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India needs a second home for Asiatic lions

India's conservation of the Asiatic lion is widely celebrated as a remarkable success story. From a population which was reduced to just a few dozen in the early 20th century, the number of Asiatic lions has increased to approx. 891 today. Yet, behind this achievement lies a persistent policy failure: the inability to establish a second, geographically separate population. Scientific institutions, government bodies, and even the Supreme Court have long warned that without such a step, the species remains vulnerable to extinction from a single catastrophic event.

A second dwelling

The need for a second home for Asiatic lions is rooted in decades of government-backed research. Multiple reports of the Wildlife Institute of India have consistently emphasised that a single population confined to one landscape is inherently vulnerable. Studies conducted since the 1980s have concluded that threats such as epidemics, forest fires, or other natural disasters could potentially wipe out the entire species if it remains geographically concentrated.

This scientific consensus was formally acknowledged in the landmark Supreme Court judgment of April 15, 2013, which directed the translocation of Asiatic lions from Gujarat's Gir forest to the Kuno National Park in Madhya Pradesh. The Court made it clear that conservation must be guided by ecological principles rather than regional considerations, stating that a second population was essential for the species' long-term survival. The judgment explicitly recognised the risk that a single calamity could eliminate the entire population if it remained confined to one location.

Despite this clear directive, the translocation project has been stalled for over a decade. Gujarat has consistently resisted the relocation of lions outside the



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Reports by the Wildlife Institute of India have consistently emphasised that a single population confined to one landscape is inherently vulnerable

State, citing its success in conserving the species and raising concerns about habitat suitability elsewhere. This has created a policy impasse between scientific recommendations, judicial mandates, and State-level political considerations. While the Kuno National Park was prepared specifically to host the lions – by relocation of villages and habitat restoration among others – no lions have been introduced there.

Meanwhile, the ecological risks identified by experts have only intensified. The concentration of the entire global population of Asiatic lions within the Gir landscape makes them uniquely vulnerable to disease outbreaks. The 2018 outbreak of the Canine Distemper Virus among the population, which killed several lions and infected many others, serves as a stark reminder of this danger. Such diseases spread more rapidly in dense, socially structured populations, and their impact is amplified by the limited genetic diversity of the lions.

Government-supported studies and conservation plans have repeatedly highlighted that geographically isolated carnivore populations face extinction risks from both biological and environmental factors. In a single-site population, even non-recurring events – such as droughts, wildfires, or sudden prey decline – can have disproportionate effects. This is why conservation science advocates for a “metapopulation

approach”, where species are distributed across multiple habitats to reduce risk.

Recognising these concerns, recent policy initiatives such as Project Lion (2020) have attempted to revive the discussion on expanding lion habitats. There have been proposals to develop alternative sites such as the Barda Wildlife Sanctuary within Gujarat itself. However, experts argue that such sites, being geographically close to Gir, may not adequately address the core issue of risk diversification. A second population must be sufficiently distant to prevent the spread of disease or disaster across both populations simultaneously.

The delay in establishing a second home raises broader questions about environmental governance in India. It reflects a tension between national conservation priorities and State-level interests, where wildlife – though constitutionally recognised as a shared responsibility – can become entangled in regional identity and political considerations. The Supreme Court had clearly stated that Asiatic lions are a national heritage, not the property of any single State, yet implementation of this principle remains incomplete.

From success to security

Ultimately, the issue is whether India is willing to move from conservation success to conservation security. The current situation represents a paradox: a thriving population that remains ecologically fragile. Without establishing a second free-ranging population, the gains of decades of conservation effort remain vulnerable to reversal. The case of the Asiatic lion underscores a fundamental principle of modern conservation: numbers alone do not ensure survival; resilience does. Creating a second home is an ecological necessity; continued delay in implementing this vision risks turning a global conservation triumph into a preventable ecological vulnerability.



An Asiatic lioness with her two cubs at the Sakkarbaugh Safari breeding centre in Junagadh in 2025. VIJAY SONEJI

Consider the following statements :

1. Asiatic lion is naturally found in India only.
2. Double-humped camel is naturally found in India only.
3. One-horned rhinoceros is naturally found in India only.

Which of the statements given above is/are correct?

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

Context: India's successful conservation of the Asiatic lion has revived the need to establish a second free-ranging population outside Gujarat to ensure long-term species survival.

I. Current Status

2025 Lion Census: 891 Asiatic lions.

Confined to the **Greater Gir Landscape (Saurashtra, Gujarat)** comprising Gir National Park, Gir Wildlife Sanctuary, Girnar, Mitiyala and Barda Wildlife Sanctuaries, along with adjoining reserve forests and revenue lands.

II. Why a Second Habitat?

Reduces risks from disease outbreaks, natural disasters and climate change.

Improves genetic diversity and prevents inbreeding.

Ensures metapopulation conservation through geographically separated wild populations.

III. Conservation Initiatives

Supreme Court (2013): Directed translocation of Asiatic lions to Kuno National Park (Madhya Pradesh).

Project Lion (2020): Focuses on habitat expansion, corridor management and long-term conservation.

UPSC Value Addition

* **Scientific Name:** Panthera leo persica

* **IUCN Status:** Endangered

* **Wildlife (Protection) Act, 1972:** Schedule 1

The right to belong beyond official documentation

On June 24, 2026, a member of India's Ministry of External Affairs (MEA) released a startling statement. The Indian passport, the person said, is a "travel document" and not a "citizenship document". The assertion set off a minor storm. The reasonable question that followed from many was if the passport would not do it, what document would?

Posed this way, the MEA's statement and the questions it raises become something of a red herring. A passport can only be issued to a non-citizen in exceptional circumstances, where the Government of India is of the opinion that it is necessary to do so in "public interest". Surely, therefore, barring those cases where this power is exercised, a passport must be seen as conclusive proof of a person's citizenship.

No doubt, it might be open for the government to establish under law that a person obtained the document by concealing the true status of his or her citizenship. But that does not mean a passport can be dismissed as merely a travel document.

Citizenship under scrutiny

The MEA's statement takes on an ominous heft when set against the milieu in which it was made. It arrives in the middle of the Election Commission of India (ECI)'s Special Intensive Revision (SIR) of electoral rolls in various States. It also comes in the wake of a pair of pronouncements by the Supreme Court of India, most recently on the validity of the SIR in Bihar and the ECI's power to scrutinise citizenship, and, before that, on the Assam Accord, in which the Court had much to say on how it conceives republican ideas of citizenship. Moreover, since an amendment to the Citizenship Act in 2019 (made operational in 2024), rules of naturalisation have been rewritten along religious lines. Taken together, all these developments must prompt us to ask an elementary question: what does it mean to be a citizen of India, who belongs, and on what terms?

The Constitution's answers to these questions, even if some find them indecisive, were reached with some amount of care and caution. Part II to the document, comprising Articles 5 to 11, settled the citizenship of those caught amidst the tragedies of Partition. Article II reserved to Parliament a seemingly plenary power to legislate and "make any provision with respect to the acquisition and termination of citizenship and all other matters relating to citizenship".

On a plain and literal reading, it might seem like the Union legislature was accorded unlimited authority to determine what factors can govern citizenship. Indeed, much of the contemporary defence of religiously founded citizenship laws



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Paperwork
cannot
outweigh
personhood in
a constitutional
democracy's
citizenship
framework

has rested on such an interpretation. But a careful construal of the Constituent Assembly debates, as Gautam Bhatia has shown, suggests that the framers did not treat citizenship as a matter on which Parliament could do as it pleased.

The foundations of citizenship

Consider, for example, an amendment moved to the draft provisions of the Constitution by P.S. Deshmukh. He sought to include an express stipulation "that every person who is a Hindu or a Sikh by religion and is not a citizen of any other State, wherever he resides shall be entitled to be a citizen of India". The effort was met with sharp resistance. Among those opposing the move was Jawaharlal Nehru, who rejected the amendment outright, finding it "absurd on the face of it".

Alladi Krishnaswami Ayyar provided the most forthright response to it. He argued that India was plighted to the principles of a secular state. Therefore, there was simply no question of making a distinction between one kind of person and another on any "racial or religious" ground. Ultimately, Deshmukh's proposal was defeated, and B.R. Ambedkar's neutral citizenship clause was affirmed.

Thus, freestanding as the words in Article 11 might be, they must be understood in the context of their wider framing. They have in them an implied limitation drawn from the Constitution's most cherished and foundational commitments to secularism, equality, and non-discrimination. Parliament can decide the modalities of citizenship, but it cannot make religion a condition for entry.

At its conception, India adopted the principle of *ius soli*, that is a form of citizenship predicated on residence and birth. The Citizenship Act, 1955, saw the principle as its primary governing creed. But over time, the legislature moved away from the theory. First, in 1985, Section 6A was introduced into the Act to give effect to the Assam Accord, suspending the conferment of citizenship based on the dates on which people of "Indian origin" had come into India. Second, in 2003, the statute was further amended to deny citizenship to persons born in India even when only one of the parents of such person was an "illegal migrant".

In upholding Section 6A, the Supreme Court in October 2024, appeared to fortify two principles. It effectively saw no implied limitation in Article 11 and instead viewed the grant of power to Parliament to be virtually unlimited. It also appeared to lend constitutional respectability to an idea first promulgated by it in *Sarbananda Sonowal vs Union Of India & Anr.* (2005), that migration into Assam constituted "external aggression" against the State.

This rationale carried into its judgment in *Association for Democratic Reforms vs Union of India*, delivered in May this year, versus the Court upheld the SIR exercise in Bihar, holding that the ECI may enquire into a person's citizenship, for the "limited" purpose of deciding eligibility for the electoral roll. The Court described the distinction it drew as "principled", between an adjudication on citizenship and on the administrative satisfaction concerning the continuation of a person's name on the electoral roll. Where the ECI is not satisfied with a person's assertion of citizenship, it ought simply to refer the case to the "competent authority" under the Citizenship Act.

But we have been down this road before. In Assam, during an earlier revision, voters marked "doubtful" were despatched to foreigners' tribunals and consigned to an endless bureaucratic maze to establish their citizenship. Today, therefore, we have ourselves a machinery in which a person need not be declared as a foreigner to be stripped of their basic rights. Instead, they are placed in a vacuum, neither confirmed nor cleared, with their rights being held in indefinite suspension.

Against this backdrop the MEA's clarification appears menacing. Running through all these exercises to establish citizenship is a common thread over the burden of proof. Where a resident could once rely on the state to take their citizenship as given, the onus today has been quietly shifted onto them. Almost any document adduced is seen as inadequate evidence. The Aadhaar card, we are told, is proof only of residence; the voter ID, only of prior registration; and now the passport, only of a right to travel.

The primacy of personhood

Under the Constitution, many of our basic privileges are premised on personhood. Article 14 guarantees equality before the law to "any person", and Article 21 the right to life and personal liberty to all. Citizenship is built on this foundation. It allows one the freedoms guaranteed under Article 19, to speech and expression, to carry on any trade or business, and to assemble peacefully. And it is the status of citizenship that guarantees one the statutory right to vote, to choose one's lawmakers, and to decide how one ought to be governed. Therefore, to be cast out of the position is to forfeit what Hannah Arendt called the right to have rights.

In a constitutional order where personhood comes first, the rules that determine who qualifies as a citizen must rest on more than the accident of paperwork. They must be built on what the Constitution most cherishes, on the equal dignity of every person and the right of each to equal protection of the law.

THE RIGHT TO BELONG BEYOND OFFICIAL DOCUMENTATION

Citizenship is a constitutional relationship, not a collection of documents.

GS-2 Polity & Government
Citizenship | Fundamental Rights |
Rule of Law

1. CONTEXT



The issue has come to the fore following recent judicial proceedings where it was stated that a **passport is only a travel document and not conclusive proof of Indian citizenship.**

This raises a larger constitutional question:

Can the right to belong to India be reduced to possession of official documents?

2. CITIZENSHIP: CONSTITUTIONAL & LEGAL FRAMEWORK



Articles 5–11 of the Constitution provide the constitutional scheme for citizenship.



Citizenship Act, 1955 governs acquisition, termination and other related matters.



Citizenship creates a legal and political relationship between an individual and the State, entitling fundamental rights, duties and political participation.



Documents such as Passport, Aadhaar, Voter ID, Birth Certificate, etc., are evidentiary in nature; their value depends on the law and purpose for which issued.

5. KEY PRINCIPLES EMERGING

- Citizenship is a **legal relationship**, not a privilege dependent on paperwork.
- A **passport is a travel document**, not proof of citizenship.
- The State may verify citizenship, but it must follow **law, fairness and** transparent procedures.
- Right to belong is rooted in **constitutional values** of dignity, equality and fraternity.
- No citizen should be rendered **stateless or rights-less** due to documentary gaps.

3. CORE ISSUES



Documentary proof vs. constitutional status
Citizenship is governed by law and due process, not by any single document. Over-reliance on documents risks converting evidence into the sole determinant of citizenship.



Risk of exclusion
Faulty records, late registration, migration, displacement, poverty or administrative lapses can deprive genuine citizens, especially vulnerable groups, of their rights.



Balancing security and rights
The State has sovereign power to regulate citizenship and protect national security, but it must act within constitutional limits and respect fundamental rights.



Need for due process
Decisions affecting citizenship must be transparent, reasoned, time-bound and open to appeal, consistent with natural justice and rule of law.

6. WAY FORWARD

- Strengthen universal civil registration (birth & death) and ensure error-free records.
- Create uniform, transparent and citizen-friendly procedures for citizenship verification and appeals.
- Improve interoperability of databases with safeguards for privacy and data protection.
- Ensure decisions are reasoned, reviewable and time-bound with legal aid for the vulnerable.
- Balance national security with constitutional values of fairness, inclusion and justice.

4. CONSTITUTIONAL & JUDICIAL PERSPECTIVE

Article 14



Equality before law. Arbitrary denial of citizenship-related rights violates equality and non-discrimination.

Article 19



Certain freedoms (speech, movement, association, etc.) are available only to citizens. Wrong exclusion directly curtails these liberties.

Article 21



No person shall be deprived of life or personal liberty except according to procedure established by law. Such procedure must be fair, just and reasonable.



Maneka Gandhi v. Union of India (1978)

Expanded Article 21; held that any law or procedure affecting life, liberty or rights must be "fair, just and reasonable". Reinforces due process in all State actions including citizenship.



Union of India v. Association for Democratic Reforms (2002)

Held that official documents and electoral rolls are important but not conclusive in isolation; legal determination of rights must follow law and due process.



K.S. Puttaswamy v. Union of India (2017)

Recognised privacy as a fundamental right (Article 21). Collection, verification and linking of identity data must be lawful, necessary and proportionate.



Sarbjit Singh v. Union of India (2016)

Procedural safeguards are essential before branding a person as "foreigner"; risk of irreversible consequences demands caution and fairness.

7. UPSC VALUE ADDITION



Constitution

Articles 5–11, 14, 19, 21.



Statute

Citizenship Act, 1955.



Important Concepts

Citizenship, Due Process, Rule of Law, Equality before Law, Natural Justice, Constitutional Morality.



Relevance

Protects fundamental rights, strengthens democratic inclusion and prevents arbitrary exclusion.

ONE-LINE TAKEAWAY

Citizenship is a constitutional legal status determined through law and due process; official documents facilitate its proof but should not become the sole basis for recognising or denying an individual's membership in the Republic.

Keywords: Citizenship, Due Process, Right to Belong, Rule of Law, Equality, Inclusion.

The real crisis in India's fisheries

Official claims that most of India's marine fish stocks are sustainable should not distract from the continuing degradation of the country's inshore fishing grounds; stronger governance of coastal waters and better management of mechanised trawling are essential for truly sustainable fisheries

FULL CONTEXT

Maarten Bavinck

India has a very large and old marine fishing population. Every day, both small-scale and mechanised trawl fishers go out to earn a living and provide the nation with food.

The Government of India recently released its latest prognosis of the country's ocean fisheries (February 11, 2026). Its press release emphasised that Indian marine fisheries are largely sustainable, suggesting the country has avoided the bane of international fishing, namely overfishing.

Official claims

Drawing on figures compiled by the Central Marine Fisheries Research Institute (CMFRI), the government said that most commercial fish stocks "are in good health". Furthermore, it stated that "91% of the 135 fish stocks evaluated in different regions during 2022 were found sustainable." If this assessment is accurate, it would be good news. However, there are good reasons to doubt whether it is indeed correct.

For one, the Food and Agriculture Organization (FAO) is far more reserved in its assessment of the condition of Indian marine fisheries than the Indian government seems to be. India's country profile argues that "India's marine fisheries production reached a plateau as most major stocks are fully exploited. [...] Unregulated access to these fisheries results in significant overcapacity, especially of medium and small trawlers that compete over dwindling fishery resources with mostly impoverished small-scale fishers." This message is not half as buoyant as the one published by the Indian government.

I will not dispute CMFRI's conclusions or its methodology for calculating 'sustainability'. After all, most of its procedures are veiled in secrecy. What is known, however, is that compared with many other fishing nations, CMFRI continues to rely primarily on landing data rather than stock assessments.

In other words, it calculates the availability of fish stocks in India's Exclusive Economic Zone (EEZ) – which includes up to 200 nautical miles (371 km) of sea area around the country – based on what fishermen catch. Even a layperson can understand that finding a certain number of shells on the beach does not necessarily predict the quantity of shells in the sea.

Other nations, therefore, make use of stock assessments at sea itself, thereby calculating how much aquatic life is available in certain waters. This is obviously the more reliable method to determine the health of fish stocks.

The Government of India cannot be blamed for not yet adopting this more costly form of stock assessment. But it does raise suspicions that the race to catch up with China, which is also infecting the fisheries sector, may also be inducing a hidden bias in the figures.

The decline of inshore ecosystems

Among the fishers I have spoken to over thirty years along the Tamil Nadu coast, the consensus is that catches have consistently gone down and that many species that were formerly available have disappeared. The government, however, seems to continue on the path of amplifying fish production figures from one year to the next.



GETTY IMAGES

Overfishing, however, is not the central issue here. The more pressing concern is the decline, if not the destruction, of the inshore benthic environment. Over the past year, numerous fisheries scientists and policymakers have described the inshore fishing environment as "destroyed". What exactly do they mean?

India is surrounded by a relatively narrow continental shelf, where fishing is always the most productive. This continental shelf is broadest in Gujarat and a part of Maharashtra, but remains quite narrow along the rest of the sub-continent.

Generally speaking, one can assume that the territorial seas – a legal category referring to waters that lie within 12 nautical miles (or 22 km) from shore – largely overlap with the continental shelf. These waters provide favourable ecological conditions for commercially valuable species such as shrimp to feed, breed and grow.

But why do senior experts conclude this is no longer the case?

This is a complex question with many answers. Thus, one can point to the construction of dams in major rivers, which disallow land-based nutrients from entering the sea. One can also point to the ongoing destruction of mangroves, where fish breed, and to pollution that is entering the sea from various industrial, agricultural, and urbanising sources. Many scientists, and fishers too, point to such changes to explain the decline of fisheries. These factors obviously affect the inshore fishing zone more than they do distant waters.

Mechanised trawling and its cost

One of the many factors contributing to this decline is the dramatic and largely uncontrolled expansion of mechanised trawling.

It is good to remind ourselves first of all that semi-industrial trawling is not an Indian fishing method. It was introduced from abroad around 1960 and has since

expanded to gigantic proportions.

According to the same government press release, India now has 64,414 mechanised fishing vessels. These numbers are growing day by day as there are practically no restrictions on new entries. Moreover, existing vessels are continuously being extended and fitted with more powerful Chinese engines, enabling them to catch even more fish.

This oversized fleet of mechanised trawlers ploughs the inshore seabed in a continuous fashion. In heavily trawled areas, this results in a decline of all animal and plant life. It has also resulted in major conflicts with the numerous population of small-scale fishers who see their livelihoods imperilled. The problem is that regulations to protect the inshore fishing zone are almost non-existent. Yes, mechanised boat fishing is closed for two months every year, so as to allow for the rejuvenation of fish stocks. But the main tool to prevent unwanted trawling – the prohibition for mechanised boat fishers to operate within a geographic zone of 5 NM – lacks forcefulness.

There are two main reasons for this. First, coastal States lack sufficient staff or craft to patrol the inshore waters. Second, governments have precluded fishers from playing a helpful role in management. The result is that the ecology of the inshore fishing zone is continuously being degraded, and all fishers – small-scale and mechanised – are being pushed out to the offshore and the deep-sea fishing zones.

Rethinking fisheries policy

The Indian government is optimistic about the potential of deep-sea fishing and is encouraging fishers to make a shift. But the question is whether that potential, which is also being tapped by other fishing nations, is as bountiful as expected. The FAO estimates that "at best, only a marginal increase can be realised through exploitation of deep-sea resources."

More fundamentally, India's current fisheries policy is wasting the enormous potential of inshore waters. For one thing, it imposes extra expenses for fuel and technology on fishers so that they can actually travel to more distant waters. At the same time, it is closing its eyes to the dire need for proper management of inshore waters. Aside from addressing the problems of marine pollution, it also means curbing, if not reducing, mechanised boat fishing. This is more than a technical issue. Mechanised boat fishers, by way of their numbers and their political influence, now often stand in the way of proper management. This is witnessed, for example, in the case of the Palk Bay, which is located between India and Sri Lanka. There, the Indian fleet of mechanised boat fishers now pirates Sri Lankan waters to the detriment of small-scale fishers on the other side of the international border. Ownership of the island Katchatheevu does not make any difference in this respect.

The way forward

While the government's assessment paints an encouraging picture of Indian fish stocks, a more fundamental concern remains. The larger issue is that fishers, scientists and policymakers continue to decry the degradation of the inshore fishing grounds. A viable and truly sustainable fishery can only be realised if governance of the so productive inshore waters improves. For this, the government must adjust its perspective.

This is in line with FAO's view that: "Simultaneous efforts are needed at federal and state levels to upgrade the country's capacity to manage its marine fisheries." In this context, CMFRI might also want to devote effort to studying what the condition of the benthic environment is actually like. This would provide a basis for deliberating on the best way forward. (Maarten Bavinck is emeritus professor of coastal resource governance, University of Amsterdam)

THE GIST

Food and Agriculture Organization presents a more cautious assessment of India's marine fisheries than official claims, warning that many major fish stocks are already fully exploited.

India's fish stock estimates rely largely on landing data rather than direct stock assessments, raising questions about how sustainability is measured.

Expanding mechanised trawling and weak enforcement of coastal fishing regulations are placing increasing pressure on inshore ecosystems and small-scale fishers.

MARINE FISHERIES IN INDIA

Status, Challenges and Way Forward for Sustainable Seas and Livelihoods

CONTEXT

- India has one of the world's largest marine fisheries resources with a long coastline, rich biodiversity and vast maritime space.
- However, the real challenge is declining inshore fish stocks, habitat degradation and livelihood stress of small-scale fishers, masked by total landings data.

INDIA'S MARINE FISHERIES: AT A GLANCE

COASTLINE (Revised) 11,098 km (mainland + islands) Longest coastline among major countries bordering the Indian Ocean	EXCLUSIVE ECONOMIC ZONE 2.02 million sq. km Area of marine jurisdiction available to India	TOTAL FISH PRODUCTION (All India, 2024-25) 197.75 lakh tonnes (encl: 19.775 million tonnes) Growth driven by fisheries and aquaculture	MARINE FISH LANDINGS (Revised 2025) 35.7 lakh tonnes (3.57 million tonnes) 2024: 34.7 lakh tonnes (3.47 million tonnes) ~2% decline from 2023	LIVELIHOOD ~28 million people dependent on fisheries sector (Direct & Indirect employment)	SEAFOOD EXPORTS (2023-24) 16.98 lakh tonnes Worth ₹62,408 crore Major markets: USA, China, EU, Japan, South East Asia
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MARINE FISHERIES: ECOSYSTEM SERVICES

- Food Security:** Provides high-quality protein, micronutrients and supports nutrition security.
- Livelihoods:** Supports coastal communities, especially small-scale fishers.
- Economic Contribution:** Generates income through domestic markets and exports.
- Coastal Protection:** Mangroves, seagrass beds and coral reefs buffer coasts from storms and erosion.
- Biodiversity Conservation:** Supports rich marine biodiversity and ecological balance.

STATUS AND TRENDS

- India's marine fish production increased from 0.75 million tonnes in 1950s to 3.57 million tonnes in 2025.
- Growth is led by mechanisation, deeper waters exploration, better infrastructure and value addition.
- Inshore (coastal) fish landings have stagnated or declined** in many states.
- Major contributors to marine landings: Gujarat, Maharashtra, Kerala, Tamil Nadu, Andhra Pradesh, Karnataka, West Bengal and Odisha.
- Non-fish marine products (NFMPS)** like seaweed, pearls, shells, crabs and octopus provide important livelihood and export potential.

KEY DATA POINTS

- Total fish production (All India, 2024-25): **197.75 lakh tonnes**
- Marine fish landings (2025): **35.7 lakh tonnes**
- Marine fish landings (2024): **34.7 lakh tonnes**
- Seafood exports (2023-24): **16.98 lakh tonnes** worth **₹62,408 crore**
- Aquaculture production (2024-25): **104.16 lakh tonnes (52.7% of total fish production)**

THE REAL CRISIS: WHY CONCERN?

- Degradation of Inshore Ecosystems**
Pollution, coastal habitat destruction, mangrove loss, coral bleaching and climate change are degrading nursery and breeding grounds, leading to decline of many coastal fish stocks.
- Unchecked Mechanised Trawling**
Trawlers operate in near-shore waters, damaging seabed ecosystems, catching juveniles and depleting resources. Bottom trawling disturbs sediments and destroys benthic habitats.
- Data Gap and Misleading Indicators**
Sustainability claims are based on total landings, ignoring ecosystem health, size structure, species composition and spatial depletion.
- Livelihood Stress**
Declining catch, rising operational costs, debt and competition from traders push traditional fishers into poverty and distress.
- Climate Change Impacts**
Rising sea surface temperature, ocean acidification, extreme events and changing currents affect fish migration, reproduction and productivity.
- Post-harvest Loss and Value Addition**
Inadequate cold chain, processing and storage lead to 20-30% post-harvest losses and lower incomes.

WHERE WE STAND: INDIAN COASTLINE (MAJOR STATES)

Gujarat	~1,214 km
Daman & Diu	~53 km
Maharashtra	~720 km
Goa	~101 km
Karnataka	~320 km
Kerala	~590 km
Tamil Nadu	~1,076 km
Puducherry	~30 km
Andhra Pradesh	~974 km
Odisha	~480 km
West Bengal	~158 km

Total: 11,098 km (revised)

Major Fishing Harbours (All India):
~1,549 notified fishing harbours
~3,363 landing centres
(As per DOF, 2024)

KEY CHALLENGES

- Over-capacity and easy access to marine resources.
- Weak enforcement of regulations and fishing bans.
- Conflict between mechanised and small-scale fishers.
- Destructive fishing practices (bottom trawling, fish aggregation devices).
- Inadequate spatial planning and weak marine protected area coverage.
- Poor data, stock assessment and monitoring.
- Low investment in infrastructure, cold chain and modernisation.
- Marine pollution – plastics, oil spills, industrial and agricultural runoff.
- Lack of alternative livelihoods during lean periods.

GOVERNANCE AND POLICY FRAMEWORK

Institutional Support	Departmental Support
<ul style="list-style-type: none"> Marine Fishing Regulation Act, 1983 – Regulates fishing in maritime zones. State Marine Fishing Regulations – Implement MFR Act within states. National Policy on Marine Fisheries, 2017 – Sustainable and responsible fisheries management. Blue Revolution – Integrated Development & Management of Fisheries (PMMSY component). National Plan of Action for Conservation & Management of Sharks, 2022. Saggar Pathikama & Kisan Credit Card for Fishers (KCC). Coastal Aquaculture Authority (CAA), 2005. 	<ul style="list-style-type: none"> Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying CR-CARSI and State Fisheries Departments MOF, MPEDA for promotion and exports Fisheries Co-operatives and Producer Companies

WAY FORWARD: SUSTAINABLE FISHERIES FOR PEOPLE AND PLANET

Ecosystem-based Fisheries Management <ul style="list-style-type: none"> Protect habitats (mangroves, seagrass, coral) Expand Marine Protected Areas (MPAs) Adopt ecosystem approach as per FAO guidelines 	Regulate and Enforce <ul style="list-style-type: none"> Strict enforcement of seasonal and area-based fishing restrictions Ban destructive gear and bottom trawling in inshore areas Strengthen monitoring, control and surveillance (MCS). 	Strengthen Data and Science <ul style="list-style-type: none"> Regular stock assessment and ecosystem monitoring Use technology – VMS, e-logbooks, GIS mapping Improve data transparency and public access 	Support Small-scale Fishers <ul style="list-style-type: none"> Secure fishing rights and access to resources Credit, insurance, skill development and social security Alternative livelihoods during lean seasons 	Promote Sustainable Aquaculture <ul style="list-style-type: none"> Eco-friendly and regulated mariculture Promote seaweed, molluscs and bivalves. Ensure biosecurity and environmental standards 	Reduce Pollution and Build Climate Resilience <ul style="list-style-type: none"> Control marine pollution and plastic waste Early warning systems for extreme events Climate-smart fisheries and coastal adaptation
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Sustainable fisheries = Healthy oceans + Food security + Livelihoods + Economic growth + Inter-generational equity

INDIA AND GLOBAL COMMITMENTS

- SDG 14:** Conserve and sustainably use the oceans, seas and marine resources.
- Paris Agreement:** Climate adaptation and resilience of coastal communities.
- Blue Economy Framework:** Inclusive and sustainable development of ocean resources.
- UN FAO Code of Conduct for Responsible Fisheries.**
- Marine spatial planning, biodiversity conservation and sustainable exploitation.

CONCLUSION

India's marine fisheries challenge is not merely declining landings but the ecological degradation of coastal ecosystems and poor governance. A paradigm shift towards ecosystem-based management, science-based policies and inclusive governance is the need of the hour to secure sustainable seas, protect livelihoods and ensure food and nutritional security for future generations.

PYQ (UPSC Mains)

Q. Critically analyse the challenges in sustainable management of fisheries in India. (GS-3, 2019)

GS-3 LINKAGES

- Agriculture:** Marine & coastal resources as part of livelihood security.
- Environment:** Biodiversity, ecology, climate change, pollution and conservation.

Disaster Risk Reduction

Early warning, resilience of coastal communities to extreme events.

KEY TAKEAWAY

Protecting our oceans today is essential for food, livelihoods, resilience and a sustainable blue economy tomorrow.

ISRO conducts test of key component for Gaganyaan mission

The solid motor-based platform SOLVE will be used for parachute tests of the crew module; it has been derived from the PSLV strap-on motor

The Hindu Bureau
BENGALURU

The Indian Space Research Organisation (ISRO) has successfully carried out the first ground test of the solid motor-based Sub-Orbital Launch Vehicle for Experiments (SOLVE) at its Static Test Facility at the Satish Dhawan Space Centre in Sriharikota.

The SOLVE solid motor is a key component for conducting Gaganyaan test missions and the first ground test was carried out on July 3.

The ISRO is developing a solid motor-based SOLVE as a test platform to carry out Integrated Parachute Tests for validation of deceleration system of Gaganyaan's crew module under various test conditions.

During these test missions, the crew module will be carried to an altitude of 10 km to 17 km and separated from the vehicle.

A series of 10 parachutes will be deployed to reduce the velocity of the crew module before splashdown in the sea.



The ground test of the SOLVE solid motor being conducted at the Satish Dhawan Space Centre in Sriharikota. SPECIAL ARRANGEMENT

The solid stage of SOLVE is derived from the Polar Satellite Launch Vehicle (PSLV) Strap-on Motor with a few modifications to meet the Gaganyaan test requirements, including development of slow burn rate propellant and straight nozzle with secondary injection thrust vector control.

The ISRO said that during the test motor performance parameters were as expected. "The development of the SOLVE vehicle provides flexibility in conducting Gaganyaan test missions simulating va-

rious conditions in the actual mission," the space agency said.

Over the past few months, the ISRO has carried out key tests related to the Gaganyaan mission, which include the second Integrated Air Drop Test (IADT-02) and a behavioural study Mission MITRA (Mapping of Interoperable Traits and Response Assessment) in Leh, during which the four Indian astronauts selected for the mission along with scientists, engineers and medical teams were subjected to a week-long study.

I. **Context:** ISRO successfully tested SOLVE (Sub-Orbital Launch Vehicle for Experiments), a dedicated test platform developed to validate the crew module's parachute recovery system for the Gaganyaan mission.

II. Gaganyaan Mission

- * **India's first indigenous human spaceflight mission.**
- * **Launch vehicle:** LVM3
- * **Mission:** Send Indian astronauts to Low Earth Orbit (~400 km) for about 3 days and ensure safe sea splashdown.
- * **Objective:** Develop indigenous human spaceflight capability and critical crew-safety technologies.

III. SOLVE: Why is it important?

- * **SOLVE** is a sub-orbital solid-motor test vehicle (derived from the PSLV strap-on motor).
- * It **carries the crew module to 10–17 km**, releases it, and tests the 10-parachute recovery sequence.
- * **Purpose:** Validate the landing system repeatedly without launching the full Gaganyaan mission, thereby improving crew safety and mission reliability.

1 MY BHARAT – EMPOWERING AMRIT PEEDEH

Where Digital India Meets Young India



2.22+ crore
Youth
Registered



1.52+ lakh
Volunteer
Opportunities



24,900+
Experiential
Learning Programs
(ELP)

WHAT MY BHARAT OFFERS

Digital Volunteerism: End-to-end management (Registration, Attendance, Geo-tagging, Certificates, Impact Tracking)

Experiential Learning: Internships, Apprenticeships, Industry Exposure, Quizzes & Competitions (e.g., Union Budget)

Leadership & Career Support: AI Resume Builder, Mentoring Support, Multilingual Digital Quizzes

Mobile App in 22 Indian Languages: 11 lakh+ downloads (as on 02 July 2026)

Single Registration: Seamless access to opportunities, resources & govt. initiatives

MAJOR INITIATIVES

- MY Bharat MY Vote
- National Youth Festival: Viksit Bharat Young Leaders Dialogue 2026 (50.42 lakh+ youth participated)
- Viksit Bharat Youth Convention 2026 (6,000+ youth)
- Nari Shakti Youth Parliament (17 zones, 7,000+ young women)
- Nasha Mukh Bharat
- International Yoga Day 2026 Mobilisation
- Viksit Vibrant Village Programme
- MY Bharat Podcast Series
- India at UN ECOSOC Youth Forum 2026

GUINNESS WORLD RECORD **390,812**
Most Users to Take an Online Quiz in One Week | Verified Participants

MY BHARAT 2.0 – Future Ready with AI, Multilingual Tech & Open APIs

2 ETHANOL BLENDED PETROL (EBP) PROGRAMME

Driving Energy Security, Farmer Prosperity & Sustainability

KEY HIGHLIGHTS

- ✓ Ethanol blending increased from 15.5% (2013-14) to 20% in 2025-26
- ✓ Target achieved 5 years ahead of schedule
- ✓ Production capacity increased from 421 crore litres (2014) to ~2,000 crore litres (2026)
- ✓ Procurement rose from 38 crore litres (2013-14) to 1,200+ crore litres (2025-26)

MAJOR IMPACT (Since 2014-15)



₹1.90+ lakh crore
Foreign exchange
saved



310+ lakh MT*
Crude oil
substituted



~930 lakh MT*
CO₂ emissions
reduced



₹1.60+ lakh crore
Additional farmer
earnings

*MT = Metric Tonnes

MYTHS vs FACTS

MYTH

- E20 cuts mileage by 30%
- E20 damages engines
- Insurance claims not valid
- Raw sugarcane juice mixed
- 1 litre ethanol uses 10,000L water

FACT

- Real-world impact minimal, depends on driving habits
- No widespread damage; tested by SIAM, ARAI, IOCL
- Insurance & warranty remain valid for E20
- Ethanol is industrially produced through fermentation
- Only 3-5 litres processed water used per litre ethanol

GLOBAL COMPARISON (Ethanol Blending)

Brazil E27 – E35	USA E10 (Expanding)	Japan E10 (Rollout)	Canada E10	Europe E5 – E10
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Feedstock: Sugarcane, Maize, Surplus Rice & Other Agri Feedstocks

3 ICMR-MINDS WINS GOLD AWARD

National Awards for e-Governance 2026



Category: Innovation using AI & New Age Technologies for Citizen-Centric Services (DARPG)

ABOUT ICMR-MINDS

AI-enabled platform for integration of mental & substance use disorders with other non-communicable diseases using Clinical Decision Support System (CDSS).

AI-Powered
Screening



Frontline
Workers
Empowered

Clinical Decision
Support



Continuity
of Care

KEY FEATURES



Standardised
Digital
Workflows



Offline
Functionality



Multilingual
Interface



Real-time
Dashboards



Referral &
Back-referral
System

BENEFITS

- Enables trained frontline workers to deliver mental healthcare
- Reduces burden on specialists & tertiary care centres
- Improves treatment adherence & reduces patient dropout
- Standardised, affordable & accessible mental healthcare

Implemented in 7 States:

From Self-Reliance to Global Leadership in Green Fuels.

4 ETHANOL EXPORTS: INDIA'S NEW ENERGY MILESTONE

Clean Fuel, Global Impact

KEY HIGHLIGHTS

- ✓ India begins ethanol exports for the first time
- ✓ First consignment of 2 lakh litres flagged off to UAE
- ✓ Exports to 6 countries: UAE, Nepal, Bhutan, South Africa, Brazil, Australia
- ✓ Supports 'Make in India, Make for the World' vision
- ✓ Strengthens green energy leadership

SIGNIFICANCE



Boosts farmer incomes & rural economy



Reduces crude oil import dependency



Promotes clean energy & lower emissions



Positions India as a global biofuel player

VISION

From Self-Reliance to Global Leadership in Green Fuels

PIB PRELIMS NUGGETS

- ▶ Ethanol blending target 20% achieved in 2025-26 (5 years ahead).
- ▶ India imports ~88.5% of its crude oil.
- ▶ 1 litre ethanol uses only 3-5 litres of processed water.
- ▶ ICMR-MINDS uses AI-based CDSS.

GS PAPER MAPPING



GS II
Governance
E-Governance
Youth & Education
Social Issues
Health Systems



GS III
Energy Security
Environment
Agriculture
Biotechnology
Science & Tech

ONE-LINE TAKEAWAYS

- ✓ MY Bharat empowers youth through digital opportunities.
- ✓ EBP programme strengthens energy security & farmers' income.
- ✓ ICMR-MINDS uses AI to deliver accessible mental healthcare.
- ✓ Ethanol exports mark India's global clean energy leadership.



UnderStand UPSC
What we UnderStand, We Conquer

