

Threat to Dugong Population in India



Source: IE

Why in News?

A recent report launched at the **International Union for Conservation of Nature (IUCN) Conservation Congress** in Abu Dhabi highlights the **growing threat** to the dugong population in India.

What are Dugongs?

- **About:** Dugongs are **marine mammals**, related to manatees, with a **plump appearance** and a **dolphin-like fluke tail**. They grow up to **10 feet** in length and weigh around **420 kilograms**.
 - Manatees are large, herbivorous aquatic mammals of the **Sirenia group**, found in coastal regions of South America, West Africa, and the Caribbean.
- **Diet:** Dugongs are **herbivorous marine mammals**, feeding primarily on seagrass meadows like **Cymodocea, Halophila, Thalassia, and Halodule**, earning them the nickname "sea cows" and "farmers of the sea."
 - They require 30-40 kg of seagrass daily for sustenance and live in shallow, warm coastal waters, such as **bays, lagoons, and estuaries**, usually less than 10 meters deep.
- **Distribution:** They are primarily found in the **Gulf of Kutch**, the **Gulf of Mannar - Palk Bay** region (between India and Sri Lanka), and the **Andaman and Nicobar Islands**.
 - The report, titled '*A Global Assessment of Dugong Status and Conservation Needs*', indicates that the survival of dugongs in the **Gulf of Kutch** and the **Andaman and Nicobar Islands** is uncertain and highly challenged, while the population in the **Gulf of Mannar-Palk Bay** has significantly decreased.
- **Behaviour:** The dugong is a **long-lived species**, capable of living up to **70 years**. Typically **solitary or found in small mother-calf pairs**, large herds common in Australian waters are rare in India.
- **Reproduction:** They reach reproductive maturity at nine to ten years and give birth every **three to five years**, resulting in a **slow reproductive cycle** that limits their population growth rate to approximately **5% per year**.
- **Protection:**
 - The Dugong is listed as **Vulnerable on the IUCN Red List of Threatened Species**.
 - **Appendix I of Convention on International Trade in Endangered Species (CITES)** bans international trade of dugongs or their parts, ensuring strict protection.

- In India, Dugongs are protected under **Schedule I of the Wildlife (Protection) Act, 1972.**
- **Significance:**
 - **Ecosystem and Climate Benefits** : Their role is so crucial that they are called **ecosystem engineers**, as they play a vital part in maintaining seagrass meadows.
 - These meadows, in turn, **promote biodiversity**, enhance **carbon sequestration**, and support marine life by releasing nutrients that benefit fish, shellfish, and invertebrates.
 - **Economic Impact** : Seagrass beds with dugongs contribute at least **Rs 2 crore** per year in additional fish production, highlighting their significant ecological and economic value.



What are the Challenges and Conservation Measures for the Dugong Population?

Challenges

- **Population Decline** : The dugong population in Indian waters, once abundant, has **significantly declined** over the years, with a 2012 report by the Ministry of Environment, Forest and Climate Change estimating around 200 individuals.
 - While some environmentalists estimate the current dugong population to be between 400 and 450, others believe it remains below 250, suggesting **little to no substantial increase**.
 - Accurately determining the exact number of dugongs in India remains challenging, as they are **elusive creatures living in murky coastal waters**, where traditional survey methods often fail to provide reliable data.
- **Pollution** : A study published in *Marine Pollution Bulletin* revealed the presence of **toxic metals** like **arsenic** , **cadmium** , **chromium** , **mercury** , and **lead** in the tissues of stranded dugongs, primarily due to **industrial discharge** , **agricultural runoff** , and **untreated wastewater** .
- **Slow Reproductive Rate** : Dugongs have a **slow reproduction cycle**, with females giving birth once every several years, making them more vulnerable to extinction.
- **Habitat loss**: It is a major concern, as **seagrass meadows** are being destroyed by **port construction, dredging, land reclamation, and pollution** from agricultural runoff, sewage, and industrial waste.
- **Climate change**: It has added another layer of vulnerability , with rising sea temperatures, **ocean acidification** , and extreme weather events affecting both food availability and breeding grounds.

Conservation Measures

- **Convention on Migratory Species (CMS):** India is a signatory to the [Convention on Migratory Species \(CMS\)](#) since 1983 and to the **CMS Dugong Memorandum of Understanding** since 2008.
 - In **2010** , the Ministry of Environment, Forest, and Climate Change (MoEFCC) constituted a **Task Force for Conservation of Dugongs** .
- **Dugong Conservation Reserve:** It was established in **Palk Bay** in **2022** by the Tamil Nadu government, covering an area of **448 square kilometers** to protect seagrass meadows and dugongs.
- **Dugong Recovery Programme:** It is a national programme launched in collaboration with the state governments of **Tamil Nadu** , **Gujarat** , and the **Andaman and Nicobar Islands** .
- **Seagrass Habitat Protection : Protecting and restoring seagrass meadows is crucial for dugong conservation, requiring the mapping and monitoring of these habitats, as well as restricting harmful activities, with a focus on community involvement , particularly local fishers.**
- **Regulating Harmful Fishing Practices : Implementing regulations to limit destructive fishing methods, such as gill nets and trawling , in dugong habitats is essential to reduce accidental harm and safeguard the species.**
- **Increased Research and Technology : Additional funding for long-term dugong studies is necessary, with a focus on citizen science and traditional knowledge , while technologies like tagging and drones can help in tracking and identifying key habitats.**

Seagrass

- Seagrass is an **underwater flowering plant**, distinct from seaweed, and is considered a wetland ecosystem.
 - Seagrass meadows help **stabilize the seafloor** , support fish populations, capture carbon, and provide shelter for marine life.
- India's most extensive seagrass meadows occur along the **Gulf of Mannar and Palk Bay, off the coast of Tamil Nadu**, and together support more than 13 species of seagrass (the highest diversity in the Indian Ocean).
 - Seagrass in **Lakshadweep and Kachchh is patchy and threatened by port activities and pollution**. Andhra Pradesh and Odisha have minor, limited seagrass habitats unsuitable for dugongs.

[Watch Video on YouTube: [▶ https://www.youtube.com/embed/mYonjTW6-ew](https://www.youtube.com/embed/mYonjTW6-ew)]

Frequently Asked Questions(FAQs)

1: What are dugongs and where are they found in India?

Dugongs are marine mammals found in the **Gulf of Kutch** , **Gulf of Mannar-Palk Bay** , and the **Andaman and Nicobar Islands** .

2: What are the major threats to the dugong population in India?

Major threats include **population decline** , **pollution** , **slow reproduction** , **habitat loss** , and **climate change** .

3: How do dugongs contribute to the ecosystem and economy?

Dugongs maintain **seagrass meadows** , which support marine life, aid **carbon sequestration** , and contribute **Rs 2 crore annually** in fish production.

4: What conservation measures are being implemented to protect dugongs in India?

Conservation measures include **protecting seagrass** , **regulating fishing** , **community involvement** , and **increasing research** .

5: What is the importance of seagrass for dugong conservation?

Seagrass provides food and habitat for dugongs, stabilizes the seafloor, and supports marine biodiversity.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q. With reference to 'dugong', a mammal found in India, which of the following statements is/are correct? **(2015)**

1. It is a herbivorous marine animal.
2. It is found along the entire coast of India.
3. It is given legal protection under Schedule I of the Wildlife (Protection) Act; 1972.

Select the correct answer using the code given below.

- (A) 1 and 2 only
- (B) 2 and 3 only
- (C) 1 and 3 only
- (D) 1, 2 and 3

Ans: C

Digital Initiatives to Modernize Public Distribution System (PDS)



Source: PIB

Why in News?

The **Ministry of Consumer Affairs, Food & Public Distribution** has launched a series of **digital initiatives** aimed at modernizing the **Public Distribution System (PDS)**, improving **supply chain efficiency**, and enhancing transparency in food storage and logistics.

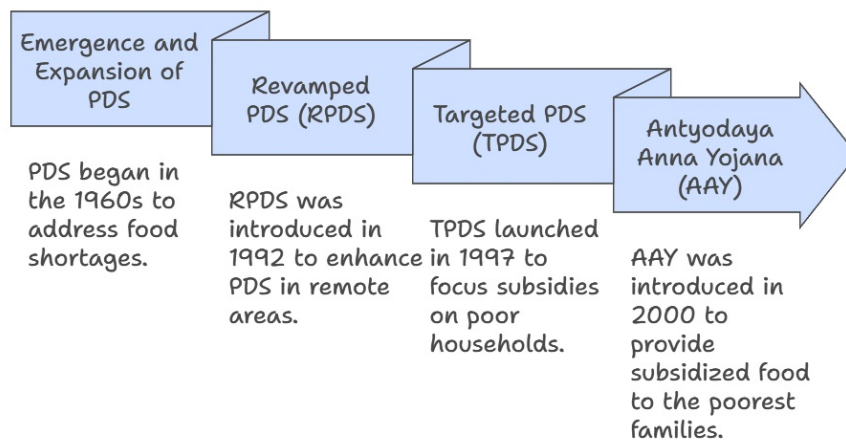
What are the Digital Initiatives Aimed at Modernizing the PDS?

- **Bhandaran 360:** It is a new **Enterprise Resource Planning (ERP) platform** for the **Central Warehousing Corporation (CWC)** that is linked to **35 external systems** like **ICEGATE**, **Food Corporation of India (FCI)**, and **NAFED**.
 - It offers **single sign-on**, **data encryption**, **real-time dashboards**, and **predictive analytics** to standardize operations, and speed up decision-making.
- **Smart EXIM Warehouse System:** It streamlines **container and cargo management** by using **AI**, **IoT**, and **FASTag**, enabling **real-time tracking**, and **quicker cargo movement**.
- **ANNA DARPAN:** The Food Corporation of India launched **ANNA DARPAN** that brings together **procurement, storage, movement, sales, quality checks**, and **contract monitoring** into one integrated and reliable information system.
- **ASHA (Anna Sahayata Holistic AI Solution):** It is an **AI platform** that uses automated calls to collect feedback on **ration entitlement, grain quality, and shop issues** to manage grievances and improve oversight.
- **Modern Steel Silos:** A new **Hub Silo Complex** in Malout, Punjab, with a **capacity of 1.5 lakh metric ton**, has been inaugurated to minimize **wastage and spoilage**.

What is the Public Distribution System (PDS)?

- **About:** PDS is a **food security system** under the **Ministry of Consumer Affairs, Food, and Public Distribution**, providing essential **food items and non-food items** at **subsidized rates**.
- **Target Beneficiaries:** Under the **National Food Security Act, 2013**, **Priority Households (PHH)** receive **5 kg of foodgrains** per person per month at highly subsidized rates- **Rs 3/kg for rice**, **Rs 2/kg for wheat**, and **Rs 1/kg for coarse grains**.
- **Evolution of PDS in India:**
- **Antyodaya Anna Yojana (AAY)** provides **35 kg of grains** per household per month to the **poorest families**.

Evolution of Public Distribution System (PDS)



- **Commodities:** Under **PDS** , **wheat, rice, sugar, and kerosene** are allocated to States/UTs, with some also distributing additional items like **pulses, edible oils , iodized salt, and spices** .

What are the Challenges Concerning PDS in India?

Mnemonic - FAIL

- **F - Faulty Targeting:** The PDS's **Below Poverty Line (BPL)** criteria leave out many vulnerable groups, so **12%** of poor households **miss out** , while some **Above Poverty Line (APL)** households and **ghost cardholders** benefit.
- **A - Accessibility Issues:** **Storage capacity** is concentrated in **procuring states** like **Punjab** and **Haryana** , causing **shortages** in **consuming states** such as **Rajasthan** and **Maharashtra** , while **bureaucratic delays** worsen **regional disparities** , especially in **remote areas** .
- **I - Inefficiency and Quality Gaps:** **Food grains** are often **rotten, infested, or impure** , causing **spoilage** (over **62,000 tonnes** in 2020), and the focus on **rice and wheat** overlooks **malnutrition** and **nutritious local crops** like **millets** .
- **L - Lack of Awareness & Redressal:** Many **beneficiaries** , especially **illiterate** ones, lack knowledge of their **entitlements** , and weak **grievance redressal** leads to **denied or delayed rations** .
 - **World Bank** and **Right to Food Campaign** reports highlight **Aadhaar-related exclusions** due to poor **grassroots accountability** .

What Reforms are Required to Improve the Efficiency of PDS?

Mnemonic - GROW

- **G - Grain Supply Modernization:** Phase out traditional godowns and expand **modern steel silos** to reduce post-harvest losses and improve grain quality.
 - Use the **PM Gati Shakti National Master Plan** to optimize the food logistics network, minimizing transport time and cost.
- **R - Real-Time Digital Integration:** Integrate **Bhandaran 360, ANNA DARPAN, and ASHA** with state PDS databases and **One Nation One Ration Card (ONORC)** system to create a unified system for **real-time tracking** of foodgrains and identifying bottlenecks from central warehouses to **Fair Price Shops (FPS)** .

- **O - Optimized Last-Mile Delivery:** Expand **ASHA** to send **voice alerts** on entitlements and FPS timings, with automatic escalation of unresolved grievances.
 - Use **GPS-enabled, tamper-proof seals** on foodgrain trucks for **real-time tracking** and pilferage prevention.
- **W - Wider & Nutritious Food Basket:** Diversify the **PDS food basket** with **millets** , **pulses, edible oils** , and fortified grains to combat malnutrition.
 - Promote **localized procurement** of regional crops and involve **women's SHGs** in supplying nutritious foods.

Conclusion

The recent **digital reforms** in **PDS** mark a significant shift towards a **modern, data-driven system** . Sustained focus on **last-mile delivery** and **nutritional diversification** is crucial for ensuring genuine **food security** .

Drishti Mains Question

Q. What challenges hinder PDS last-mile delivery, and how can food basket and nutrition reforms enhance food security and reduce malnutrition?

Frequently Asked Questions (FAQs)

1. What is Bhandaran 360?

It is an ERP platform by CWC integrating 41 modules and 35 external systems for real-time warehousing, predictive analytics, and supply chain efficiency.

2. Who are the primary beneficiaries of PDS?

Priority Households (PHH) and Antyodaya Anna Yojana (AAY) families receive subsidized foodgrains under the National Food Security Act, 2013.

3. How does ASHA improve PDS transparency?

ASHA is an AI-driven feedback system that collects beneficiary grievances via automated calls, performs sentiment analysis, and provides real-time dashboards for decision-making.

[Watch Video on YouTube: [▶ https://www.youtube.com/embed/mNeGYVvo78o](https://www.youtube.com/embed/mNeGYVvo78o)]

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q.1 In the context of India's preparation for Climate-Smart Agriculture, consider the following statements: (2021)

1. The 'Climate-Smart Village' approach in India is a part of a project led by the Climate Change, Agriculture and Food Security (CCAFS), an international research programme.
2. The project of CCAFS is carried out under Consultative Group on International Agricultural Research (CGIAR) headquartered in France.
3. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India is one of the CGIAR's research centers.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (d)

Q.2 With reference to the provisions made under the National Food Security Act, 2013, consider the following statements: (2018)

1. The families coming under the category of 'below poverty line (BPL)' only are eligible to receive subsidized food grains.
2. The eldest woman in a household, of age 18 years or above, shall be the head of the household for the purpose of issuance of a ration card.
3. Pregnant women and lactating mothers are entitled to a 'take-home ration' of 1600 calories per day during pregnancy and for six months thereafter.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 only
- (c) 1 and 3 only
- (d) 3 only

Ans: (b)

Mains

Q.1 In what way could replacement of price subsidy with Direct Benefit Transfer (DBT) change the scenario of subsidies in India? Discuss. (2015)

PMFBY Expansion to Cover Wildlife Damage and Paddy Inundation



Source: IE

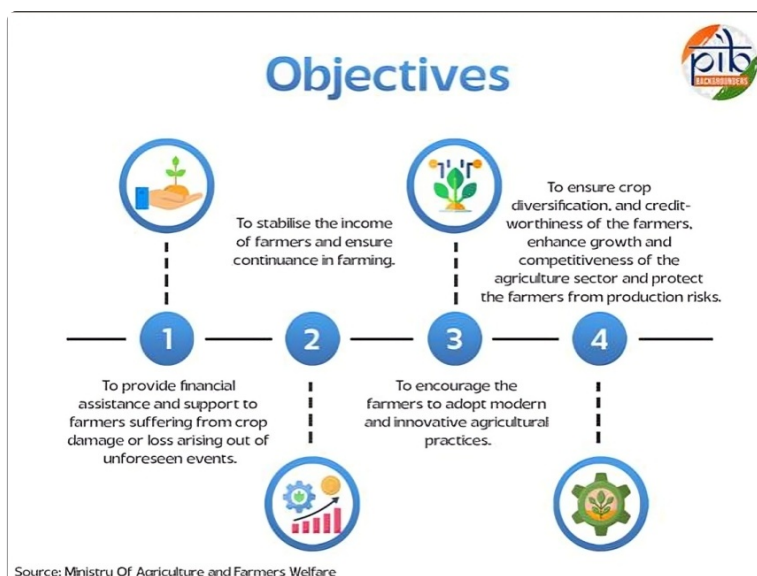
Why in News?

The **Ministry of Agriculture and Farmers Welfare** has announced that the **Pradhan Mantri Fasal Bima Yojana (PMFBY)** will now cover crop losses due to **wild animal attacks** and **paddy inundation** from the **Kharif season 2026**.

- In 2018, **paddy inundation** (damage caused by floods and heavy rainfall) was removed from the **localised calamity category** due to assessment challenges, but it has now been **re-included**.

What is the Pradhan Mantri Fasal Bima Yojana (PMFBY)?

- **About:** PMFBY is a **Central Sector Scheme** launched in **2016** by the **Ministry of Agriculture & Farmers Welfare**.
 - It provides **financial protection** to farmers against crop losses caused by **natural disasters**, **pests, or diseases** and aims to **support farmers financially**.
- **Objectives:**



- **Eligibility & Coverage:** All farmers, including **sharecroppers** and **tenant farmers** cultivating **notified crops** in **designated areas**, are eligible for coverage under PMFBY.
 - Participation is **voluntary**, with **non-loanee farmers** making up **55% of the total beneficiaries**.
 - The number of **farmer applications** has risen from **371 lakh in 2014-15** to **1510 lakh in 2024-25**, while **non-loanee farmer applications** grew from **20 lakh** to **522 lakh** over the same period.

- **Risk Protection:** PMFBY offers **comprehensive protection** against a range of risks.
 - **Natural Disasters:** Covers losses from **floods** , **droughts** , **cyclones** , **hailstorms**, **landslides** , and **unseasonal rainfall** .
 - **Pest & Disease Protection:** Safeguards crops against **pest infestations** and **diseases** .
 - **Post-Harvest Losses (Individual Farm Basis):** Provides **compensation for damages within 14 days of harvest** , particularly for crops in a “**cut and spread**” condition .
 - **Localised Calamities:** Offers **individual farm-based compensation** for **localized disasters** e.g., hailstorms, landslides etc.
 - **Prevented Sowing (Notified Area Basis):** Farmers who cannot sow due to **adverse weather** despite **intent and incurred costs** can claim up to **25% of the sum insured** .
- **Premium Rates:** Farmers contribute affordable premium s of **2% for Kharif crops** , **1.5% for Rabi crops** , and **5% for annual commercial or horticultural crops** .
 - The **government provides full premium subsidies** for farmers in the **Northeast, Jammu & Kashmir, and Himachal Pradesh** .
- **Technology Deployment for Loss Assessment:**
 - **Satellite Imagery & Drones:** Employed to **estimate crop areas** , resolve yield disputes, and assess crop losses.
 - **Crop Cutting Experiments (CCEs):** The **CCE-Agri App** allows direct data uploads to the **National Crop Insurance Portal (NCIP)** , ensuring transparent yield evaluations.
 - **YES-TECH (Yield Estimation System Based on Technology):** It enables **remote sensing-based crop yield estimation** for **fair and accurate assessments** .
 - **Additional Tools:** The scheme also leverages **DigiClaim** , **CROPIC (Collection of Real-Time Observations and Photographs of Crops)** , and **WINDS (Weather Information Network Data Systems)** for accurate and timely assessments.
- **Quick Settlement:** PMFBY guarantees **claim settlement within two months of harvest** , offering **timely compensation** to help farmers **prevent falling into debt** .

Frequently Asked Questions (FAQs)

1. What is PMFBY?

PMFBY is a central sector scheme providing financial protection to farmers against crop losses due to natural disasters, pests, and diseases.

2. Who is eligible for PMFBY coverage?

All farmers, including sharecroppers and tenant farmers cultivating notified crops in designated areas, with participation being voluntary.

3. What recent changes are being introduced in PMFBY from Kharif 2026?

Inclusion of wild animal attacks as localised risk and reintroduction of paddy inundation cover to enhance protection for farmers in vulnerable areas.

UPSC Civil Services Examination Previous Year Question (PYQ)

Q. With reference to 'Pradhan Mantri Fasal Bima Yojana', consider the following statements: (2016)

1. Under this scheme, farmers will have to pay a uniform premium of two percent for any crop they cultivate in any season of the year.
2. This scheme covers post-harvest losses arising out of cyclones and unseasonal rains.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (b)

SC Recalls Verdict Blocking Retrospective Environmental Clearances



For Prelims: Supreme Court of India , Environmental Clearances , Environmental Impact Assessment , PARIVESH

For Mains: Judicial Review and Environmental Governance in India, Precautionary Principle vs. Developmental Imperatives

Source: TH

Why in News?

In a **2:1** ruling, the **Supreme Court of India** struck down the **2025 Vanashakti judgment banning ex post facto or retrospective Environmental Clearances (ECs)** , stating that its continuation would cause “devastating” consequences and put thousands of crores of **public investment at risk**.

- This ruling was based on the idea that it allowed violators of environmental laws to circumvent legal requirements, undermining efforts to protect the environment.

What are Ex Post Facto Environmental Clearances?

- **Meaning:** Approvals granted after a project has **already begun construction**, expansion, or operation without obtaining the mandatory **prior Environmental Clearance (EC)**.
- **Purpose:** Intended for rare, exceptional cases but often used to regularise violations by allowing developers to “legalise” work already carried out illegally.
- **Legal Framework:** The [Environment \(Protection\) Act, 1986](#) and the [Environmental Impact Assessment \(EIA\) Notifications of 1994 and 2006](#) are built on the principle of prior environmental clearance, requiring major industrial and construction projects to begin only after their environmental impacts have been assessed and approved.
- **SC’s Vanashakti Judgment, 2025 on Ex Post Facto ECs :** The Vanashakti judgment struck down the **2017 notification and 2021 office memorandum (OM)** issued by the MoEFCC that allowed **ex post facto (retrospective) environmental clearances**.
 - The Court held that retrospective ECs are a “**gross illegality**” and an “**anathema**” to environmental jurisprudence, as they **violate the precautionary principle** that demands environmental harm be prevented before it occurs.
 - It criticised attempts to let projects begin without approval and barred the Centre from **issuing any future notifications permitting retrospective ECs**.

Why did the SC Recall the 2025 Vanashakti Judgment on Ex Post Facto Environmental Clearances?

- **Need for a Larger Bench Review:** The CJI held that the Vanashakti ruling was *per incuriam* (through lack of care) because it overlooked earlier coordinate-bench judgments such as **D . Swamy (2021)**, which allowed post-facto ECs in exceptional cases, and **Alembic Pharmaceuticals (2020)**, where the SC discouraged such ECs but still regularised them with monetary penalties.
 - Because of this conflict, the issue must be **reconsidered by a larger Bench** .
- **Principle of Proportionality:** The court noted that strict prior-approval enforcement should not lead to outcomes that harm public interest.
 - **Heavy penalties and compliance mechanisms** already exist to deter violations without requiring demolition.
- **Practical Realities of Development:** Many **projects began without EC due to procedural delays**, not deliberate evasion.
 - Retrospective ECs, **used only in rare cases**, help bring ongoing projects into compliance without unnecessary reconstruction. The Court made it clear they are **exceptional, not routine, and must come with strict penalties**.

Dissenting View : Justice Ujjal Bhuyan argued that the recall dilutes the **precautionary principle and rewards violators**, calling ex post facto ECs “an anathema” to environmental jurisprudence and rooted in **Article 21 (right to a clean and healthy environment)** and **Article 51A(g) (duty to protect the natural environment)** . However, the majority view ultimately prevailed.

SC's Power to Review its Own Judgments (Article 137)

- **Constitutional Provision:** A review petition in the Supreme Court can be filed under **Article 137** , which empowers the Court to review its **own judgments or orders to correct glaring errors** or prevent a miscarriage of justice.
- **Curative Petition:** Introduced in ***Rupa Ashok Hurra (2002)*** , it is the last judicial remedy available only after a review petition is dismissed.
 - It addresses rare situations of judicial bias, procedural injustice, or abuse of process, ensuring fairness even after finality.

What is Environmental Clearance (EC) in India?

- **About:** EC is a mandatory approval process for certain development and industrial projects in India to ensure that they do not harm the environment or local communities.
 - It is a legal requirement under the **Environment (Protection) Act, 1986** , and is governed primarily by the **EIA Notifications of 1994 and 2006** .
- **Projects That Need EC:** Any project located in **ecologically sensitive areas** (e.g., national parks, biosphere reserves, mangroves, tribal areas, coastal zones) requires EC regardless of category.
 - EIA 2006 mandates prior EC for over **39 types of activities** and classifies **projects into Category A** (cleared by MoEFCC at the Central level) and **Category B** (cleared by State Environment Impact Assessment Authority (SEIAA) at State level).
- **Core Steps:** The process begins with an **EIA study where required, followed by a public hearing to capture community concerns.**
 - **Expert committees then appraise the project through reports and site checks before recommending approval or rejection.**
 - The final decision is issued within 120 days and the clearance is valid for five years.
- **Concerns and Limitations:** Public consultation often becomes a procedural formality rather than meaningful participation.
 - The EIA process sometimes fails to account for issues raised by local communities.
 - Recent provisions allow skipping public hearings in “non-conducive situations,” potentially weakening checks and balances.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

EIA is a study conducted in the early stages of development project planning to predict and address potential environmental impacts



- Statutory Status: Environmental (Protection) Act, 1986 (Made EIA mandatory)
- Nodal Ministry: Ministry of Environment, Forest and Climate Change (MoEF&CC)
- Project Categorisation: EIA Notification of 2006 categorised the developmental projects in:
 - Category A Project: Needed prior Environmental Clearance (EC) from MoEF&CC
 - Category B Project: Needed prior EC from State/UT Govt.
 - Category B1 projects (Mandatorily requires EIA)
 - Category B2 projects (Do not require EIA)

There are 39 categories of projects that require an EC process and are subject to EIA

EIA Process as per EIA Notification, 2006

Step	Objective	Carried Out By
Screening	Need of EIA	State Expert Appraisal Committee (SEAC) (Category B)
Scoping	Identifies important issues for EIA	Standard Term of Reference (ToR) prepared by MoEF&CC with EAC/SEAC for Category B Projects
Public Consultation	Addresses concerns of affected people	State Pollution Control Board (SPCB)/ UT Pollution Control Board (UTPCB)
Project Appraisal	Scrutiny of Final EIA Report/ Environmental Management Plan (EMP)	EAC for category A Projects and SEAC for category B1 Projects
Decision Making	Granting EC	Category A: MoEF&CC Category B: State EIA Authority (SEIAA)
Monitoring (Post EC)	Compliance of general and specific conditions	SPCB / UTPCB and Regional Offices

Government Initiatives For EC

- PARIVESH (Proactive and Responsive facilitation by Interactive, Virtuous, and Environmental Single Window Hub): Single Window System for EC
 - Developed by MoEF&CC and National Information Centre (NIC)
- Environmental Information System (ENVIS): Collect, Collate, Storing, Retrieving and Disseminating Information Related to the Environment Sector
- Draft Environmental Impact Assessment Notification 2020: Published by MoEF&CC to replace existing EIA Notification, 2006



Drishti IAS

How can India Effectively Balance Environmental Protection with Developmental Needs?

- Strengthen Prior EC Compliance:** Enforce rigorous EIAs, public hearings and scientific appraisal before approvals.
- Use Technology for Monitoring:** Strengthen deployment of satellite monitoring and digital platforms like **PARIVESH** , and **National Geographical Information System (GIS) -based Violations Portal** to track projects and prevent illegal construction.
- Apply Polluter-Pays + Restoration Measures:** Impose strict penalties and mandate ecological restoration using mechanisms like **Compensatory Afforestation Fund (CAMPA)** , **Environmental Compensation (EC)** under **National Green Tribunal (NGT)** guidelines, and **Polluter Pays Principle** .
- Promote Green Infrastructure:** Expand sustainable infrastructure through schemes like **Smart Cities Mission** , **National Solar Mission** , and push for low-carbon mobility.
- Empower Local Communities:** Strengthen public participation via **Gram Sabhas** , **Forest Rights Act (FRA)**, **2006 consultations** , and improved transparency through **public hearing reforms** in the EC process.

Conclusion

The recall of the Vanashakti judgment shows the need for a balanced approach that enforces compliance without derailing vital public projects. Going forward, transparent EC processes, strict penalties, and community participation will be key to achieving truly sustainable development.

Drishti Mains Question:

Q. Evaluate the role of the precautionary principle and the polluter-pays principle in India's environmental jurisprudence.

Frequently Asked Questions (FAQs)

1. What are ex post facto environmental clearances (ECs)?

Ex post facto ECs are approvals granted after a project has already begun without mandatory prior clearance

2. Which laws govern ECs in India?

Environmental Clearance is governed by the **Environment (Protection) Act, 1986** and **EIA Notifications** (1994, 2006).

3. What practical reforms can reduce reliance on retrospective clearances?

Streamline prior EC processes, strengthen satellite and digital monitoring (PARIVESH/GIS), mandate environmental restoration bonds, enhance timely public hearings, and enforce strict polluter-pays penalties to deter illegal starts.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q. With reference to the Indian judiciary, consider the following statements: (2021)

1. Any retired judge of the Supreme Court of India can be called back to sit and act as a Supreme Court judge by the Chief Justice of India with prior permission from the President of India.
2. A High Court in India has the power to review its own judgment, as the Supreme Court does.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2 only
- (d) Neither 1 nor 2

Ans: C

Mains

Q. Environmental impact assessment studies are increasingly undertaken before the project is cleared by the government. Discuss the environmental impacts of coal- fired thermal plants located at Pitheads. (2013)

Q. How does the draft Environment Impact Assessment (EIA) Notification, 2020 differ from the existing EIA Notification, 2006? (2020)