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UPSC Mains 2025 GS III

Year-wise PYQ pack · WRAP model answers with canonical links

Official UPSC stems in exam order. Each live answer sits on one WRAP URL; this PDF is the year pack, not a second copy of the article. Open the link under a question for the full page.

<https://wrapexams.com/upsc/mains/gs-3/2025/>

Q1 · 10 marks

Distinguish between the Human Development Index (HDI) and the Inequality-adjusted Human Development Index (IHDI) with special reference to India. Why is the IHDI considered a better indicator of inclusive growth?

GS III · 2025 · Inclusive Growth

Revision summary

HDI combines life expectancy, education and GNI per capita into one average.

India's recent HDI is in the medium band, around 0.64, with a rank still in the 130s.

IHDI reduces that score for inequality; India has often lost about thirty per cent of HDI to uneven shares.

Inclusive growth needs the extra income and services to reach the bottom, which HDI alone can hide.

IHDI is therefore the better national test, alongside the multidimensional poverty index.

Introduction

Average glory can hide a cruel inside. The **Human Development Index** is an average of health, schooling and income. The **Inequality-adjusted Human Development Index** asks how much of that average is lost because people do not share those goods evenly. For India, that second number is the more honest face of **inclusive growth**.

Body

HDI

UNDP's HDI combines **life expectancy**, **education** (mean and expected years of schooling) and **GNI per capita**. India's HDI has climbed over three decades with longer lives, more children in school, and higher average income. In recent Human Development Reports India sits in the **medium human development** band, with an HDI a little above **0.64** and a rank still in the **130s** among 190-odd countries. That is progress from the 1990s. It is not a rich-country score. It is also an **average**. A software-export city and a hungry block can share one national HDI.

IHDI

The IHDI **discounts** each dimension for inequality. If two countries have the same HDI, the one with a more equal spread of years of life, years of school and income will have a **higher IHDI**. The gap between HDI and IHDI is the **loss due to inequality**. For India that loss has often been around **thirty per cent** - among the larger losses in the medium-HDI group. Women, Adivasi districts, and the poorest wealth quintile pull the IHDI down while the national average still rises.

Why IHDI is better for inclusive growth

Inclusive growth means the extra GDP is **felt in more lives**, not only in a per-capita mean. HDI already beats raw GDP because it counts health and school. IHDI beats HDI because it **punishes concentration**. India's **Multidimensional Poverty Index** (NITI Aayog / UNDP method) has fallen, which is good news. The Gini of consumption is moderate by world standards, but **wealth and learning outcomes** remain skewed. If HDI rises while IHDI stalls, growth is **not inclusive**. Policy then has to aim at **public health in poor districts, school quality, and income at the bottom**, not only at a headline GDP rate of six to seven per cent.

The better indicator is the one that cannot be flattered by a rich tail.

Flow diagram

HDI average -> Life school income
IHDI -> HDI average
IHDI -> Penalty for inequality
Penalty for inequality -> Inclusive growth test

Conclusion

HDI averages health, school and income. IHDI lowers that average when those goods are unequal. India's inequality loss is large, so IHDI is the stricter, and better, test of inclusive growth.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2025/distinguish-between-the-human-development-index-hdi-and-the-inequality-adjusted-human-development-index-ihdi-with-special-reference-to-india/>

Q2 · 10 marks

What are the challenges before the Indian economy when the world is moving away from free trade and multilateralism to protectionism and bilateralism? How can these challenges be met?

GS III · 2025 · Indian Economy

Revision summary

The world is shifting from a single WTO bargain toward tariffs, subsidies, friend-shoring and carbon border taxes.

India's risks are weaker Western demand, costly Chinese intermediates, technology denial and rupee shocks.

Goods exports in textiles, engineering and chemicals are exposed.

Responses include wider FTAs, PLI with quality, destination diversification, forex buffers and a defence of WTO rules.

A large domestic market is India's shock absorber, not a reason to close the border entirely.

Introduction

The 1990s taught India to live with **open trade and one WTO rule book**. The 2020s are teaching a harsher lesson. Large countries now use **tariffs, industrial subsidies and security screens**. Multilateralism is not dead, but it is **no longer the default**. India has to grow in that weather.

Body

The world that is arriving

The WTO's **appellate body** has been paralysed for years. The United States has returned to **broad tariffs** and to **export controls** on chips and tools. The European Union's **Carbon Border Adjustment Mechanism** will tax carbon-heavy imports such as steel. Firms **friend-shore** to political partners. **Bilateral and minilateral** deals (IPEF, scattered FTAs) replace a single Doha round. War and Red Sea disruption add **freight risk**. This is protectionism with a security accent, not the 1930s in every detail, but it is not 2005 either.

Challenges for India

India's goods exports still need **US and EU demand**. A tariff wall there hits **textiles, gems, engineering and chemicals**. India also **imports** Chinese intermediates, so a broken China chain raises costs even when Delhi wants to sell a finished phone. **Technology denial** can slow semiconductors and machine tools. **Oil** remains a bill; a fragmented energy market is volatile. A strong dollar bout can **pressure the rupee** and imported inflation. At home, **logistics and quality** still lose some orders to Vietnam or Mexico, who are the other "plus one" factories.

How to meet them

Diversify export destinations toward the Gulf, Africa, ASEAN and Latin America, not only the West. **Finish FTAs** that actually open markets (and read the fine print on agriculture and data). Use **PLI and quality control orders** to deepen domestic value, while not trapping firms in a high-cost island. Stay in the **WTO** and fight for a working dispute system, because a

world of only power tariffs will hurt India more than a rule-bound one. Keep **forex reserves** - already in the **six-hundred-billion-dollar** zone in recent years - as a shock pad. Use **domestic demand**, which is India's real scale, so that a foreign tariff is not a full recession.

The challenge is to be **open enough to learn and sell**, and **armed enough** not to be a dumping ground.

Flow diagram

WTO strain -> Tariffs CBAM controls

Tariffs CBAM controls -> Indian export shock

FTAs PLI diversification -> Indian export shock

Domestic demand forex -> Indian export shock

Conclusion

Protectionism and bilateral deals raise tariffs, carbon taxes and tech walls against Indian exports. India can answer with wider markets, deeper manufacturing, a still-alive WTO voice, and a large home demand, not with a fantasy of full autarky.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2025/what-are-the-challenges-before-the-indian-economy-when-the-world-is-moving-away-from-free-trade-and-multilateralism-to-protectionism-and-bil/>

Q3 · 10 marks

Explain the factors influencing the decision of the farmers on the selection of high value crops in India.

GS III · 2025 · Crops, Irrigation and Marketing

Revision summary

High-value crops are horticulture, spices, flowers and similar bets that can earn more than grain.

Farmers weigh expected price and a real buyer against water, labour, credit and the chance of a price crash.

MSP rice and wheat remain the safer default where they exist.

Horticulture tonnage in India has already overtaken foodgrain, which shows the shift is underway.

Policy must cut risk with storage, processing and insurance, not only cheer diversification.

Introduction

A farmer who plants a high-value crop - a grape, a chilli, a floriculture bed, a kinnow - is not being fashionable. She is making a **bet**. The bet is that the extra rupee will beat the extra **risk, water and labour**. India's horticulture output has already overtaken foodgrain in **tonnage** in recent years. That shift is a pile of household decisions.

Body

Price and market

Expected price is the first lever. When tomato or onion spikes, more farmers sow them the next season, which is why the crash follows. **Export** windows (mango, grape, pomegranate, spices) and **urban supermarkets** pull some districts into perennial horticulture. **MSP** still anchors rice and wheat in Punjab-Haryana; where MSP does not exist, the high-value crop must have a **buyer on the phone** - a processor, an FPO, or a trader. Without that, "high value" is a magazine phrase.

Water, soil and climate

Grapes in Nashik, bananas in Andhra, and spices in Kerala follow **rainfall, groundwater and slope**. Drip irrigation made some arid-land horticulture possible; it also **mined aquifers**. A farmer who lacks a well cannot copy a neighbour's orchard. **Climate risk** - untimely rain on a grape, a heat wave on a chilli - is higher than on a hardy millet.

Labour, credit, knowledge, risk

High-value crops are **labour heavy** (picking, grading). Family labour, or a migrant gang, decides the choice. **Credit** for a drip line or a polyhouse is a bank or a scheme (MIDH, PMKSY). **Knowledge** - pest, residue, export quality - comes from a private company, an FPO, or luck. **Risk** is why many smallholders still keep a **cereal strip** as insurance.

- **The decision is therefore a bundle: price minus water minus labour minus crash risk**, compared with a known paddy cycle. Policy that wants diversification must buy down that risk (insurance, storage, processing), not only print a horticulture target.

Flow diagram

Farmer decision -> Price and buyer

Farmer decision -> Water climate

Farmer decision -> Labour credit knowledge

Farmer decision -> Crash risk vs MSP grain

Price and buyer -> High value crop

Conclusion

Farmers pick high-value crops when price, a buyer, water and labour line up, and when they can survive a crash. Where MSP and canal paddy are safer, they stay with grain. The calculator is rational.

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Q4 · 10 marks

Elaborate the scope and significance of supply chain management of agricultural commodities in India.

GS III · 2025 · Indian Economy

Revision summary

Supply-chain management covers grading, storage, transport, processing, retail and information from farm to fork.

India still loses a large share of fruit and vegetable value to weak cold chains.

A working chain raises farm-gate share, cuts waste, and can ease food inflation.

It is also the backbone of agri-exports and of jobs in packing and mills.

Without it a bumper crop becomes a price crash.

Introduction

A crop is not income until it **reaches a mouth or a mill** at a price that leaves something for the grower. **Supply chain management** of farm goods is the craft of that journey: harvest, grade, store, move, process, sell - with information running the other way. In India the chain is still leaky. That leak is both a farmer's wound and a consumer's inflation.

Body

Scope

The chain starts with **seed and advice**, but the question's usual core is **post-harvest**. **Storage** (warehouse, cold store, silo) decides whether a tomato is a vegetable or waste. **Transport** - village road, rail, reefer truck - decides whether a grape still looks like a grape in Mumbai. **Processing** turns cane to sugar and milk to powder. **Retail and e-commerce** set the last price. **Standards and traceability** decide export. **Information** (e-NAM, boards, WhatsApp prices) is the nervous system. FPOs and aggregators sit in the middle so a smallholder is not alone against a mandi cartel.

India's cold-chain capacity has grown but remains **short and uneven**. Food-loss studies still put **high waste** on fruits and vegetables. Cereals now have more silo and FCI cover, yet quality and local leakages remain.

Significance

For the **farmer**, a managed chain can cut the **gap between farm-gate and retail**. For the **consumer**, it can blunt seasonal **food inflation** that still dominates the poor's CPI basket. For the **country**, it supports **exports** (marine, spices, rice, buffalo meat, grapes) and **jobs** in packing and processing. For **nutrition**, a cold chain can carry milk and vegetables, not only wheat.

Without management, a bumper harvest is a **price crash**, which is the cruel Indian joke. Operation Greens, mega food parks, and PMKSY logistics are attempts to write a less cruel joke. Significance is therefore not a corporate buzzword. It is **whether a surplus feeds people or rot**.

Flow diagram

Farm -> Store grade
Store grade -> Transport
Transport -> Process
Process -> Retail export
Information e-NAM -> Farm
Information e-NAM -> Retail export

Conclusion

- **Agricultural supply-chain management is the path from field to plate:** store, move, process, inform. Its scope is the whole post-harvest system. Its significance is farmer income, less waste, steadier food prices and export quality.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2025/elaborate-the-scope-and-significance-of-supply-chain-management-of-agricultural-commodities-in-india/>

Q5 · 10 marks

The fusion energy programme in India has steadily evolved over the past few decades. Mention India's contributions to the international fusion energy project - International Thermonuclear Experimental Reactor (ITER). What will be the implications of the success of this project for the future of global energy?

GS III · 2025 · Infrastructure

Revision summary

Fusion joins light nuclei and could, in theory, give large low-carbon power without a fission-style chain reaction.

ITER in France is the global experiment; India is a member supplying about a tenth of in-kind components such as the cryostat and cooling systems.

Indian tokamaks and the Institute for Plasma Research built the domestic base.

ITER success would prove the physics, not deliver cheap power in 2030.

The climate implication is a possible later baseload, beside renewables that are needed now.

Introduction

Fusion is the sun's physics: light nuclei join and release energy. A power station that did that without a chain-reaction bomb would change the century. It does not exist yet. ITER, in France, is the world's largest experiment to prove a burning plasma at power-plant scale. India is not a spectator. It is a **full member** that ships hardware and people.

Body

India's path and ITER contribution

- **India's fusion work sits at the Institute for Plasma Research and related labs:** tokamaks such as **Aditya** and **SST-1**, materials, and cryogenics. Joining **ITER** (with the EU, US, Russia, China, Japan, Korea) committed India to about **nine per cent** of the in-kind load. Indian industry and labs have supplied **cryostats, cooling water, vessel in-wall shields, diagnostics and power supplies** - heavy, precise steel and science, not a flag in a photo. Young engineers learn a project whose delays are famous and whose skill is rare.
- **That is the contribution: components, contracts, and a generation that has seen a global machine.**

If ITER succeeds

Success would mean a **sustained, controlled burning plasma** with a gain (Q) that shows the physics works. It would **not** mean a cheap bill in 2030. A commercial plant would still need materials that survive neutron rain, a tritium cycle, and a cost that beats fission and renewables-plus-storage. The implication for **global energy** is a possible **firm, low-carbon baseload** that is not a fossil flame and not a fission waste stream of the same kind. For climate, that is a **late-century option**, complementary to solar and wind that must be built **now**.

For India, success would mean a seat in the **first commercial designs**, energy security in a world still hungry for always-on power, and a scientific prestige that is not only software. Failure or endless delay would still leave the **industrial learning**. Fusion is a long bet. ITER is how India stays on the board.

Flow diagram

Indian tokamaks Indian tokamaks IPR -> ITER
ITER -> Cryostat shield cooling
ITER -> Burning plasma proof
Burning plasma proof -> Future baseload option

Conclusion

India contributes hardware, cryogenics and people to ITER as a full partner. If ITER proves a burning plasma, the world gains a path to firm low-carbon power decades out. It is not a substitute for the solar and storage India must install this decade.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2025/the-fusion-energy-programme-in-india-has-steadily-evolved-over-the-past-few-decades-mention-indias-contributions-to-the-international-fusion/>

Q6 · 10 marks

How can India achieve energy independence through clean technology by 2047? How can biotechnology play a crucial role in this endeavour?

GS III · 2025 · Infrastructure

Revision summary

India still imports most of its crude, so 2047 independence means much lower import intensity, not a sealed border.

Clean electricity from solar, wind, storage and nuclear, plus green hydrogen and efficiency, are the main path.

Electric mobility cuts oil only if the grid is cleaner.

Biotechnology helps through biogas, second-generation ethanol from residue, industrial enzymes and less energy-intensive farming.

Fuel-from-food is a poor version of that biotech role.

Introduction

India still **imports most of its crude oil** and a large share of gas. That is a strategic bill as well as a trade bill. **Energy independence by 2047**, the hundredth year of independence, cannot mean that no tanker docks. It can mean that **electricity, cooking and a growing slice of mobility** no longer live or die by a Gulf strait. Clean technology is the tool. **Biotechnology** is one under-sold branch of that tool.

Body

The 2047 path

Independence here is **lower import intensity** plus **secure electrons**. **Solar and wind**, already the cheapest new bulk power in many auctions, must scale with **storage** (batteries, pumped hydro). **Nuclear** gives firm power; small modular talk is still talk until steel is poured. **Green hydrogen** can enter fertiliser and refining, where India now uses grey hydrogen from gas. **Efficiency** - buildings, motors, a modal shift to rail - is the cleanest "source". **EVs** cut oil if the grid is cleaner. Coal will linger in the 2030s; independence is a **direction of travel**, not a 2047 fairy tale of zero coal overnight.

Biotechnology's role

Biotech is not a solar panel. It is **life as a factory**. **Compressed biogas** from cattle dung and crop waste (SATAT) replaces LPG and CNG molecules. **Second-generation ethanol** from agri-residue, if it actually works at scale, cuts petrol without eating food the way first-generation cane ethanol can. **Enzymes** make industrial processes run at lower heat. **Algal or microbial** routes to fuels and to **carbon use** are still mostly labs, but they belong in a 2047 story. **GM and gene-edited** crops that need less water or fertiliser cut the **energy hidden in agriculture** (fertiliser is gas-heavy). Biosafety and land-use ethics remain.

A biotech path that only burns food grain is a bad independence. A path that turns **waste methane** into a fuel and **cuts fertiliser energy** is a real one.

2047 will still see some oil. The test is whether India **owns the electrons and the bio-molecules** that can grow.

Flow diagram

Oil gas import -> 2047 lower intensity
Solar wind storage -> 2047 lower intensity
Nuclear hydrogen -> 2047 lower intensity
Biogas 2G ethanol enzymes -> 2047 lower intensity

Conclusion

Energy independence by 2047 means a grid and a fuel mix that lean far less on imported oil and gas. Solar, wind, storage, nuclear and hydrogen do the heavy lifting. Biotechnology adds biogas, residue ethanol and lower-energy farming, if it uses waste more than food.

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Q7 · 10 marks

What is Carbon Capture, Utilization and Storage (CCUS)? What is the potential role of CCUS in tackling climate change?

GS III · 2025 · Environment and Conservation

Revision summary

CCUS is capture of carbon dioxide, then use in products or storage in deep rock.

It is most justified in cement, some steel and fertiliser, where electrons cannot easily replace the process.

The IPCC counts it in net-zero pathways, including possible negative emissions with bioenergy.

Costs, energy penalty and unproven large Indian stores are the brakes.

Using CCUS to justify endless new coal is a climate risk, not a climate policy.

Introduction

- **Some carbon dioxide is easy to avoid: a solar panel instead of a new coal plant for daytime power. Some is not: cement, some steel, fertiliser. Carbon capture, utilisation and storage** is the family of technologies that **grabs CO₂** from a flue or the air, **uses** it or **buries** it. It is a climate tool. It is also an excuse if it is used to keep dirty plants alive forever.

Body

What CCUS is

Capture means chemical or physical separation of CO₂ from a chimney or from ambient air (direct air capture, still costly). **Utilisation** means turning it into urea, chemicals, or pushing it into old oil wells to squeeze more oil (which can cancel the climate gain). **Storage** means a deep saline aquifer or a depleted field, monitored so the gas stays down. A full chain is what the letters promise.

Role in climate

The IPCC treats CCUS as **needed for net zero** in **hard-to-abate** sectors and for possible **negative emissions** if paired with bioenergy. It is **not** the cheapest way to clean a power sector that can use sun, wind and storage. For India, a honest role is **cement and some industrial clusters**, plus **research**. A dishonest role is a new coal fleet "with capture someday".

- **Limits: energy penalty** (capture eats power), **cost**, **few proven Indian storage sites** at scale, and **public trust**. Utilisation in urea can be real; utilisation as a PR gas is not storage.

CCUS can **shave residual emissions**. It cannot replace a renewable build-out. That is its potential and its ceiling.

Flow diagram

Flue or air -> Capture
Capture -> Use: urea chemicals
Capture -> Store in rock
Store in rock -> Net residual cut

Conclusion

CCUS captures carbon, uses it or stores it underground. It matters for cement and other stubborn emissions. It is a poor substitute for clean power, and a dangerous delay if it is only a slogan on a coal plant.

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WRAP Exams

Q8 · 10 marks

Seawater intrusion in the coastal aquifers is a major concern in India. What are the causes of seawater intrusion and the remedial measures to combat this hazard?

GS III · 2025 · Environment and Conservation

Revision summary

A coastal aquifer holds a freshwater lens in balance with seawater.

Pumping, sea-level rise, storms and lost recharge let the salt water move inland.

Gujarat, Tamil Nadu and other coasts already report saline wells.

Remedies start with less pumping and more recharge, then barriers and, where needed, desalination.

Mangroves and open recharge land are part of the same defence.

Introduction

A coastal well should taste of **fresh groundwater** that has slowly filled from rain. When it tastes of the **sea**, the freshwater lens has been **invaded**. That is **seawater intrusion**. In India it is already a fact on stretches of **Gujarat, Tamil Nadu, Andhra, Odisha and the islands**, not a textbook drawing.

Body

Causes

Fresh water in a coastal aquifer floats in a balance with denser seawater (the **Ghyben-Herzberg** idea). **Heavy pumping** for cities, industry and monsoon-failure irrigation **lowers the freshwater head**, and the salt water creeps inland. **Sea-level rise** and **storm surge** push the same interface. **Reduced recharge** - paved cities, dying tanks - weakens the freshwater side. **Aquaculture ponds**, poorly lined canals, and **tsunami or cyclone** floods can salt a shallow lens in a week. Sand mining and lost **mangroves** remove buffers.

Remedies

- **The first remedy is** less greed at the pump: licensing, electricity reform so that free power does not mean a dry, salty well, and **shifting water-hungry crops**. The second is **recharge**: check dams, spreading basins, and **injection wells** of treated water where geology allows. The third is **engineering**: subsurface **barriers**, and in extreme cases **desalination** for drinking (costly, energy-heavy). The fourth is **land**: protect recharge areas, restore mangroves, stop building on every dune. **Monitoring** - a salinity map that a panchayat can see - is the unglamorous core.

Without cutting extraction, a barrier is a delay. With only lectures, the next summer still tastes of the tide.

Flow diagram

Over-pumping -> Intrusion

Sea-level rise storms -> Intrusion

Lost recharge -> Intrusion

Regulate pump -> Fresh lens

Recharge barriers -> Fresh lens

Conclusion

Seawater intrusion is salt water replacing fresh coastal groundwater, mainly because of over-pumping, weaker recharge and a rising sea. Remedies are regulated pumping, recharge, careful barriers and honest land use, not a single wall.

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Q9 · 10 marks

Terrorism is a global scourge. How has it manifested in India? Elaborate with contemporary examples. What are the counter measures adopted by the State? Explain.

GS III · 2025 · Border Security and Organised Crime

Revision summary

Terrorism is political violence meant to frighten civilians and coerce a state.

India has faced it in Kashmir, in city bombings such as 26/11, in small hinterland modules, and online.

Some Northeast and Khalistani violence uses the same methods.

Counters include UAPA and the NIA, intelligence fusion, NSG, border and coastal security, and terror-finance rules.

Politics and deradicalisation lag force; rights costs of broad laws remain a live issue.

Introduction

Terrorism is the **deliberate use of fear** against civilians to bend a politics. It is a **global scourge** because the same methods - bomb, gun, propaganda - travel, even when the cause is local. India has met it as **cross-border jihad**, as **insurgent bombs**, and as **lone modules** on a phone. The State's reply has been force, law, and, unevenly, politics.

Body

How it has shown itself in India

Jammu and Kashmir has been the longest wound: militant groups, some with **Pakistan-based** backing, targeting security forces and civilians, with **Pahalgam 2025**-type shocks still in living memory as a reminder that a quieter map is not a finished peace. The **2008 Mumbai** attacks remain the textbook of urban, sea-borne terror. **Hinterland** modules (Indian Mujahideen and later small cells) hit cities with IEDs. **Khalistani** violence has a diaspora shadow. The **Northeast** has mixed insurgency and terror tactics; some groups have talked, some still extort. **Maoist** violence is often classed as LWE (the next question), but the civilian massacre is a terror method. **Online radicalisation** now recruits without a training camp.

Contemporary examples change by the year; the pattern is **asymmetric violence plus a camera**.

Counter-measures

- **Law:** UAPA, NIA, amendments after Mumbai, and State laws. **Intelligence:** Multi-Agency Centre, NATGRID-type data, state ATS. **Force:** NSG, CAPFs, theatre commands in slow motion. **Money:** FATF-driven terror-finance rules, NIA probes. **Borders:** fencing, riverine and maritime police after 26/11. **Politics:** talks, development packages, and, in Kashmir, a changed constitutional status whose security effect is still argued. **Community:** deradicalisation is weaker than it should be.

Effectiveness is mixed. Capacity is far above 2001. **Rights** can be bruised by a broad UAPA net. A scourge is **managed**, not magically ended, while sanctuaries and phones remain.

Flow diagram

Global method -> India
India -> J and K cross-border
India -> City modules
India -> Online
NIA UAPA intel NSG FATF -> India

Conclusion

Terrorism in India has been cross-border, urban-modular, and insurgent. The State has built law, intelligence, force and finance tools since Mumbai. Those tools reduce space. They do not delete ideology or a hostile sanctuary by themselves.

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Q10 · 10 marks

The Government of India recently stated that Left Wing Extremism (LWE) will be eliminated by 2026. What do you understand by LWE and how are the people affected by it? What measures have been taken by the government to eliminate LWE?

GS III · 2025 · Internal Security and Extremism

Revision summary

Left Wing Extremism in India means the Maoist insurgency centred on central Indian forest-tribal belts.

Villagers suffer killings, extortion, closed schools and the crossfire of operations.

Official figures show fewer severely affected districts and fewer deaths than at the peak.

SAMADHAN combines intelligence, camps, surrenders and connectivity.

A 2026 'end' is credible as a shrinking map, not as the death of every idea; development and forest rights decide whether the map stays quiet.

Introduction

Left Wing Extremism in official Indian language is the **CPI (Maoist) insurgency and its fragments: an armed project to smash the state from forest and tribal hinterlands.**

The Home Ministry has said the problem will be **ended by 2026**. That is a political deadline. On the ground, LWE is already **smaller in map** than a decade ago, and still **lethal** where it holds a path.

Body

What LWE is, and who suffers

Maoist groups mix a **revolutionary ideology** with **control of a corridor** from parts of Chhattisgarh, Jharkhand, Odisha, Maharashtra, Kerala's tri-junctions, and remnants elsewhere. They **tax** contractors, **kill** security forces and alleged informers, and **ban** roads or schools that look like the state. Ordinary Adivasi villagers are squeezed **between the guerrilla and the camp**. Children lose school. Roads that would take a pregnant woman to a hospital are delayed. **IEDs** turn a weekly market into a risk.

People are affected as **victims of the insurgent**, as **victims of a hard security sweep**, and as **people whose land is also a mine or a park**. All three must be in the answer.

Measures and the 2026 claim

SAMADHAN (smart leadership, intelligence, action plans, and so on) is the MHA's acronym. In practice: **more camps** in south Bastar, **better IED doctrine**, **surrender and rehabilitation**, **road and mobile** connectivity, and **financial choking**. The number of **districts** labelled most affected has **fallen** over the 2010s and 2020s; fatalities are down from the peak years, though a single attack can still shock. Development schemes (roads, hostels, banks) are the other arm. **Forest rights and mining consent**, if ignored, refill the Maoist argument.

2026 as **elimination** is a stretch if elimination means zero ideology. It is **plausible as a map** if it means no district where the insurgent sets the law. The measure that lasts is a **state that is present as a school, not only as a rifle**.

Flow diagram

CPI Maoist -> People: fear tax IED
SAMADHAN camps roads -> CPI Maoist
School FRA jobs -> People: fear tax IED

Conclusion

LWE is the Maoist armed insurgency of the central tribal forests. It kills, taxes and blocks ordinary life. The government's mix of force, roads and surrenders has shrunk the map. A 2026 end is a security goal; a lasting end is a state the villager can use.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2025/the-government-of-india-recently-stated-that-left-wing-extremism-lwe-will-be-eliminated-by-2026-what-do-you-understand-by-lwe-and-how-are-th/>

Q11 · 15 marks

Explain how the Fiscal Health Index (FHI) can be used as a tool for assessing the fiscal performance of states in India. In what way would it encourage the states to adopt prudent and sustainable fiscal policies?

GS III · 2025 · Government Budgeting

Revision summary

NITI Aayog's Fiscal Health Index, 2025 scores major States on revenue, spending quality, deficit and debt.

Odisha led the first public ranking; rich States were not automatically healthy.

The index is a dashboard for comparison, not a substitute for the Finance Commission.

Sunshine, markets and carefully designed extra borrowing room can reward prudence.

It must not punish poverty or hide off-budget debt if it is to stay honest.

Introduction

- **A State's budget can look large and still be unhealthy:** borrowed money spent on salaries, own tax left uncollected, capital works starved. NITI Aayog's **Fiscal Health Index** tries to put that story into **one comparable score** for major States. It is a **dashboard**, not a punishment. Used well, it can shame waste and praise States that tax fairly and invest.

Body

What the index measures

The **Fiscal Health Index, 2025** (NITI Aayog, released in early 2025) scores **eighteen large States** on pillars that typically include **quality of expenditure** (how much goes to capital and development rather than only interest and wages), **revenue mobilisation** (own tax and non-tax, GST effort), **fiscal prudence** (deficit relative to GSDP), and **debt index / sustainability** (debt-GSDP, interest burden). **Odisha** ranked at the top in that first public edition; several high-income States did less well than their fame, which is the point of a composite: **size of GSDP is not health**.

A student should treat the exact rank as a **snapshot**. The method matters more. An index that rewards **own-revenue** stops a State from living only on Union transfers. An index that rewards **capital outlay** stops a State from calling every loan "development". An index that flags **guarantees and off-budget** borrowing (if the method is honest) stops creative accounting.

How it can push prudence

Sunshine is the first nudge. A chief minister dislikes a public red mark beside a neighbour. **Markets** and rating agencies already watch State bonds; an official index can **align** that gaze. The Union can **link** some challenge funds or extra borrowing room (within FRBM) to improvement, though the **Finance Commission** remains the constitutional distributor and should not be replaced by a NITI league table. **Legislatures** can use the pillars in budget debates instead of only the size of a farm-loan waiver.

- **Limits:** States differ in **mineral luck and GST base**. A coal State can look "prudent" while a poor hill State looks "weak". The index must **normalise** and must not become a stick against

welfare that is actually investment in people. Used as a **learning tool** - peer review of property tax, power-subsidy reform, capital-budget execution - it encourages **sustainable** policy: deficits that buy assets, debt that a future tax base can service.

The encouragement works when the score is **transparent, yearly, and hard to game**.

Flow diagram

Fiscal Health Index -> Own revenue
Fiscal Health Index -> Quality of spend
Fiscal Health Index -> Deficit and debt
Fiscal Health Index -> Nudge: sunshine peer review

Conclusion

The Fiscal Health Index compares States on revenue effort, spending quality, deficits and debt. Public ranks can push prudence if they reward own tax and capital works, not if they only punish poor States or replace the **Finance Commission**.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2025/explain-how-the-fiscal-health-index-fhi-can-be-used-as-a-tool-for-assessing-the-fiscal-performance-of-states-in-india-in-what-way-would-it-e/>

Q12 · 15 marks

Discuss the rationale of the Production Linked Incentive (PLI) scheme. What are its achievements? In what way can the functioning and outcomes of the scheme be improved?

GS III · 2025 · Indian Economy

Revision summary

PLI is a time-bound payment on extra sales to pull manufacturing scale into India.

About fourteen sectors share an outlay near two lakh crore rupees.

Mobile assembly and exports are the clearest win; value addition and several heavy sectors lag.

Jobs exist mainly in assembly unless design and components deepen.

Reform means easier claims, MSME access, export and value-addition metrics, and a sunset.

Introduction

After 1991 India became a **services** power and a **factory** laggard. **Production Linked Incentive** schemes try to buy **scale**: pay a firm a share of extra sales if it makes more in India. The rationale is infant-industry with a **time clock**. The record is **bright in phones** and **patchy elsewhere**. That honesty is the answer, not a press release.

Body

Rationale

- **Global manufacturing clustered in East Asia because of ecosystems**: components, skills, logistics, and a State that stayed the course. India had **tariffs without depth**, then **openness without a factory floor**. PLI, rolled out from 2020 across about **fourteen sectors** with a total outlay near **₹1.97 lakh crore**, pays for **incremental production**, not for a mere promise. The aims are **import substitution in selected chains**, **export**, **jobs**, and **anchor firms** that pull suppliers. In a world of **friend-shoring**, a cheque that rewards output is also a **geo-economic** tool.

Achievements

Mobile phones are the poster: India moved from a net importer toward being among the world's large assemblers, with exports of phones in recent years running in the **tens of billions of dollars**. **Pharma**, **food processing**, and some **telecom gear** show real additional output. **White goods** and **auto components** have mixed but visible capacity. **Steel speciality**, **textiles**, **solar modules** are slower; some bids lapsed. **Employment** is real in assembly, thinner in design. **Value addition inside India is the honest gap**: a phone can be screwed together while the chip still flies in.

How to improve

Simplify claim paperwork so that working capital is not trapped. **Open windows** for genuine MSME suppliers, not only conglomerates. **Measure value addition and exports**, not only billed production. Put a **sunset** so PLI does not become a permanent rent. Align with **skilling**, **power quality and logistics** or the subsidy is a bandage. **Avoid** using PLI to hide an uncompetitive tariff wall. Audit **ghost production**.

Improved PLI is a **bridge to competitiveness**. Endless PLI is a **crutch**.

Flow diagram

Rationale: scale jobs exports -> PLI
PLI -> Phones pharma some food
PLI -> Thin value addition laggard sectors
Simpler claims sunset quality -> PLI

Conclusion

PLI pays for extra Indian output to close a manufacturing gap. Phones show it can work; several other sectors show it can stall. Better claims, more value addition, MSME entry and a sunset would improve outcomes.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2025/discuss-the-rationale-of-the-production-linked-incentive-pli-scheme-what-are-its-achievements-in-what-way-can-the-functioning-and-outcomes-o/>

Q13 · 15 marks

Examine the factors responsible for depleting groundwater in India. What are the steps taken by the government to mitigate such depletion of groundwater?

GS III · 2025 · Environment and Conservation

Revision summary

Most Indian irrigation still leans on groundwater, so a falling table is a farm and drinking-water crisis.

Free farm power and paddy-wheat in the northwest are the classic drivers, with urban wells and weak licensing close behind.

CGWB maps show over-exploited blocks across several States.

Atal Bhujal, Jal Shakti Abhiyan, micro-irrigation and aquifer mapping are the main public replies.

Without metering and crop change, recharge structures only delay the fall.

Introduction

India is not a water-poor country in the monsoon average. It is a **groundwater-stressed** country in the well. More than **sixty per cent** of irrigation and a large share of **rural drinking water** still come from underground. When the water table falls, the poor dig deeper or drink worse. Depletion is a **policy harvest**, not only a dry cloud.

Body

Factors

Green Revolution paddy and wheat in Punjab, Haryana and parts of western UP, fed by **almost-free farm power**, turned the tubewell into a pump that never sleeps. **Sugarcane** in Maharashtra and UP does the same where canals are thin. **Urban India** drills illegal wells as tankers fail. **Industry and brick kilns** add point stress. **Weak metering and weak State groundwater laws** (even after the model Central bill) mean the resource is an **open-access commons**. **Climate**: a failed monsoon or a burst of extreme rain that runs off instead of soaking makes recharge worse. **Sand mining and lost wetlands** cut the sponge. **Population and diet** raise demand.

CGWB's assessment maps show **over-exploited blocks** clustered in the northwest, Rajasthan, parts of Tamil Nadu, Karnataka and the east-coast sedimentary belts.

Steps taken

Atal Bhujal Yojana pays for **community water-security plans** in seven stressed States. **Jal Shakti Abhiyan** and **Catch the Rain** push recharge structures. **PMKSY** and **Per Drop More Crop** push micro-irrigation. **PM-KUSUM** can cut diesel but can also **cheapen pumping** if solar is unmetered - a design tension. Some States **delay paddy transplant** (Haryana's Khet-se-Paani logic, Punjab's calendar). **NAQUIM** maps aquifers. **Mission Amrit Sarovar** revives ponds. **CGWA** notifications try to license industry. Results are **uneven**: Punjab's table still falls; some Gujarati and Maharashtrian patches improved with recharge and crop talk.

Mitigation that works is **priced power, crop shift, and recharge together**. A plastic recharge pit without a paddy policy is a photo.

Flow diagram

Free power paddy -> Falling table
Urban wells -> Falling table
Climate runoff -> Falling table
Atal Bhujal Jal Shakti -> Recharge crop shift
Recharge crop shift -> Falling table

Conclusion

Groundwater falls because pumping is cheap, crops are thirsty, and the law is weak. Missions for recharge, micro-irrigation and community plans exist. They will bite only with power reform and less paddy where the aquifer is already red.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2025/examine-the-factors-responsible-for-depleting-groundwater-in-india-what-are-the-steps-taken-by-the-government-to-mitigate-such-depletion-of/>

Q14 · 15 marks

Examine the scope of the food processing industries in India. Elaborate the measures taken by the government in the food processing industries for generating employment opportunities.

GS III · 2025 · Food Processing

Revision summary

India grows a lot of food and still processes a thin share of fruit and vegetables.

Dairy is the mature processing success; marine, spices and grains have export clusters.

PMKSY, mega food parks, food PLI, Operation Greens and 100 per cent FDI are the main Union levers.

Jobs come in packing, cold chain and MSME units if raw material and power are real.

Ultra-processed snacks are a health caveat inside the same industry.

Introduction

A tomato that dies on the road is a lost wage. A tomato that becomes puree is a **job** in a shed and a **smoother price**. **Food processing is that middle India: sorting, milling, dairy, meat, ready-to-eat, marine. The scope is huge because India is a top producer** of milk, spices and many fruits, and still a **thin processor** compared with that harvest.

Body

Scope

Processing covers **primary** (cleaning, milling) and **secondary/tertiary** (brands, frozen, nutraceutical). **Dairy** (Amul-type cooperatives and private) is the mature island. **Marine, poultry, spices, rice, sugar, edible oil** have clusters. **Exports** of marine products, buffalo meat, basmati and spices earn hard currency. **Nutrition** can improve if fortified staples and safe milk reach the poor; it can worsen if only ultra-processed snacks grow. **Women's employment** in packing lines is real. **MSMEs** still dominate units even when brands are large.

India's processing level for fruits and vegetables remains **in the low double digits at best** in many official retellings - the exact percentage moves, the gap does not. Cold chain, power, and FSSAI compliance are the gates.

Government measures and jobs

PMKSY (Pradhan Mantri Kisan SAMPADA Yojana) funds mega food parks, integrated cold chains, and agro-processing clusters. **PLI for food** tries to scale **ready-to-eat and marine**. **Operation Greens** for tomato-onion-potato tries to cut crash prices. **100 per cent FDI** in food processing (with conditions on trading) invites capital. **FSSAI** is the safety regulator; without it, jobs in export die at the port. **APEDA** and **MPEDA** push markets. **Skilling** (PMKVY, food craft) and **One District One Product** aim at local brands.

Employment is **seasonal and semi-skilled** unless the firm moves into R&D and branding. A park that is only sheds without raw-material links does not hire. The honest measure is **days of work near the farm**, not a ribbon on a closed park.

Scope plus scheme must still beat **logistics cost and GST friction** on the ground.

Flow diagram

Farm surplus -> Process
Process -> Jobs women MSME
Process -> Export nutrition
PMKSY PLI FDI FSSAI -> Process

Conclusion

Food processing can turn India's harvest into jobs, exports and less waste. Union schemes fund parks, cold chains, PLI and FDI. They generate employment when they sit on real produce and skills, not on empty sheds.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2025/examine-the-scope-of-the-food-processing-industries-in-india-elaborate-the-measures-taken-by-the-government-in-the-food-processing-industrie/>

Q15 · 15 marks

How does nanotechnology offer significant advancements in the field of agriculture? How can this technology help to uplift the socio-economic status of farmers?

GS III · 2025 · Crops, Irrigation and Marketing

Revision summary

Nanotechnology in farming includes nano-fertilisers, lower-dose pesticides, sensors and smarter packaging.

India's public debate has centred on nano urea and nano DAP, with still-contested yield evidence.

Gains for farmers would be lower bulk input cost, less residue and better export quality.

Ecotoxicity and weak regulation are the downside.

Uplift needs ICAR-grade proof, fair price and extension, not only a brand.

Introduction

Nanotechnology works at a billionth of a metre. In a field that means a **urea particle** that the leaf can take in, a **sensor** that smells a pest, a **film** that keeps a fruit. India has already put **nano urea** into the public argument. The advancement is real if the science is honest. The farmer's status rises if the bottle **cuts cost and risk**, not if it is only a slogan on a tanker.

Body

Advancements in agriculture

Nano-fertilisers (IFFCO nano urea and nano DAP in Indian trials and sales) claim **higher use efficiency**: less bulk urea, less groundwater nitrate, fewer carbon emissions from fertiliser plants. Independent scientists still **debate the yield evidence**; an answer that only repeats the company note is weak. **Nano-pesticides and nano-herbicides** can, in theory, **lower the dose** and the residue. **Nano-sensors** and **lab-on-chip** tools can read soil moisture and nutrient in situ. **Nano-enabled packaging** slows spoilage. **Seed coatings** and **water filters** (nano-silver, carbon) appear in WASH and horticulture. **GIS plus nano-data** is still a lab-to-land climb.

- **Risks: unknown ecotoxicity**, worker inhalation, and **regulatory lag**. A nano that kills a pest and a soil microbe is not progress.

Socio-economic uplift

If nano urea **truly** substitutes a sack, the farmer saves **transport and subsidy leakage** and the State saves a fiscal line. If it does not, the farmer has paid for water. **Precision** can help a smallholder who cannot afford a soil lab. **Lower residue** can open **export** of grapes and spices. **Women** who spray less volume face less chemical load. Uplift fails if nano products are **priced as a luxury**, if extension is only a WhatsApp forward, or if **patent rents** leave the farmer as a buyer of magic.

Public **ICAR trials**, **FCO standards**, and **farmer-field schools** are the ethical path. Nanotech is a **tool of efficiency**. It is not a caste-neutral miracle by itself; land, credit and market still decide status.

Flow diagram

Nanotech -> Nano fertiliser

Nanotech -> Nano pesticide sensors pack

Nano fertiliser -> Lower input if evidence holds

Lower input if evidence holds -> Farmer income and health

Conclusion

Nanotech can make fertiliser, pesticide, sensing and packaging more precise. It can raise a farmer's income if it cuts real costs and residues and if safety is proven. It cannot replace land, water and a buyer.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2025/how-does-nanotechnology-offer-significant-advancements-in-the-field-of-agriculture-how-can-this-technology-help-to-uplift-the-socio-economic/>

Q16 · 15 marks

India aims to become a semiconductor manufacturing hub. What are the challenges faced by the semiconductor industry in India? Mention the salient features of the India Semiconductor Mission.

GS III · 2025 · Indian Economy

Revision summary

India designs many chips but still makes few, because fabs need capital, ultra-pure water, chemicals and restricted tools.

Geopolitics and long project time add risk.

The India Semiconductor Mission (2021) has about ₹76,000 crore for fabs, display, compound semiconductors and packaging.

A design-linked incentive targets the talent India already has.

Mature nodes and ATMP are the realistic near path; leading-edge logic will follow slowly if at all.

Introduction

A **semiconductor** is the brain of every phone, car and missile. The world that makes them is a **handful of geographies**: Taiwan, Korea, the United States, Japan, China. India wants a **hub**, not only a market. The **India Semiconductor Mission** is the cheque and the rulebook. The challenges are why the cheque had to be large.

Body

Challenges

A leading-edge **fab** costs **tens of billions of dollars** and drinks **ultra-pure water and reliable power**. India has **talent in design** (a large share of global chip designers are Indian-trained) and a **thin fab history**. **Chemical and gas** supply chains, **speciality equipment** (ASML-type tools are political objects), and **patient capital** are scarce. **Geopolitics**: export controls after the US-China chip war can deny tools even to friends if rules shift. **Land and time**: a fab is a decade, not a budget year. **Packaging and testing** (ATMP) is the realistic first mountain; logic at 3 nanometres is not India's 2026 job. **China+1** helps, but Vietnam and Malaysia already sit on packaging. **Water stress** in Gujarat or Karnataka is not a footnote for a wet fab.

India Semiconductor Mission

Launched in **2021** with about **₹76,000 crore**, ISM offers **fiscal support for fabs, display fabs, compound semiconductors, and ATMP/OSAT**. A **design-linked incentive** pays chip-design firms. A **compound semiconductor** window (SiC, GaN) fits EVs and 5G. **India Semiconductor Mission** also funds **workforce** and tries to cluster (Dholera and other announced sites have moved in steps with **Micron** packaging as a flagship private bet, and other fab MoUs that have **slipped and returned** - the answer should not freeze a 2024 headline as eternal fact).

- **Salient features: capex support as a share of project cost, technology-agnostic** windows for mature nodes that still matter for autos, **design** as well as silicon, and a **trust** structure under MeitY.

- **A hub is an ecosystem:** tool vendors, chemicals, designers, and a State that does not change the deal every election. ISM is necessary. It is not yet Taiwan.

Flow diagram

Challenges: capital water tools geopolitics -> HUB
ISM 76000 crore 76000 crore -> Fab ATMP compound
ISM 76000 crore -> Design linked incentive
Fab ATMP compound -> HUB
Design linked incentive -> HUB

Conclusion

Chip making needs huge capital, water, tools and geopolitics that India does not yet own. The India Semiconductor Mission, with about ₹76,000 crore, subsidises fabs, packaging, compound chips and design. That is the right start; a hub will take a decade of ecosystem, not a ribbon.

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Q17 · 15 marks

Mineral resources are fundamental to the country's economy and these are exploited by mining. Why is mining considered an environmental hazard? Explain the remedial measures required to reduce the environmental hazard due to mining.

GS III · 2025 · Environment and Conservation

Revision summary

Mining underpins industry but strips forest, dirties air and water, and displaces people.

Open-cast coal, metal tailings, sand mining and illegal pits are the main Indian hazard types.

EIA, District Mineral Foundations, scientific closure and forest rights are the legal remedies.

Illegal mining needs satellite watch and police, not only a new rule.

Some deposits should remain unmined where ecology and consent fail.

Introduction

Steel, copper, coal and rare earths **start in a hole**. Mining is therefore **fundamental** to a factory India. It is also an **environmental hazard because a hole does not stay a hole: it becomes dust, acid water, a lost forest, and a displaced hamlet**. The task is not to romanticise a pre-mine village or to bless every lease. It is to **mine as if water and people will still be there**.

Body

Why mining is a hazard

Open-cast coal in the Damodar and Hasdeo belts **strips forest**, dries streams, and loads **PM2.5**. **Abandoned pits** fill with acid or become drowning traps. **Tailings** from metal mines leak **heavy metals** into rivers (the Goa iron and Odisha chromite stories are old and still live). **Blasting** cracks houses. **Illegal rat-hole** coal in the Northeast has killed workers. **Silica and asbestos** dust is a lung sentence. **Sand mining** lowers riverbeds and invites floods. **Offshore** spills are rarer but ugly. Hazard is **cumulative**: a coal block plus a washery plus a plant.

- **People:** Adivasi land under **PESA and FRA** is often the same land as the mineral. A hazard that is only counted in tonnes of overburden has missed the human dump.

Remedies

EIA and public hearing that are not theatre. **District Mineral Foundation** money that actually builds schools and water, not statues. **Scientific mining**: benches, progressive **backfilling**, topsoil save, **zero untreated discharge**. **Mine closure plans** with a **financial assurance** that is real. **Satellite and drone** watch on illegal leases (IBM, State DGMs). **Coal gasification and washeries** if they cut transport ash - not if they are a new polluter. **Just transition** for workers when a pit dies. **No-go forests** that stay no-go.

Remedies fail when a **clearance is a purchase**. They work when a **State pollution board can shut a conveyor**.

Flow diagram

Mine -> Dust acid forest loss

Dust acid forest loss -> People FRA

EIA DMF closure DMF closure -> Mine

Enforce boards drones -> Dust acid forest loss

Conclusion

Mining wounds land, water, air and forest communities. Law already names EIA, DMF, closure bonds and forest rights. The remedy is to enforce those tools and to leave some deposits in the ground.

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Q18 · 15 marks

Write a review on India's climate commitments under the Paris Agreement (2015) and mention how these have been further strengthened in COP26 (2021). In this direction, how has the first Nationally Determined Contribution intended by India been updated in 2022?

GS III · 2025 · Environment and Conservation

Revision summary

The 2015 NDC promised a 33-35 per cent cut in emissions intensity by 2030, 40 per cent non-fossil power capacity, and a large forest sink.

COP26's Panchamrit raised the political bar, including 500 GW non-fossil, a billion-tonne cut and net zero by 2070.

In August 2022 India updated the NDC to 45 per cent intensity reduction and 50 per cent non-fossil installed capacity by 2030.

Per-capita equity remains India's diplomatic line.

Pledges now need coal-path honesty and real forest carbon.

Introduction

The **Paris Agreement (2015)** asked every country for a **Nationally Determined Contribution** - a climate promise in its own words. India filed a first NDC, then used **COP26 at Glasgow (2021)** to raise the ambition in a **Panchamrit** of five points, and **updated the NDC in August 2022** to lock two of those points into the Paris file. The review is a **timeline of tightening**, not a claim that the atmosphere is saved.

Body

Paris, 2015, first NDC

India's first NDC pledged, among other things, to **reduce the emissions intensity of GDP by 33 to 35 per cent by 2030** from 2005; to achieve about **40 per cent of electric power installed capacity** from **non-fossil** fuels by 2030 (with help from the Green Climate Fund as then worded); and to create an additional **carbon sink of 2.5 to 3 billion tonnes of CO2 equivalent** through forests by 2030. It also stressed **adaptation, lifestyle** (later LiFE), and the **equity** argument that India's **per-capita emissions** remain far below the rich world.

COP26, 2021, Panchamrit

- **At Glasgow, the Prime Minister announced five nectar-points: 500 GW** of non-fossil capacity by 2030; **50 per cent** of energy requirements from renewables by 2030 in the political phrasing of the moment; **reduction of one billion tonnes** of projected carbon emissions by 2030; **45 per cent** intensity reduction; and **net zero by 2070**. Net zero 2070 is later than the EU's 2050; India argued **development space**. COP26 also closed the Paris "rulebook" on carbon markets in outline. India's **coal phase-down** language was the diplomatic fight of that fortnight.

Updated NDC, 2022

- **In August 2022 India formally updated the NDC: emissions intensity of GDP to fall 45 per cent by 2030** from 2005 (up from 33-35); and **50 per cent of cumulative electric power installed capacity from non-fossil by 2030** (up from 40). The forest sink and other pillars

remained in the broader climate architecture. The update **legalised the Glasgow raise** inside Paris. Implementation now sits on **solar-wind auctions, a still-large coal pipeline, a carbon market under the Energy Conservation Act, and forest numbers that satellite teams still argue over.**

A review that stops at pledges is incomplete. A review that ignores the raise from 40 to 50 per cent non-fossil capacity is unfair.

Flow diagram

Paris 2015 NDC -> COP26 Panchamrit

COP26 Panchamrit -> NDC 2022 45 percent 50 percent

NDC 2022 45 percent 50 percent -> Auctions coal path forests

Conclusion

Paris locked India's first intensity, non-fossil and forest-sink pledges. COP26 added 500 GW, a billion-tonne cut and net zero 2070. The 2022 NDC wrote 45 per cent intensity and 50 per cent non-fossil capacity into the treaty file. Delivery is the remaining exam.

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Q19 · 15 marks

What are the major challenges to internal security and peace process in the North-Eastern States? Map the various peace accords and agreements initiated by the government in the past decade.

GS III · 2025 · Internal Security and Extremism

Revision summary

The Northeast's security problems mix leftover insurgency, ethnic conflict, drugs, migration and Myanmar-China borders.

The 2020 Bodo Accord and 2021 Karbi Accord were the big Assam settlements of the decade.

The 2015 Naga framework agreement is still not a final peace.

The 2020 Bru-Reang deal and 2023 UNLF pact sit beside Manipur's 2023 ethnic violence.

Assam's border agreements with Meghalaya and Arunachal tried to quiet inter-State maps.

Introduction

The Northeast is **eight States** and many **nations of memory**. Peace is not one ceasefire. It is a **stack of accords** on a **difficult map**: hills, a chicken's neck, a long Myanmar and Bangladesh edge, and **China** on Arunachal's horizon. The last decade added **signed papers**. It also added **Manipur's 2023 wound**, which no accord had prepared the country to watch.

Body

Challenges to security and peace

Insurgent remnants (NSCN factions, ULFA-I, some Manipur groups) still tax and bomb even as the map of violence has shrunk since the 1990s. **Ethnic conflict** - Bodo history, Bru displacement, and **Meitei-Kuki-Zo violence in Manipur from 2023** - can explode faster than a peace table. **Drugs and arms** ride the **Golden Triangle** into Mizoram and Manipur. **Illegal migration** and **identity laws** (Assam NRC politics, Inner Line) keep a permanent anxiety. **Governance**: AFSPA's thinning is real in some districts and still present in others. **Connectivity** is better (roads, rail to Agartala, waterways) but **jobs** for educated youth lag. **Myanmar's post-2021 war** spills refugees and weapons. **China** is a military and a narrative pressure on Arunachal.

Peace processes fail when an accord is a **photo with one armed group** while a rival faction and a valley community are left out.

Accords of the past decade, as a map

- **Read the map** west to east. Assam: the **Bodo Peace Accord, January 2020**, with NDFB factions, creating a stronger Bodoland Territorial Region; **Karbi Anglong Agreement, September 2021**; **Adivasi and other smaller settlements**; **Assam-Meghalaya border pact, 2022**; **Assam-Arunachal Pradesh border settlement, 2023**. Nagaland / Naga talks: the **Framework Agreement with NSCN-IM, 2015**, still without a final public settlement; other Naga groups signed a **2017 agrees-on-talks track** - the unfinished core of the hills. Tripura: **NLFT-related surrenders and talks in the late 2010s-2020s**. Mizoram-Tripura-Cachar: the **Bru-Reang agreement, January 2020**, to settle Bru families in Tripura. Manipur: **UNLF (P. A. Meitei) peace pact, 2023**, a valley-group ceasefire that did not stop the hill-valley clash the same year. Meghalaya and Arunachal have seen **surrender ceremonies** more than grand

accords.

- **The map's lesson: paper in Kokrajhar and Diphu, open file in Kohima, fire in Imphal valley and hills.** A peace process is only as wide as the communities it seats.

Flow diagram

Assam belt
Bodo Accord 2020
Karbi Accord 2021
Assam-Meghalaya 2022
Assam-Arunachal 2023
Naga hills
NSCN-IM Framework 2015 unfinished
Tripura Mizoram Manipur
Bru-Reang 2020
UNLF 2023
Manipur ethnic crisis 2023
Bodo Accord 2020 -- Karbi Accord 2021
Karbi Accord 2021 -- NSCN-IM Framework 2015 unfinished
Bru-Reang 2020 -- UNLF 2023

Conclusion

Internal security in the Northeast is insurgency plus ethnicity plus a hard border. The decade's accords - Bodo, Karbi, Bru, Assam's border deals, UNLF - shrank some guns. Naga talks and Manipur's 2023 violence show the map is not finished.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2025/what-are-the-major-challenges-to-internal-security-and-peace-process-in-the-north-eastern-states-map-the-various-peace-accords-and-agreement/>

Q20 · 15 marks

Why is maritime security vital to protect India's sea trade? Discuss maritime and coastal security challenges and the way forward.

GS III · 2025 · Indian Economy

Revision summary

About nine-tenths of India's trade volume and most oil still move by sea, so a chokepoint shock is an economic shock.

Coastal creeks, 26/11-style gaps, illegal fishing, piracy and a denser Chinese naval presence are the main challenges.

Red Sea attacks in 2023-24 showed how quickly freight and insurance can jump.

SAGAR, IPOI, IMAC fusion, coastal police and partner patrols are the reply.

Ports and shipbuilding make security a growth story, not only a patrol story.

Flow diagram

Sea trade oil containers -> Chokepoints Hormuz Malacca Red Sea

Chokepoints Hormuz Malacca Red Sea -> Security

26/11 IUU PLA Navy -> Security

SAGAR IMAC Coast Guard -> Security

Conclusion

SAGAR (Security and Growth for All in the Region) and **IPOI** as the diplomatic grammar. **Information Management and Analysis Centre (IMAC)** and **IMB** fusion for a common operating picture. **Coastal police, CISF in ports, Customs, and the Coast Guard** in one drill, not three egos. **Deep-water ports and transshipment** (Vizhinjam-type bets) so cargo need not wait in Colombo. **Quad and IORA** for domain awareness. **UNCLOS** litigation where needed. **Seafarer training and shipbuilding** so security is also an industry.

The way forward is **see, share, escort, and build**. A blue-water speech without a coastal police jetty is 26/11 waiting to recur.

Sea trade is India's energy and export lung, so maritime security is economic policy. Challenges run from creeks and piracy to a busier PLA Navy. SAGAR, coastal fusion, domain awareness and port capacity are the practical way forward.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2025/why-is-maritime-security-vital-to-protect-indias-sea-trade-discuss-maritime-and-coastal-security-challenges-and-the-way-forward/>

Compiled answer key

Last pages of this pack. Each question links to the WRAP model answer on wrapexams.com.

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Q1 10 marks	Q2 10 marks	Q3 10 marks	Q4 10 marks
Q5 10 marks	Q6 10 marks	Q7 10 marks	Q8 10 marks
Q9 10 marks	Q10 10 marks	Q11 15 marks	Q12 15 marks
Q13 15 marks	Q14 15 marks	Q15 15 marks	Q16 15 marks
Q17 15 marks	Q18 15 marks	Q19 15 marks	Q20 15 marks

Question-wise key

Q1 · 10 marks Solution

Q2 · 10 marks Solution

Q3 · 10 marks Solution

Q4 · 10 marks Solution

Q5 · 10 marks Solution

Q6 · 10 marks Solution

Q7 · 10 marks Solution

Q8 · 10 marks Solution

Q9 · 10 marks Solution

Q10 · 10 marks Solution

Q11 · 15 marks Solution

Q12 · 15 marks Solution

Q13 · 15 marks Solution

Q14 · 15 marks Solution

Q15 · 15 marks Solution

Q16 · 15 marks Solution

Q17 · 15 marks Solution

Q18 · 15 marks Solution

Q19 · 15 marks Solution

Q20 · 15 marks Solution

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