatnam) – ~10,000 deaths
  - 1999 Odisha Super Cyclone (Paradip) – ~10,000 deaths
- These disasters left deep scars, shaping India's cyclone preparedness policy framework in the decades that followed.

The Bay of Bengal remains a hotspot for cyclogenesis due to:

- High sea surface temperatures (>28°C)

- Low vertical wind shear
- Availability of moisture and favorable monsoon withdrawal conditions

2. Cyclone Montha (2025): Context and Impact

- Cyclone Montha formed over the southeast Bay of Bengal in late October 2025 and intensified into a Severe Cyclonic Storm by October 27–28.
- Regions affected:
  - Andhra Pradesh: Kakinada, Konaseema, Visakhapatnam, Anakapalli, and Srikakulam
  - Odisha: Ganjam and Gajapati districts
- Evacuations: Nearly 10,000 people shifted to safer locations.
- Response: Both State governments declared red alerts, and NDRF teams were deployed for rescue and relief.

3. Evolution of Disaster Preparedness

India's cyclone management capacity has significantly improved over the past two decades, transitioning from reactive to proactive measures.

Key milestones include:

- Odisha's model of cyclone preparedness (post-1999):
  - Early Warning Dissemination System (EWDS)
  - Construction of multi-purpose cyclone shelters and embankments
  - Creation of Odisha Disaster Rapid Action Force (ODRAF)
- **National initiatives:**
  - National Cyclone Risk Mitigation Project (NCRMP) by NDMA and World Bank
  - Improved IMD forecasting systems with satellite and Doppler radar networks
  - Use of digital platforms and mobile alerts for community awareness

Due to these efforts, casualty numbers have drastically reduced, but property and livelihood losses remain substantial.

4. Continuing Challenges

Despite progress, several persistent gaps hinder full resilience:

- Livelihood disruption: Small farmers, fishermen, and informal workers suffer long-term income loss.
- Livestock and poultry losses: Example — Cyclone Gaja (2018) devastated the cattle and poultry sectors in Tamil Nadu's Nagapattinam and Thanjavur districts.

- Infrastructure fragility: Coastal embankments, rural housing, and road networks remain vulnerable.
- Rehabilitation inequities: Relief distribution often suffers from delays, political bias, and lack of transparency.
- Environmental degradation: Mangrove depletion and unregulated coastal development weaken natural buffers.

5. The Road Ahead: Strengthening Relief and Rehabilitation

To enhance resilience along the east coast, a multi-pronged strategy is needed:

1. **Structural Measures**
   - Strengthen cyclone shelters, saline embankments, and resilient housing.
   - Invest in climate-proof infrastructure and decentralized energy systems for post-disaster recovery.
2. **Non-Structural Measures**
   - Expand early warning coverage and last-mile connectivity in local languages.
   - Promote community-based disaster management (CBDM) and inclusion of women's self-help groups in relief work.
   - Introduce insurance mechanisms for fishermen and small farmers.
3. **Institutional Coordination**
   - Improve coordination between IMD, NDMA, NDRF, and State Disaster Management Authorities (SDMAs).
   - Encourage cross-State cooperation among coastal States for faster mobilization of resources.
4. **Political & Administrative Accountability**
   - Ensure equitable distribution of relief, without political favoritism.
   - Periodic audit of relief funds and rehabilitation outcomes to maintain transparency.

Conclusion

Cyclone Montha is a reminder that while India's disaster preparedness has evolved remarkably — saving thousands of lives — the challenges of rehabilitation, livelihood restoration, and equitable relief remain unresolved. As climate change intensifies the frequency and unpredictability of cyclones, resilience must go beyond evacuation — it must mean rebuilding lives, livelihoods, and ecosystems sustainably. A holistic, people-centered approach to relief and rehabilitation is the next frontier in India's coastal disaster management strategy.