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UPSC Mains 2018 GS III

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

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<https://wrapexams.com/upsc/mains/gs-3/2018/>

Q1 · 10 marks

"Access to affordable, reliable, sustainable and modern energy is the sine qua non to achieve Sustainable Development Goals (SDGs)". Comment on the progress made in India in this regard. (150 Words, 10 Marks).

GS III · 2018 · Infrastructure

Revision summary

SDG 7 energy access is the base for poverty, health, education, jobs and climate goals.

India expanded household electricity under Saubhagya and DDUGJY, cooking gas under Ujjwala, and efficient lighting under UJALA.

National Solar Mission, the 175 GW target and the International Solar Alliance scaled clean power.

UDAY tried to repair DISCOM finances; PAT and labels raised efficiency.

Gaps remain in hours of supply, refill of LPG, coal dependence and loss-making distribution.

Introduction

The United Nations **Sustainable Development Goal 7** asks for affordable, reliable, sustainable and modern energy. Without that floor, schools, clinics, farms and factories cannot run, so poverty, health and climate goals stall. India after 2014 treated electricity and cooking gas as **mass public goods**. Progress on connections is real; **quality, cleanliness and financial health** of supply still lag.

Body

Why energy is sine qua non for the SDGs

- Cheap, steady power and clean cooking cut **poverty and hunger** by raising farm and shop hours and by freeing women from fuelwood.
- Clinics, vaccines and **education** need light and cold chains; dirty fuel drives indoor air deaths, which hits **health** goals.
- Industry, digital payments and jobs need **reliable kilowatt-hours**, not only a pole on the map.
- **Climate and cities** fail if extra demand is met only by inefficient coal and diesel.

Progress in India

- **Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY)** separated rural feeder supply and extended village lines; official data then treated inhabited villages as electrified.
- **Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya, 2017)** moved the target from the village to the **household** connection, including poor urban homes.
- **Pradhan Mantri Ujjwala Yojana (2016)** gave deposit-free **liquefied petroleum gas** connections so cooking could leave the chulha.
- **Unnat Jyoti by Affordable LEDs for All (UJALA)** cut lighting bills and peak load through LED bulbs.
- **Jawaharlal Nehru National Solar Mission**, the **175 gigawatt** renewable target by 2022, and the **International Solar Alliance** (headquartered in India) pushed solar and wind scale.
- **Ujwal DISCOM Assurance Yojana (UDAY, 2015)** and **Integrated Power Development Scheme** tried to repair distribution losses and urban networks.
- **Perform, Achieve and Trade** and Bureau of Energy Efficiency labels raised efficiency in industry and appliances.

Comment on gaps

- **A connection is not** 24x7 quality: voltage, hours and agricultural feeder rostering still vary by State.
- **Distribution companies** remain loss-making, so they delay payments to generators and under-invest in wires.
- **Ujjwala** raised connections faster than sustained cylinder refills where income and refill logistics are weak.
- The generation mix is still **coal-heavy**; renewables need transmission, storage and a solvent buyer.
- Modern energy for SDGs therefore means **wires that work, cooking that is refilled, and power that is cleaner**, not only a new metre.

Flow diagram

SDG 7 modern energy -> Other SDGs jobs health climate
 SDG 7 modern energy -> Saubhagya DDUGJY access
 SDG 7 modern energy -> Ujjwala clean cooking
 SDG 7 modern energy -> Solar UJALA efficiency
 Saubhagya DDUGJY access -> Gaps quality DISCOM coal
 Ujjwala clean cooking -> Gaps quality DISCOM coal
 Solar UJALA efficiency -> Gaps quality DISCOM coal

Conclusion

Energy is the base on which other SDGs stand. India has closed much of the connection gap through Saubhagya, Ujjwala, UJALA and solar missions. The next test is reliable, solvent and cleaner supply so the connection becomes a service.

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Q2 · 10 marks

Comment on the important changes introduced in respect of the Long term Capital Gains Tax (LCGT) and Dividend Distribution Tax (DDT) in the Union Budget for 2018-2019. (150 Words, 10 Marks).

GS III · 2018 · Government Budgeting

Revision summary

Budget 2018-19 withdrew the **section 10(38)** exemption on long-term listed equity gains.

Section 112A taxes such LTCG above Rs 1 lakh at 10 per cent without indexation, with grandfathering to 31 January 2018.

Short-term equity gains stayed at the existing STT-linked 15 per cent rate.

Equity-oriented mutual funds were brought under DDT at 10 per cent under **section 115R**.

The aim was equity of taxation; markets need the new rates to remain predictable.

Introduction

Union **Budget 2018-19** changed how India taxes **listed equity wealth** and **mutual-fund dividends**. For years, long-term gains on shares and equity funds were largely exempt if securities transaction tax was paid. The Budget withdrew that exemption and put a **dividend distribution tax** on equity-oriented funds. The stated aim was horizontal equity with other income; the market fear was a hit to household savings in shares.

Body

Long Term Capital Gains Tax (LCGT)

- Until this Budget, **long-term capital gains** on listed equity shares and equity-oriented mutual funds were exempt under **section 10(38)** when **securities transaction tax (STT)** had been paid.
- **Section 112A was inserted: gains above Rs 1 lakh** in a year on such assets, held more than **12 months**, are taxed at **10 per cent** without indexation and without the old exemption.
- **Grandfathering protected past appreciation: for shares bought before 1 February 2018**, the cost of acquisition is taken so that gains accrued till **31 January 2018** are not taxed under the new rule.
- Short-term capital gains on the same assets continued at the existing **15 per cent** STT-linked rate.
- The policy logic was that a permanent zero tax on equity LTCG was a **privilege** relative to interest, property and unlisted shares.

Dividend Distribution Tax (DDT)

- Companies already paid **DDT under section 115-O** on dividends distributed (a 15 per cent base plus surcharge and cess), and the dividend was then largely tax-free in many shareholders' hands, subject to the extra levy on very large dividend income.
- Budget 2018-19 levied **DDT at 10 per cent** (plus surcharge and cess) on **equity-oriented mutual funds** under **section 115R**. Those fund dividends had been tax-free for unit holders; debt funds already faced DDT.
- The change aligned **equity-fund payouts** with other distributed surplus and reduced the incentive to take return as dividend rather than as capital gain.

Comment

- The LTCG design (threshold plus grandfathering) tried to spare **small, patient investors** and not rewrite old prices overnight.
- DDT on equity funds hits **payout schemes** more than growth schemes; it can push savers toward accumulation plans.
- Both measures widen the **tax base on financial income**. They also add complexity and can affect foreign and domestic flows if rates look unstable.
- Fairness improved relative to wage and interest income; **predictability** of the equity tax regime remains part of the cost of capital.

Flow diagram

Budget 2018-19 -> LTCG 10 percent section 112A

Budget 2018-19 -> DDT 10 percent equity funds

LTCG 10 percent section 112A -> Grandfather 31 Jan 2018

LTCG 10 percent section 112A -> Threshold Rs 1 lakh

DDT 10 percent equity funds -> Align fund dividends with other payouts

Conclusion

Budget 2018-19 ended the LTCG holiday on listed equity above Rs 1 lakh at 10 per cent with grandfathering, and put DDT on equity-oriented mutual fund dividends. The shift is more equal across income types. It will work if the new rates stay stable so households still use equity for long-term saving.

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Q3 · 10 marks

What do you mean by Minimum Support Price (MSP)? How will MSP rescue the farmers from the low income trap? (150 Words, 10 Marks).

GS III · 2018 · Crops, Irrigation and Marketing

Revision summary

MSP is a Union floor price for notified crops, based on CACP cost estimates and Cabinet approval.

Budget 2018-19 set MSP at 1.5 times A2+FL for those crops.

FCI procurement and PM-AASHA (price support, deficiency payment, private stockists) are how the floor becomes cash.

A real MSP can cut distress sale and fund the next crop, which is the exit from a low income trap.

Without procurement, and for crops outside the list, the trap remains.

Introduction

Minimum Support Price (MSP) is a floor price that the Union announces before the season so that, in theory, the farmer need not sell below it in distress. It is the State's answer to a **low income trap**: weak price, high cost, and no surplus to invest in the next crop. MSP rescues only where it is **actually paid**, not where it remains a press-note number.

Body

What MSP means

- MSP is the **procurement price floor** recommended by the **Commission for Agricultural Costs and Prices (CACP)** and approved by the **Cabinet Committee** on Economic Affairs for mandated **kharif and rabi** crops (cereals, pulses, oilseeds, copra, raw cotton, raw jute).
- CACP uses cost concepts such as **A2** (paid-out costs), **A2+FL** (paid-out costs plus imputed family labour), and **C2** (comprehensive cost including rent and interest on owned capital).
- **Union Budget 2018-19** announced MSP at **1.5 times A2+FL** for the notified crops, which raised the political floor even where C2 is higher.
- The **Food Corporation of India** and State agencies buy rice and wheat at MSP for the public distribution system; pulses and oilseeds need extra windows.
- **PM-AASHA (2018)** added price support, **price deficiency payment**, and private procurement-cum-stockist routes so MSP is not only an FCI wheat-rice story.

How MSP can rescue the low income trap

- A credible floor cuts **distress sale** to the village trader right after harvest, when the farmer's cash need is highest.
- Assured price raises **expected income**, so the household can repay kisan credit, buy seed and keep a child in school instead of selling land or labour cheap.
- For cereals, MSP plus **open-ended procurement** in surplus States has historically shifted income from the market to the farm, at a fiscal cost.
- Coupled with **PM-KISAN**-type income support and crop insurance, MSP is a price tool inside a wider income package.

- If deficiency payments work, even a farmer who sells in the mandi can receive the **gap** up to MSP without the State stacking grain.

Limits

- MSP without **procurement or deficiency payment** does not raise the cheque the farmer cashes.
- The trap continues for **perishables and most horticulture**, which sit outside the classic MSP list.
- Heavy MSP on rice and wheat can lock farmers into those crops and **groundwater stress**, which is another trap.
- A2+FL at 1.5 times is not the same as covering **C2**; some farmers still see cost above the cheque.
- Tenants and those without marketable surplus often miss MSP altogether.

Flow diagram

CACP cost -> MSP announcement
MSP announcement -> FCI wheat rice buy
MSP announcement -> PM-AASHA pulses oilseeds
FCI wheat rice buy -> Higher farm income
PM-AASHA pulses oilseeds -> Higher farm income
Higher farm income -> Exit distress low income trap

Conclusion

MSP is a pre-announced floor meant to stop harvest distress and raise farm income. It rescues the low income trap only when agencies buy, or pay the deficiency, and when the crop mix is not only rice and wheat. Budget 2018's 1.5 times A2+FL and PM-AASHA are the present tools; they need last-mile purchase, not only a higher number.

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Q4 · 10 marks

Examine the role of supermarkets in supply chain management of fruits, vegetables and food items. How do they eliminate number of intermediaries? (150 Words, 10 Marks).

GS III · 2018 · Indian Economy

Revision summary

Unorganised produce chains use several intermediaries between farm and plate, which adds margin and spoilage.

Supermarkets shorten the chain with collection centres, contracts, pack-houses and cold logistics.

Direct offtake and store distribution drop arhatiya and wholesale hops.

FDI in food retail and organised grocery were meant to finance that logistics.

Small farmers still need FPOs and a mandi fallback when quality rejection is high.

Introduction

Fruits, vegetables and packaged food in India still often travel through a **long mandi chain**: aggregator, arhatiya, wholesaler, transporter, then retailer. **Supermarkets** - organised grocery chains with collection centres and private standards - try to shorten that chain. They buy closer to the farm, grade and cold-store, and sell under one roof. Fewer hands can mean **less wastage and a clearer price**, if the contract is fair.

Body

Role in supply chain management

- **A supermarket runs** backward integration: collection centres, contract or registered growers, pack-houses, refrigerated trucks, and store-level inventory software.
- **Grading, washing, packing and cold chain** reduce the 20-40 per cent physical loss typical of unorganised horticulture after harvest.
- Private quality specs (size, residue, shelf life) force a **planned harvest**, not only a dump at the APMC gate.
- For staples and processed food, chains use **distribution centres** and direct deals with millers and brands, cutting wholesale layers.
- **100 per cent FDI in food retail** (subject to conditions from 2016) and organised domestic retail were meant to bring this logistics capital into perishables.
- Some chains also feed **export and institutional** buyers from the same pack-house, spreading fixed cold-chain cost.

How intermediaries are eliminated

- The classic chain is farmer to village buyer to **APMC commission agent** to urban wholesaler to push-cart or kirana. Each layer takes a margin and delays the truck.
- A supermarket **collection centre** can buy at the farm gate or a rural hub, so the arhatiya and one wholesale hop drop out.
- **Contract farming** and registered suppliers replace daily auction middlemen with a scheduled offtake.
- Direct store delivery from a pack-house to the shelf replaces a second city wholesaler.

- Electronic billing and **traceability** reduce the need for informal brokers who lived on information gaps.
- The farmer's share of the consumer rupee can rise **if** the chain does not capture the whole saving as its own margin.

Caveats

- Rejection on quality can throw produce back to the mandi, so the farmer still needs the old chain as **insurance**.
- Smallholders without scale, irrigation or grading lose the supermarket door unless **Farmer Producer Organisations** aggregate.
- Kirana and mandi labour lose volume; policy must not pretend the social cost is zero.
- **APMC and stocking rules** still shape whether a chain can legally buy outside the yard in every State.

Flow diagram

Farmer -> Old chain many intermediaries
Farmer -> Supermarket collection centre
Supermarket collection centre -> Pack house cold chain
Pack house cold chain -> Retail shelf
Old chain many intermediaries -> Waste and extra margins
Retail shelf -> Fewer hops less waste

Conclusion

Supermarkets manage fruit, vegetable and food flows with collection centres, cold chain and store demand data. That cuts village and mandi intermediaries and can cut waste. The farmer gains only if price, offtake and quality rules are transparent, and if FPOs give small plots a door into the same chain.

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Q5 · 10 marks

Discuss the work of 'Bose-Einstein Statistics' done by Prof. Satyendra Nath Bose and show how it revolutionized the field of Physics. (150 Words, 10 Marks).

GS III · 2018 · Indian Economy

Revision summary

Satyendra Nath Bose derived Planck's law by treating photons as indistinguishable quanta.

Einstein extended the counting to atoms; the result is Bose-Einstein statistics.

Bosons have integer spin and may occupy one quantum state; fermions cannot.

The theory predicted Bose-Einstein condensation, confirmed in 1995, and underpins lasers and many-body quantum fluids.

Force-carrying particles in the Standard Model, including the Higgs boson, sit in that boson class.

Introduction

In 1924 **Satyendra Nath Bose**, then at the University of Dacca, re-derived **Planck's law** of black-body radiation by counting **indistinguishable photons**, not by classical waves alone. **Albert Einstein** saw that the same counting could apply to material particles. The joint idea became **Bose-Einstein statistics**. It split the quantum world into particles that may share a state and particles that may not, and it still structures lasers, superfluids and the **Higgs boson**.

Body

Bose's work

- Planck had an energy formula for heat radiation; Bose gave it a **pure quantum-statistical** proof by treating light quanta as identical particles and counting the ways they occupy energy cells.
- Bose sent the English paper to Einstein after an Indian journal delay; Einstein translated and extended it to **atoms with integer spin**.
- The method dropped the classical assumption that particles are **distinguishable**, which was the key break from Maxwell-Boltzmann counting.

Bose-Einstein statistics

- Particles with **integer spin** (0, 1, 2, ...) follow Bose-Einstein statistics and are called **bosons**, a name given by Paul Dirac.
- Many bosons **may occupy the same quantum state**; there is no Pauli exclusion for them.
- Photons, gluons, W and Z bosons, and the Higgs particle are bosons; composite nuclei with integer spin also behave as bosons.
- **Fermions** (half-integer spin: electrons, protons, neutrons) follow Fermi-Dirac statistics and cannot share a state. Matter structure depends on that contrast.
- Einstein predicted that a gas of bosons cooled near absolute zero would collapse into one ground state: the **Bose-Einstein condensate (BEC)**.

How the field of physics changed

- **Quantum statistics became a third pillar beside wave mechanics and matrix mechanics:** whole fields (quantum optics, condensed matter, particle classification) use the boson/fermion split.
- **Lasers and masers** rest on many photons in one mode, which Bose counting allows.
- Superfluid helium and related macroscopic quantum fluids are boson phenomena at low temperature.
- BEC was produced in dilute alkali gases in **1995** (Cornell, Wieman, Ketterle; Nobel Prize 2001), confirming the 1920s prediction in the laboratory.
- The **Standard Model** names force carriers as bosons; the 2012 Higgs discovery at CERN is a boson story whose name traces to Bose's statistics, not to a Higgs-Bose joint paper.
- **Indian physics gained a foundational credit in the world syllabus:** Bose-Einstein, not only applied nuclear or space work.

Flow diagram

SN Bose photon counting -> Planck law derived
SN Bose photon counting -> Einstein atoms
Einstein atoms -> Bose-Einstein statistics
Bose-Einstein statistics -> Bosons share a state
Bosons share a state -> Lasers BEC Higgs family

Conclusion

Bose counted indistinguishable photons and repaired Planck's law. Einstein generalised the count to atoms. Bose-Einstein statistics defined bosons, predicted the condensate, and still frames lasers, superfluids and the boson family in particle physics. That is a revolution in how the field classifies matter and light.

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Q6 · 10 marks

What are the impediments in disposing the huge quantities of discarded solid wastes which are continuously being generated? How do we remove safely the toxic wastes that have been accumulating in our habitable environment? (150 Words, 10 Marks).

GS III · 2018 · Environment and Conservation

Revision summary

Disposal fails when wet and dry waste mix, landfills overflow, and municipalities pay for dumping not processing.

Plastic, e-waste and construction debris add volume that informal recycling cannot safely absorb.

SWM Rules 2016 require segregation, processing and sanitary landfills only for rejects.

Hazardous, biomedical and e-waste rules send toxins to TSDFs and licensed common facilities.

Safe clean-up of inhabited sites means leachate control, biomining of legacy dumps, and polluter-pays tracking.

Introduction

Indian cities and industrial belts now generate **solid waste faster than dumps can hold it: household wet and dry mix, plastic, construction debris, and toxic sludge** from factories and hospitals. Disposal fails when waste is mixed at the bin, when landfills leak, and when hazardous fractions sit in the open. Safe removal is a **chain**: segregate, treat, lock the residue, and track the toxin - not a single truck to the city edge.

Body

Impediments in disposing huge solid waste

- **No segregation at source** mixes food, plastic, sanitary waste and batteries, so composting, recycling and incineration all fail or become unsafe.
- **Municipal capacity is thin**: irregular collection, few **material recovery facilities**, and contracts that pay for tonnage dumped, not for processing.
- **Landfill sites** are full, poorly lined, and politically hard to site (NIMBY); leachate and methane then poison water and air.
- The **informal ragpicker** system recovers value but without safety gear, so recycling is real while health and data are not.
- Plastic, multilayer packaging and **e-waste** have low scrap value and high volume; **extended producer responsibility** is still uneven on the ground.
- Construction and demolition waste and **legacy dumps** add bulk that household systems were never designed to swallow.
- Public habit, weak user charges, and overlapping urban bodies slow **Swachh Bharat** processing targets even where rules exist.

Safe removal of toxic wastes

- **Solid Waste Management Rules, 2016** require source segregation, user fees, processing (compost, biomethanation, waste-to-energy with standards), and sanitary landfills only for

rejects and inerts.

- **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016** demand authorisation, manifests, and disposal only in **Treatment, Storage and Disposal Facilities (TSDFs)** - secured landfills and incinerators with emission control - not in municipal dumps.
- **Bio-medical Waste Management Rules, 2016** and **E-Waste (Management) Rules, 2016** send infectious and electronic toxins to licensed common facilities, not to the nala.
- **Immediate steps in inhabited areas: stop mixed dumping**, fence and cap leaking sites, pump and treat **leachate**, and relocate drummed chemicals to TSDFs.
- **Bioremediation and biomining** of legacy dumps can reduce volume if fractions are actually separated, not only turned.
- **Central Pollution Control Board** guidelines, State Pollution Control Board consent, and **Basel Convention** controls on transboundary hazardous movement close the legal loop.
- Community right to know, groundwater monitoring, and **polluter-pays** charges on industry keep toxins from returning to the basti after a one-time clean-up.

Flow diagram

Mixed huge waste -> Impediments no segregation full dumps
 Mixed huge waste -> SWM Rules 2016 segregate process
 Toxic fraction -> Hazardous Rules TSDF
 Toxic fraction -> BMW and e-waste facilities
 SWM Rules 2016 segregate process -> Sanitary reject only
 Hazardous Rules TSDF -> Sanitary reject only

Conclusion

Huge solid waste sticks because it is mixed, under-funded and sent to dying dumps. Toxic fractions need licensed TSDFs, biomedical and e-waste channels, and lined residual landfills under the 2016 rules. Safe removal is segregation plus tracked treatment, not shifting the pile to another neighbourhood.

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Q7 · 10 marks

What is wetland? Explain the Ramsar concept of 'wise use' in the context of wetland conservation. Cite two examples of Ramsar sites from India. (150 Words, 10 Marks).

GS III · 2018 · Environment and Conservation

Revision summary

- **Wetlands are waterlogged transitional ecosystems:** marshes, lakes, floodplains, mangroves and similar habitats.

Ramsar wise use means maintaining ecological character inside sustainable development, not a total ban and not drainage.

India is a Ramsar party (1982); Wetlands Rules 2017 add domestic controls.

Chilika Lake (Odisha) and Keoladeo National Park (Rajasthan), both listed in 1981, are two Indian Ramsar sites.

Wise use at those sites is hydrology, livelihood and limits on conversion.

Introduction

A **wetland** is land that is wet enough, often enough, to support plants and animals that need waterlogged soil: marshes, lakes, floodplains, mangroves, coral flats and peat. These are not wastelands. They store flood water, recharge wells, hold fish and birds, and buffer storms. The **Ramsar Convention (1971)** asks countries to list important sites and to practise **wise use** so people can live from the wetland without killing its ecological character.

Body

What a wetland is

- Wetlands are **transitional ecosystems** between dry land and deep water, with water at or near the surface for a large part of the year.
- They include inland lakes and marshes, river floodplains, estuaries, **mangroves**, lagoons and man-made tanks and reservoirs when they function as wetland habitat.
- India notified the **Wetlands (Conservation and Management) Rules, 2017** to identify wetlands (other than those already under Forest or coastal regulation in specified ways) and to restrict filling, dumping and untreated effluent.

Ramsar 'wise use'

- Ramsar defines **wise use** as the maintenance of the **ecological character** of a wetland through ecosystem approaches, within **sustainable development**.
- Ecological character means the ecosystem services, habitat and species assemblage that made the site important.
- Wise use is not a fence that bans all people, and not a licence to drain. It is **use that does not convert** the marsh into a colony, a dump or a dry field.
- Tools include zonation, regulated fishing and tourism, treatment of inflow, community rights, and bans on reclamation and invasive species.
- India joined Ramsar in **1982**. Listing a **Ramsar site** creates an international conservation duty plus a domestic management plan.

Two Indian Ramsar sites

- **Chilika Lake (Odisha)**, listed in 1981, is a brackish lagoon with Irrawaddy dolphins, migratory birds and a large fishery. Wise use here means keeping the sea mouth and salinity balance, regulating aquaculture and tourism, and supporting fisher livelihoods - work associated with the Chilika Development Authority after the site faced degradation and a Ramsar Montreux concern, later improved.
- **Keoladeo National Park (Bharatpur, Rajasthan)**, also listed in 1981, is a man-managed marsh famous for migratory waterbirds. Wise use means **assured water** from upstream, control of feral cattle and invasive plants, and tourism that does not starve the birds of habitat. Water conflict with nearby agriculture has been the test of wise use, not a postcard of painted storks.
- Other early sites such as **Loktak (Manipur)** or **Sundarbans (West Bengal)** show the same rule: people and hydrology must be planned together.

Comment

- Wise use fails when a Ramsar plaque sits on a shrinking map while sewage and real estate continue.
- It succeeds when **hydrology, livelihood and law** are one plan, as Chilika's later recovery partly showed.

Flow diagram

Wetland ecosystem -> Ramsar list
 Ramsar list -> Wise use keep ecological character
 Wise use keep ecological character -> Chilika fishery and salinity
 Wise use keep ecological character -> Keoladeo water and birds
 Wise use keep ecological character -> No drain dump convert

Conclusion

A wetland is a water-shaped ecosystem, not empty land. Ramsar wise use means keeping that ecological character while allowing sustainable livelihood. Chilika and Keoladeo show the duty in India: manage water, fishing and tourism so the site still functions as a wetland, not as a drained plot with a name board.

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Q8 · 10 marks

Sikkim is the first 'Organic State' in India. What are the ecological and economical benefits of Organic State? (150 Words, 10 Marks).

GS III · 2018 · Indian Economy

Revision summary

Sikkim became India's first fully organic State in 2016 after a long chemical phase-out mission.

Ecological gains are soil conservation, cleaner springs, pollinators and less pesticide residue in a fragile Himalaya.

Economic gains are certified premiums, organic tourism and lower purchased-input bills.

PKVY-style clusters elsewhere are local; Sikkim's policy was statewide.

Yield conversion dips and market access remain the cash risk.

Introduction

Sikkim declared itself fully **organic** in 2016 after a State mission that phased out synthetic fertilisers and pesticides on notified farm land. It was the first Indian State to take that legal and market step. In a steep Himalayan ecology, organic status is both a **soil and water policy** and a **brand**. The gains are ecological first; the cash comes if markets and tourism pay for that brand.

Body

What Organic State means

- The **Sikkim Organic Mission** (from 2003, intensified later) withdrew subsidy on chemicals, trained farmers, and moved area to organic practices and certification.
- By 2015-16 the State reported its farm land as organic under a mix of **third-party certification** and **Participatory Guarantee System (PGS)** logic used in Indian organic policy.
- **Paramparagat Krishi Vikas Yojana** and Union organic clusters elsewhere followed a similar cluster idea; Sikkim's difference was **statewide** coverage, not a few villages.
- Organic here means no synthetic NPK and pesticides on the notified area, with bio-inputs, compost, crop diversity and soil cover.

Ecological benefits

- Himalayan slopes erode fast. Organic matter, mulch and mixed cropping **bind soil** and cut runoff into Teesta-range streams.
- Ban on persistent pesticides protects **pollinators, soil microbes and aquatic life**, and reduces residue in cardamom, ginger, mandarin and vegetables.
- Lower chemical load protects **springs and village drinking water** in a State where hydrology is steep and storage is small.
- Agrobiodiversity (traditional millets, maize, vegetables) is easier to keep when the package is not a single high-input cereal.
- Health of farm workers improves when spray exposure falls - a public-health gain in smallholder hills.

- Sikkim's organic story later received international policy recognition (including a **Future Policy Gold Award** associated with FAO/World Future Council), which locked the ecological brand.

Economic benefits

- **Premium prices** on certified spices, tea and vegetables can raise farm-gate income if the certificate reaches the buyer, not only the file.
- **Rural tourism and homestays** sell clean landscape and organic meals; the State markets this as a package with Khangchendzonga and Buddhist circuits.
- Over time, farmers save on **purchased chemicals**; labour and compost become the cost, which suits family farms if markets exist.
- A State brand (**Sikkim Organic**) is cheaper to advertise than a thousand uncertified plots.
- **Limits: yield dips** in the conversion years, thin local processing, and the risk that cheap conventional produce from the plains undercuts the mandi. Extension, storage and FPO marketing decide whether ecology becomes income.

Flow diagram

Sikkim Organic Mission -> Soil water pollinators
Sikkim Organic Mission -> Certification PGS
Soil water pollinators -> Brand and tourism
Certification PGS -> Premium spices vegetables
Brand and tourism -> Farm income
Premium spices vegetables -> Farm income

Conclusion

Sikkim's Organic State status is a statewide chemical phase-out with certification. Ecologically it protects Himalayan soil, water and biodiversity. Economically it works through premium crops, tourism and lower chemical bills - if markets and processing keep the brand from remaining only a slogan.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2018/sikkim-is-the-first-organic-state-in-india-what-are-the-ecological-and-economical-benefits-of-organic-state-150-words-10-marks/>

Q9 · 10 marks

The China Pakistan Economic Corridor (CPEC) is viewed as a cardinal subset of China's larger 'One Belt One Road' initiative. Give a brief description of CPEC and enumerate the reasons why India has distanced itself from the same. (150 Words, 10 Marks).

GS III · 2018 · Indian Economy

Revision summary

CPEC links Kashgar in Xinjiang to Gwadar port through Pakistan as the leading Belt and Road land corridor.

Projects include highways, power plants, fibre and Gwadar, financed largely by China.

The northern alignment runs through Gilgit-Baltistan in Pakistan-occupied Kashmir.

India objects on sovereignty, lack of consultation, and strategic-debt risk at Gwadar.

India skipped the 2017 Belt and Road Forum and uses other routes such as Chabahar instead.

Introduction

The **China-Pakistan Economic Corridor (CPEC)** is the flagship land-and-energy arm of China's **Belt and Road Initiative** (also called One Belt One Road). It aims to link **Xinjiang** to the Arabian Sea at **Gwadar** through Pakistan. India has kept out of Belt and Road forums because CPEC is not a neutral trade road. It runs across **Pakistan-occupied Kashmir**, which India holds to be its own territory, and it deepens a China-Pakistan strategic pair on India's western flank.

Body

Brief description of CPEC

- CPEC is a package of **roads, fibre, energy plants and the Gwadar port** connecting Kashgar in China's Xinjiang to Gwadar in Balochistan, with related industrial parks.
- **It is presented as a cardinal subset of Belt and Road:** China gets a shorter western outlet that avoids only-Malacca sea lanes; Pakistan gets infrastructure and power capacity, largely on Chinese financing and contractors.
- The corridor's northern legs pass through **Gilgit-Baltistan**, part of the erstwhile princely state of Jammu and Kashmir now under Pakistan's control - **Pakistan-occupied Kashmir (PoK)** in India's official map.
- Scale has been cited in tens of billions of US dollars (energy plus transport), with **debt, equity and Chinese State firms** as the typical Belt and Road mix.
- Gwadar is a deep-water port with civilian trade aims and, in Indian and other strategic readings, **dual-use** potential for the Chinese navy over time.

Why India has distanced itself

- **Sovereignty:** India states that the entire Jammu and Kashmir, including PoK and Gilgit-Baltistan, is Indian territory. Building a corridor there with Pakistan and China **without India's consent** violates territorial integrity. No Indian government can treat that as ordinary connectivity.
- **Process:** India has argued that Belt and Road projects should follow **transparency, financial sustainability and good faith consultation**. CPEC was designed as a China-Pakistan bilateral fact, not a regional public good agreed in a South Asian table.

- **Precedent:** Accepting CPEC as Belt and Road's core would look like **legitimising Pakistan's hold on PoK** and China's presence there.
- **Strategic encirclement:** CPEC plus Chinese activity in the Indian Ocean (ports in Sri Lanka, Myanmar, and elsewhere) fits a **string-of-pearls** worry; a China-run Gwadar sits near India's western sea lanes and the Gulf energy route.
- **Debt and politics inside Pakistan:** Large Chinese loans can create **leverage** over a neighbour's infrastructure and politics, which is not a neutral economic club India would join on those terms.
- India therefore skipped the **Belt and Road Forum (2017)** in Beijing and has repeated that connectivity must respect sovereignty. India prefers other corridors (for example **Chabahar** with Iran and Afghanistan, and **International North-South Transport Corridor**) that do not run through PoK.

Comment

- Distancing is not a rejection of **all** Asian connectivity. It is a rejection of a corridor that writes China's and Pakistan's map onto a disputed land and a sensitive sea.

Flow diagram

Belt and Road -> CPEC
 CPEC -> Kashgar to Gwadar
 CPEC -> Through Gilgit-Baltistan PoK
 Through Gilgit-Baltistan PoK -> India sovereignty objection
 CPEC -> Debt dual-use Gwadar
 Debt dual-use Gwadar -> India sovereignty objection

Conclusion

- **CPEC is Belt and Road's Pakistan spine:** Xinjiang to Gwadar through Gilgit-Baltistan, with energy and port projects. India stays out because the route crosses PoK, the project was not a consultative regional compact, and the strategic pair of China and Pakistan on that land and at Gwadar is a security fact, not only a trade fact.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2018/the-china-pakistan-economic-corridor-cpec-is-viewed-as-a-cardinal-subset-of-chinas-larger-one-belt-one-road-initiative-give-a-brief-description-of-cpec-and-enumerate-the-reasons-why-india-has-distanced-itself-from-the/>

Q10 · 10 marks

Left Wing Extremism (LWE) is showing a downward trend, but still affects many parts of the country. Briefly explain the Government of India's approach to counter the challenges posed by LWE. (150 Words, 10 Marks).

GS III · 2018 · Internal Security and Extremism

Revision summary

Left Wing Extremism has declined in incidents and affected districts but still holds core forest pockets.

- **SAMADHAN (2017)** is the Union's combined doctrine: leadership, force, intelligence, dashboards, holistic development and cutting finance.

CRPF/CoBRA, SRE, fortified stations and UAPA form the security track.

Special Central Assistance, road plans, Aspirational Districts and Forest Rights work form the development track.

Surrender-cum-rehabilitation is the exit door; civilian harm and missing rights can reverse gains.

Introduction

Left Wing Extremism (LWE), rooted in the Naxalite movement, still affects pockets of the central Indian tribal belt, even as the number of incidents and affected districts has **fallen**. The Government of India's line is not only more battalions. It is **security plus development plus legitimacy**: dominate the forest, build the road and the school, and offer a way out of the dal. **SAMADHAN** is the 2017 label for that mix.

Body

The challenge that remains

- LWE groups, chiefly the **Communist Party of India (Maoist)**, use forest cover, poor administration and tribal grievance over **land, mines and forest rights** to run a parallel tax and court.
- Violence has **trended down** on Ministry of Home Affairs counts, and the map of 'worst-affected' districts has shrunk, but Chhattisgarh, parts of Jharkhand, Odisha, Maharashtra and Bihar still see ambush and IED risk.
- **The challenge is therefore** residual but sharp: fewer districts, harder core areas, and a political need not to confuse quiet with victory.

Security approach

- **SAMADHAN (2017)** is the Union mnemonic: **Smart leadership, Aggressive strategy, Motivation and training, Actionable intelligence, Dashboard-based key performance indicators, Holistic approach, Action plan for each theatre, and choking No access to financing** (extortion and illegal mining).
- Central Armed Police Forces, especially **CRPF** and specialised units such as **CoBRA**, support State police; **Greyhounds**-type State forces remain the local spear.
- **Security Related Expenditure (SRE)** reimburses States; **Special Infrastructure Scheme** and fortified police stations fill the camp-and-road gap in interiors.

- Ban under **Unlawful Activities (Prevention) Act**, action against overground workers, and disruption of **arms and IED** supply are the legal-kinetic track.
- **Civic Action Programme** of CAPFs funds small local works so the camp is not only a gun.

Development and rehabilitation

- **Road Requirement Plan**, mobile towers, banks, hostels and **Aspirational Districts (2018)** target the same blocks the insurgency used as a vacuum.
- **Integrated Action Plan / Special Central Assistance** to LWE districts finances school, anganwadi and livelihood gaps that a normal State plan missed.
- **ROSHNI** and skill programmes, **Forest Rights Act** implementation, and mining-affected area funds try to cut the recruitment story of dispossession.
- **Surrender-cum-rehabilitation** policies of the Union and States offer stipend, skill and housing so cadres can exit.
- Intelligence fusion and **district action plans** are meant to stop a see-saw in which security clears a valley and development never arrives.

Comment

- The downward trend shows the mix can work where the State stays. It fails if roads are built without **rights and jobs**, or if operations ignore civilian harm and recreate grievance.

Flow diagram

LWE residual core -> SAMADHAN security intel finance
 LWE residual core -> Roads SCA Aspirational Districts
 LWE residual core -> Surrender rehabilitation
 SAMADHAN security intel finance -> Fewer incidents
 Roads SCA Aspirational Districts -> Fewer incidents
 Surrender rehabilitation -> Fewer incidents

Conclusion

LWE is weaker on the map but alive in core forests. India's approach is SAMADHAN: intelligence-led force, choke on finance, and a development-and-surrender package through SRE, special assistance, roads, Aspirational Districts and rehabilitation. Quiet districts stay quiet only if the school and the title deed follow the camp.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2018/left-wing-extremism-lwe-is-showing-a-downward-trend-but-still-affects-many-parts-of-the-country-briefly-explain-the-government-of-indias-approach-to-counter-the-challenges-posed-by-lwe-150-words-10-marks/>

Q11 · 15 marks

How are the principles followed by NITI Aayog different from those followed by the erstwhile planning commission in India?(250 Words, 15 Marks).

GS III · 2018 · Indian Economy

Revision summary

The **Planning Commission** set Five-Year Plans and allocated Central plan funds in a top-down way.

- **NITI Aayog is a shared think tank:** Governing Council of CMs, no scheme-money power, and long-term strategy.

Cooperative and competitive federalism, SDG dashboards, and Aspirational Districts replace quota-style planning.

Centrally sponsored schemes still limit how federal NITI really is.

NITI must evaluate honestly and help weak States with capacity, not only with ranks.

Flow diagram

Planning Commission -> Top-down Five-Year Plans

Planning Commission -> Plan fund allocation

NITI Aayog -> Cooperative federalism

NITI Aayog -> Think tank no purse

NITI Aayog -> Competitive rankings SDGs

Cooperative federalism -> State-led outcomes

Competitive rankings SDGs -> State-led outcomes

Conclusion

- Keep NITI as an honest **evaluator** of schemes, not as a silent cheerleader of every Union programme.
- Give States a real say in scheme design, and publish dissenting notes from the Governing Council so cooperative federalism is more than a photograph.
- Tie Aspirational District lessons to **finance and personnel**, or competition will stay a dashboard sport.

The **Planning Commission** planned and paid from the Centre; **NITI Aayog** is meant to think with States and to compete on outcomes without holding the cheque. The principle-shift is federal, evidence-based, and long-horizon. It will matter only if advice can change schemes and if weak States get capacity, not only ranks.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2018/how-are-the-principles-followed-by-niti-aayog-different-from-those-followed-by-the-erstwhile-planning-commission-in-india-250-words-15-marks/>

Q12 · 15 marks

How would the recent phenomena of protectionism and currency manipulations in world trade affect macroeconomic stability of India? (250 Words, 15 Marks).

GS III · 2018 · Indian Economy

Revision summary

Foreign protection cuts export demand and investment certainty for India.

A tariff reply that taxes inputs can raise inflation and hurt competitiveness.

Currency undervaluation and dollar shocks weaken the rupee, pull out FPI, and lift oil prices in rupees.

Growth, CAD, and inflation can worsen together in an oil-importing open economy.

Buffers are forex reserves, FDI, a flexible rupee, and targeted-not blanket-trade defence.

Flow diagram

Foreign tariffs barriers -> Indian export demand
 Currency undervaluation dollar shock -> Rupee and FPI
 Indian export demand -> Current account
 Rupee and FPI -> Current account
 Rupee and FPI -> Imported inflation
 Current account -> Macro stability
 Imported inflation -> Macro stability
 Reserves FDI targeted trade -> Macro stability

Conclusion

- Keep **tariffs targeted** (dumping, strategic sectors) and avoid a general wall that taxes Indian industry's own inputs.
- Diversify export markets and sign **quality trade pacts** that lock access, while using **WTO** and anti-dumping with evidence.
- Hold **adequate reserves**, a flexible rupee with ordered intervention, and a CAD financed more by **FDI** than by hot FPI.
- Build **oil buffer and strategic stocks**, expand non-dollar invoicing where real, and keep the fiscal deficit from adding a second shock.
- Deepen **domestic bond and hedging** markets so firms are not naked to a currency swing.

Protectionism hits Indian exports and can raise input costs if Delhi copies the wall. Currency manipulation and dollar swings hit the rupee, inflation, and capital flows. Macroeconomic stability then depends on reserves, a flexible but ordered rupee, FDI-heavy financing of the CAD, and open-but-fair trade rather than a tariff spiral.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2018/how-would-the-recent-phenomena-of-protectionism-and-currency-manipulations-in-world-trade-affect-macroeconomic-stability-of-india-250-words-15-marks/>

Q13 · 15 marks

Assess the role of National Horticulture Mission (NHM) in boosting the production, productivity and income of horticulture farms. How far has it succeeded in increasing the income of farmers? (250 Words, 15 Marks).

GS III · 2018 · Crops, Irrigation and Marketing

Revision summary

NHM (2005-06), later under MIDH, pushed horticulture area, planting material, and some post-harvest assets.

National fruit and vegetable output and some cluster yields rose clearly.

Income rose where markets, drip, and processing exist, and failed in glut seasons for tomato, onion, and potato.

Post-harvest loss means extra tonnes are not extra cash.

Policy should score sold, graded produce and FPO cold chain, not only area.

Flow diagram

NHM MIDH MIDH -> Area seed drip clusters
 Area seed drip clusters -> Higher production productivity
 Higher production productivity -> Farm income
 Glut loss thin processing -> Farm income
 Pack-house FPO cold chain -> Farm income

Conclusion

- **Shift NHM/MIDH from** area targets **to** sold, graded produce: cluster pack-houses, e-NAM quality assaying, and processing parks tied to FPOs.
- Expand **price stabilisation** and onion-potato-tomato storage as public infrastructure, not only private cold rooms for the large farmer.
- Certify nurseries strictly; fake plants are an income killer.
- Align **crop insurance, power, and drip** so protected cultivation is not a subsidy trap.
- Measure success as **real farm income and reduced loss**, not only as national horticulture tonnage.

NHM helped India grow more fruit, vegetables, and spices and raised productivity in clusters that already had markets and drip. It has only partly succeeded in raising farmer income, because glut, loss, and weak processing still sit between the field and the purse. The next step is markets and cold chain, not another hectare target.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2018/assess-the-role-of-national-horticulture-mission-nhm-in-boosting-the-production-productivity-and-income-of-horticulture-farms-how-far-has-it-succeeded-in-increasing-the-income-of-farmers-250-words-15-marks/>

Q14 · 15 marks

How has the emphasis on certain crops brought about changes in cropping patterns in recent past? Elaborate the emphasis on millets production and consumption. (250 Words, 15 Marks).

GS III · 2018 · Indian Economy

Revision summary

Rice, wheat, and sugarcane expanded because MSP, FCI, mills, and irrigation paid for them.

Millets lost area even on dry land as diets and PDS favoured fine cereals.

Millets fit rainfed India and a nutrition plate, and policy now names them nutri-cereals with MSP and NFSM support.

Consumption will not follow unless PDS, schools, and processed foods take the grain.

Diversification needs real procurement and less subsidy for paddy in falling aquifers.

Flow diagram

MSP irrigation PDS -> Rice wheat cane area
 MSP irrigation PDS -> Millets lose area
 Nutrition water stress -> Nutri-cereal push
 Nutri-cereal push -> Seed MSP procurement
 Nutri-cereal push -> PDS MDM urban food
 Seed MSP procurement -> Drier healthier pattern
 PDS MDM urban food -> Drier healthier pattern

Conclusion

- Pay **MSP with actual lifting** of millets in rainfed districts, not only a price on paper.
- **Cut the paddy lock-in where aquifers fall: direct seeding, crop diversification payments, and honest power pricing.**
- Put millets in **PDS, ICDS, and MDM** with local procurement so consumption and production move together.
- Support FPOs for **dehulling and branding** so the farmer is not stuck with an unprocessed grain nobody in the city can cook.

Emphasis on rice, wheat, and cane, backed by water and procurement, remade India's cropping map and pushed millets to the margin. A new emphasis on millet production and consumption is right for water and nutrition, but it will stick only when the State buys, schools cook, and mills process the grain as seriously as it does paddy.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2018/how-has-the-emphasis-on-certain-crops-brought-about-changes-in-cropping-patterns-in-recent-past-elaborate-the-emphasis-on-millets-production-and-consumption-250-words-15-marks/>

Q15 · 15 marks

Why is there so much activity in the field of biotechnology in our country? How has this activity benefitted the field of biopharma? (250 Words, 15 Marks).

GS III · 2018 · Indian Economy

Revision summary

DBT, public labs, BIRAC, a large patient market, and generics plants explain India's biotech bustle.

Farm tools and contract research add demand besides hospitals.

Biopharma gained vaccines, biosimilars, recombinant insulin, and diagnostics, including UN-prequalified shots.

Gaps are original discovery, trial capital, and slow or split regulation.

Policy should keep cheap quality biologics and add a cleaner, faster regulatory clock.

Flow diagram

Disease farm market -> Biotech activity
DBT BIRAC CSIR -> Biotech activity
Generics GMP skill -> Biotech activity
Biotech activity -> Vaccines biosimilars insulin kits
Vaccines biosimilars insulin kits -> Lower cost public programmes
Faster quality regulation -> Vaccines biosimilars insulin kits

Conclusion

- One **predictable regulator clock** for clinical trials and biosimilar pathways, with world-class inspection rather than extra paper.
- Public purchase that rewards **quality and new antigens**, not only the lowest bid that kills R&D.
- BIRAC-scale funding for **translational** labs, cluster freeze-dry and fill-finish, and skill in bioprocess engineering.
- Open **biopharma to ethical data-sharing** for rare diseases while protecting privacy.
- **Keep access as the Indian edge:** cheap, good-enough biologics for the South, while a few centres chase original discovery.

Biotechnology is busy in India because public science, a huge health and farm market, and a generics culture met global contract demand. Biopharma gained vaccines, biosimilars, insulin, and diagnostics that cut cost and serve immunisation. The next gain is faster clean regulation and more original biologics, without losing the access model.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2018/why-is-there-so-much-activity-in-the-field-of-biotechnology-in-our-country-how-has-this-activity-benefitted-the-field-of-biopharma-250-words-15-marks/>

Q16 · 15 marks

With growing energy needs should India keep on expanding its nuclear energy programme? Discuss the facts and fears associated with nuclear energy. (250 Words, 15 Marks).

GS III · 2018 · Infrastructure

Revision summary

Nuclear offers low-carbon baseload and a thorium-based three-stage path after the NSG waiver eased fuel isolation.

NPCIL's operating record is a fact that supports careful expansion.

Fears are accident risk after Fukushima, waste, high capital cost, liability, and local consent.

Nuclear should grow as a limited share beside renewables and efficiency, not as the whole answer.

Safety culture, an independent regulator, and honest waste plans are the conditions for any extra megawatt.

Flow diagram

Rising power demand -> Nuclear baseload
Thorium 3-stage NSG fuel -> Nuclear baseload
Fukushima waste cost consent -> Limits delay
Nuclear baseload -> Mix with solar storage efficiency
Limits delay -> Mix with solar storage efficiency

Conclusion

- Publish emergency plans and waste routes in plain language; secrecy feeds fear more than spent fuel does.
- Pair every nuclear rupee with **renewable and efficiency** rupees so the grid is not waiting for one delayed reactor.
- Settle liability and indigenous supply so projects do not stall for a decade.
- Keep **IAEA-grade** safety culture and an empowered regulator at arm's length from the promoter.

Growing energy need is a fact; nuclear can supply clean baseload and use India's thorium science. Fears of accident, waste, cost, and consent are also facts, not only rumours. India should expand nuclear slowly, safely, and as one slice of the mix, not as a blank cheque against coal and solar.

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Q17 · 15 marks

How does biodiversity vary in India? How is the Biological Diversity Act, 2002 helpful in conservation of flora and fauna? (250 Words, 15 Marks).

GS III · 2018 · Environment and Conservation

Revision summary

- **India's living wealth varies by biogeographic zone:** Himalaya, north-east, Western Ghats, Deccan, desert, coasts, and islands.

Hotspots and farm genetic resources both count as biodiversity.

The 2002 Act sets NBA, State boards, and local BMCs, plus ABS and People's Biodiversity Registers.

That mesh fights bio-piracy and records local flora and fauna beside wildlife law.

Registers and ABS must be real, and EIA must read them, or the Act stays a form.

Flow diagram

Himalaya Ghats NE desert coast islands -> Varied flora fauna

BDA 2002 -> NBA SBB BMC SBB BMC

BDA 2002 -> Access benefit sharing

BDA 2002 -> PBR People's Biodiversity Registers

NBA SBB BMC -> Varied flora fauna

Access benefit sharing -> Community conservation

Conclusion

- Fund BMCs to **monitor and restore** (sacred groves, tanks, village forests), not only to fill registers.
- Speed honest ABS so communities see money and so science is not choked.
- Link heritage sites and PBRs to **Environmental Impact Assessment** so a road cannot skip documented biodiversity.
- Treat **crop and livestock diversity** (seed keeper, pastoral breed) as fauna and flora under the same care, not only tigers.

India's biodiversity changes with mountain, desert, Ghats, Deccan, coast, and island, and with the farm as well as the forest. The **Biological Diversity Act, 2002** helps by creating NBA-SBB-BMC, ABS, and local registers that protect flora, fauna, and knowledge. It works when those bodies are alive and tied to land-use decisions, not when they are only offices.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2018/how-does-biodiversity-vary-in-india-how-is-the-biological-diversity-act-2002-helpful-in-conservation-of-flora-and-fauna-250-words-15-marks/>

Q18 · 15 marks

Describe various measures taken in India for Disaster Risk Reduction (DRR) before and after signing 'Sendai Framework for DRR (2015-2030)'. How is this framework different from 'Hyogo Framework for Action, 2005'? (250 Words, 15 Marks).

GS III · 2018 · Disaster Management

Revision summary

The **DM Act**, NDMA, NDRF, and 2009 policy were India's Hyogo-era shift from relief to planned disaster management.

After Sendai, the 2016 national plan, the PM's 10-point agenda, and Build Back Better aligned India to global targets.

Hyogo stressed national systems and five priorities of action.

Sendai adds seven measurable targets, four priorities, wider hazards, and recovery that reduces future risk.

Local maps, mitigation money, and inclusion will decide if the paper frameworks save lives.

Flow diagram

Hyogo 2005 -> Institutions NDMA DM Act

Sendai 2015 -> Seven countable targets

Sendai 2015 -> Four priorities BBB

Institutions NDMA DM Act -> Indian DRR

Seven countable targets -> Indian DRR

Four priorities BBB -> Indian DRR

Conclusion

- Put **district and city risk maps** in land-use permission, or Sendai stays a central document.
- Fund **mitigation** (embankments that do not fail, heat action, seismic housing) as seriously as NDRF aircraft.
- Count **Sendai targets** in State budgets and in **Finance Commission** disaster windows.
- Include women and informal workers in drills; the dead in a heat wave are not only a meteorology problem.

Before Sendai, India had already built NDMA, NDRF, and a 2005 law under the Hyogo push from relief to preparedness. After 2015 it aligned the national plan, PM agenda, and recovery slogan with Sendai's targets and four priorities. Sendai differs from Hyogo by counting lives, losses, and warning systems, and by tying DRR to development and Build Back Better, not only to new institutions.

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Q19 · 15 marks

Data security has assumed significant importance in the digitized world due to rising cyber-crimes. The Justice B. N. Srikrishna Committee Report addresses issues related to data security. What, in your view, are the strengths and weaknesses of the Report relating to protection of personal data in cyber space? (250 Words, 15 Marks).

GS III · 2018 · Cyber Security and Money Laundering

Revision summary

The 2018 **Srikrishna Committee** drafted a Personal Data Protection Bill after the Puttaswamy privacy judgment.

Strengths are fiduciary duties, consent and purpose limits, user rights, a DPA with penalties, and a localisation push for enforcement.

Weaknesses are broad State exemptions, weak real consent, start-up costs of localisation, and an incomplete surveillance reform.

A DPA that is not independent cannot police either Big Tech or the government.

Cyberspace protection needs the State under the same law as the company.

Flow diagram

Puttaswamy privacy -> Srikrishna Report 2018
 Srikrishna Report 2018 -> User rights consent fiduciary
 Srikrishna Report 2018 -> Data Protection Authority
 Srikrishna Report 2018 -> State exemptions localisation gaps
 User rights consent fiduciary -> Personal data in cyberspace
 Data Protection Authority -> Personal data in cyberspace
 State exemptions localisation gaps -> Personal data in cyberspace

Conclusion

- Pass a data law whose **State exemptions are narrow, listed, and reviewable**, not a second Official Secrets net.
- Pair it with **surveillance and encryption** rules that a court can test.
- Make the DPA as independent as a regulator that can fine a ministry's vendor, not only a start-up.
- Use **localisation only for truly critical** data, with security investment, not as a slogan.
- Treat **consent plus duty of care** (fiduciary fairness) as the daily tool against cyber misuse.

The Srikrishna Report's strength is a rights-based fiduciary statute, a regulator, and a serious draft after Puttaswamy. Its weakness is a State that can step outside those rights, an unfinished surveillance debate, and localisation that may cost more than it protects. Personal data in cyberspace will be safer when the law binds government as tightly as it binds the platform.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2018/data-security-has-assumed-significant-importance-in-the-digitized-world-due-to-rising-cyber-crimes-the-justice-b-n-srikrishna-committee-report-addresses-issues-related-to-data-security-what-in-your-view-are-the-strengths/>

WRAP Exams

Q20 · 15 marks

India's proximity to two of the world's biggest illicit opium-growing states has enhanced her internal security concerns. Explain the linkages between drug trafficking and other illicit activities such as gunrunning, money laundering and human trafficking. What countermeasures should be taken to prevent the same? (250 Words, 15 Marks).

GS III · 2018 · Cyber Security and Money Laundering

Revision summary

The Golden Crescent and Golden Triangle put India on heroin, opium, and meth routes as transit, destination, and precursor source.

Drug profits buy arms; the same logistics move weapons.

Cash is laundered through hawala, trade, property, and new digital rails.

Mules and parallel sex-labour trafficking sit on the same smuggling networks.

Countermeasures are joint borders, NDPS plus PMLA, precursor control, FIU, neighbour cooperation, and treatment of addiction.

Flow diagram

Golden Crescent -> India routes
Golden Triangle -> India routes
India routes -> Drug cash
Drug cash -> Gunrunning
Drug cash -> Hawala PMLA
Drug cash -> Mules human trafficking
NCB ED FIU border health -> Drug cash

Conclusion

- **Treat the problem as a network:** seize the gun, the hawala slip, and the trafficked person in the same case theory.
- Reduce **corruption at mandi, port, and thana**, or every fence is a gate.
- Give border States **forensic and rehab** money, not only more rifles.

India's place beside two opium belts pulls drugs into the same pipes as guns, hawala, and human trafficking. Countermeasures work when NDPS, PMLA, arms, and trafficking laws, plus border forces and FIU, hit the network as one. Health demand-cut and clean ports are as necessary as the next seizure statistic.

Open WRAP page — <https://wrapexams.com/upsc/mains-answers/gs-3/2018/indias-proximity-to-two-of-the-worlds-biggest-illicit-opium-growing-states-has-enhanced-her-internal-security-concerns-explain-the-linkages-between-drug-trafficking-and-other-illicit-activities-such-as-gunrunning-money/>

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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