

How did India respond to the Strait of Hormuz crisis?

Prelims: General Studies Paper - 1
Current events of national and international importance

Mains: General Studies - 2
Effect of policies and politics of developed and developing countries on India's interests

1. What is the issue?

- **Geopolitical tensions** in **West Asia** threatened shipping through the **Strait of Hormuz**, creating concerns over **crude oil supply, shipping, freight costs, and inflation**.
- As India imports nearly **90% of its crude oil**, it was highly vulnerable to the disruption.
- Despite global uncertainty, India maintained **fuel availability** and **macroeconomic stability**.

2. What is the significance of the Strait of Hormuz?

- It is a **narrow sea passage** connecting the **Persian Gulf** to the **Gulf of Oman** and the **Arabian Sea**.
- Nearly **20% of global oil consumption** passes through this route.
- It is one of the world's most important **maritime chokepoints** for global energy trade.
- Any disruption affects **oil prices, shipping, insurance, and global supply chains**.

3. Why was India's response significant?

- Ensured **safe movement** of Indian-flagged vessels and protected Indian **seafarers**.
- Prevented major increases in **fuel prices** through prudent energy management.
- Kept **inflation** within the **RBI's target band ($4 \pm 2\%$)** despite global commodity volatility.
- Supported exporters through **logistics facilitation**

and **liquidity support**.

- Demonstrated strong **institutional coordination, policy agility, and crisis preparedness**.

4. What measures strengthened India's energy resilience?

- **Diversified crude oil imports** and strengthened **strategic petroleum reserves**.
- Coordinated among **Ministries, State Governments, Oil Marketing Companies (OMCs)**, and industry.
- Expanded the **City Gas Distribution (CGD)** network to promote **Piped Natural Gas (PNG)**.
- The **RBI** ensured financial stability through **liquidity support, forex swap facilities**, and measures to strengthen the external sector.
- Continued investments in **refining capacity, gas infrastructure, logistics, and clean energy** to improve long-term energy security.

A **Strategic Petroleum Reserve** is a **government-maintained stockpile of crude oil** that can be used during supply disruptions, emergencies, or sharp increases in global oil prices to ensure national energy security.

The **City Gas Distribution Network** supplies **Piped Natural Gas (PNG)** to households and industries and **Compressed Natural Gas (CNG)** to transport, reducing dependence on liquid fossil fuels and improving energy security.

Why has the debate on proof of citizenship gained importance?

Prelims: General Studies Paper - 1
Current events of national and international importance

Mains: General Studies - 2
Indian Constitution—historical underpinnings, evolution, features, amendments, significant provisions and basic structure.

1. What is the issue?

- The **Ministry of External Affairs (MEA)** stated that an **Indian passport** is a travel document, not a **citizenship document**.
- The statement has raised questions on **what constitutes valid proof of Indian citizenship**.
- The debate comes amid the **Special Intensive Revision (SIR)** of electoral rolls by the Election Commission of India (ECI).
- It has also gained significance after recent **Supreme Court judgments on citizenship and electoral roll verification**.

2. What is the constitutional and legal framework for citizenship?

- Articles 5-11** of the Constitution deal with **citizenship** at the commencement of the Constitution.
- Article 11** empowers Parliament to regulate the **acquisition** and **termination** of citizenship.
- The **Citizenship Act, 1955** governs citizenship in India.
- India initially followed the principle of **Jus Soli (citizenship by birth)**, which has been restricted through later amendments.
- The **Citizenship (Amendment) Act, 2019 (CAA)** introduced religion-based criteria for granting citizenship to specified migrants.

Jus Soli is a principle under which **citizenship is acquired by birth within a country's territory**, subject to legal conditions.

3. Why is the issue important?

- It concerns the **proof and verification of citizenship** for accessing constitutional and legal rights.
- Questions have been raised over the documents accepted as proof of citizenship, including **passport, Aadhaar, and Voter ID**.
- Citizenship determines access to rights available only to citizens, such as the **Right to Vote and Article 19 freedoms**.
- The issue highlights the **balance between electoral integrity, national security, and constitutional rights**.

4. What are the recent developments?

- The ECI has undertaken **Special Intensive Revision (SIR)** of electoral rolls to verify voter eligibility.
- The Supreme Court has upheld the **ECI's power to verify citizenship for preparing electoral rolls**.
- The Court has also upheld the constitutional validity of **Section 6A of the Citizenship Act** relating to the **Assam Accord**.
- Recent developments have renewed discussions on the **burden of proving citizenship and the role of documentary evidence**.

Assam Accord (1985) was an agreement between the **Government of India**, the **Government of Assam**, and leaders of the **Assam Movement** to address illegal migration into Assam.

Section 6A of the Citizenship Act is a special provision implementing the **Assam Accord**, prescribing citizenship rules for migrants who entered Assam during specified periods before **25 March 1971**.

Milk production in Gangetic plains has nosedived due to climate change

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Food processing and related industries in India- scope and significance, location, upstream and downstream requirements, supply chain management.

1. How is climate change affecting milk production?

- Climate change is **reducing bovine milk production, especially among buffaloes in Haryana and the trans-Gangetic plains**.
- Temperatures above 38°C with humidity above 70% (July–August) significantly reduce milk yield;** winter temperatures have little effect.
- High Temperature-Humidity Index (THI) reduces feed intake,** increases panting, sweating, cortisol, and lowers milk ejection.
- High Potential Evapotranspiration (PET)** is a major cause of productivity loss.

- Rising temperatures reduce fodder quantity, quality, and seasonal availability.

Temperature-Humidity Index (THI): A composite index that combines air temperature and relative humidity to measure the level of heat stress experienced by livestock.

Potential Evapotranspiration (PET): The maximum amount of water that could evaporate from land and transpire from plants if sufficient water were available.

2. Why are buffaloes more vulnerable than indigenous cattle?

- Buffaloes are **more heat-sensitive due to dark skin, sparse hair, and fewer sweat glands**.
- A **1-unit increase in Potential Evapotranspiration (PET) reduces buffalo milk yield by ~1.4 litres/day**.
- **Cross-bred cattle also experience significant productivity losses** during heatwaves.
- **Indigenous breeds (Sahiwal, Hariana) tolerate heat due to loose skin, efficient sweating, and lower metabolic heat production.**
- They also possess stronger immunity and better evaporative cooling.

3. What are the economic and livelihood impacts?

- **Heat stress causes annual losses of 3.2 million tonnes of milk** worth ₹2,661 crore.
- **Losses may reach 15 million tonnes** by the 2050s.
- **Lactating animals lose 20-30% of milk yield** during peak summer.
- Climate change may reduce India's milk production by 25% by 2085.
- Around **80 million smallholder dairy farmers, producing 85% of India's milk, face livelihood and nutrition risks.**

4. What adaptation and policy measures are recommended?

- **Adopt cooling ponds, agroforestry, livestock sheds, sprinklers, foggers, misting systems, and improved feeding practices.**

- **Integrate Potential Evapotranspiration (PET) and Temperature-Humidity Index (THI)** into regional early warning systems.
- Promote **thermo-tolerant breeding using Bos indicus traits**.
- **Conserve indigenous breeds through in-situ conservation** and farmer-led breed improvement programmes.
- **Develop a coordinated climate-smart dairy strategy** with financial and technical support for smallholder farmers.

The real crisis in India's fisheries

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Food processing and related industries in India- scope and significance, location, upstream and downstream requirements, supply chain management.

1. What are the concerns regarding the Government's claim that Indian marine fisheries are sustainable?

- The **Indian government stated 91.1% of 135 fish stocks assessed in 2022 are sustainable**.
- The **Food and Agriculture Organization (FAO) says most major fish stocks are fully exploited**.
- Marine fish production has **reached a plateau due to excessive fishing pressure**.
- **Excessive mechanised trawlers** compete with small-scale fishers.
- **Central Marine Fisheries Research Institute (CMFRI) mainly relies on landing (catch) data** instead of direct stock assessments.

Landing (catch) data refers to the information collected when fish are brought ashore (landed) at fishing harbours or landing centres after being caught.

Central Marine Fisheries Research Institute (CMFRI) is an Indian Council of Agricultural Research institute headquartered in Kochi. It conducts research on marine fisheries and supports sustainable fisheries management in India.

2. Why are India's inshore marine ecosystems declining?

- **Fishers report declining catches and disappearance** of several species.
- **Construction of dams reduces nutrient flow** from rivers to the sea.
- **Destruction of mangroves affects breeding** and nursery habitats.
- **Industrial, agricultural and urban pollution degrades** coastal waters.
- **Damage to the benthic (seabed) ecosystem** reduces marine biodiversity.

3. How has mechanised trawling affected Indian marine fisheries?

- **Mechanised trawling has expanded rapidly** since its introduction around 1960.
- **India has over 64,000 mechanised fishing vessels** with increasing fishing capacity.
- **Continuous seabed trawling destroys marine habitats** and benthic life.
- It **causes conflicts with small-scale fishers by reducing nearshore resources**.
- **Weak enforcement of the 5-nautical-mile (NM) coastal restriction** allows continued inshore trawling.

4. What measures are needed to ensure sustainable marine fisheries in India?

- **Conduct scientific fish stock assessments** instead of relying mainly on landing data.
- **Strengthen protection and restoration** of inshore ecosystems.
- **Regulate and reduce mechanised trawling**.
- **Improve enforcement of coastal fishing regulations** and involve fishers in management.
- **Address pollution, mangrove loss, and strengthen fisheries governance at the Union and State levels** in line with Food and Agriculture Organization (FAO) recommendations.

KEYWORDS

Solid Motor-based Sub-Orbital Launch Vehicle (SOLVE)

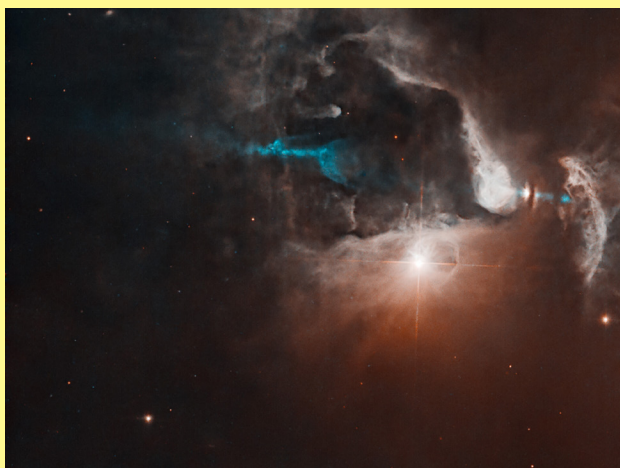
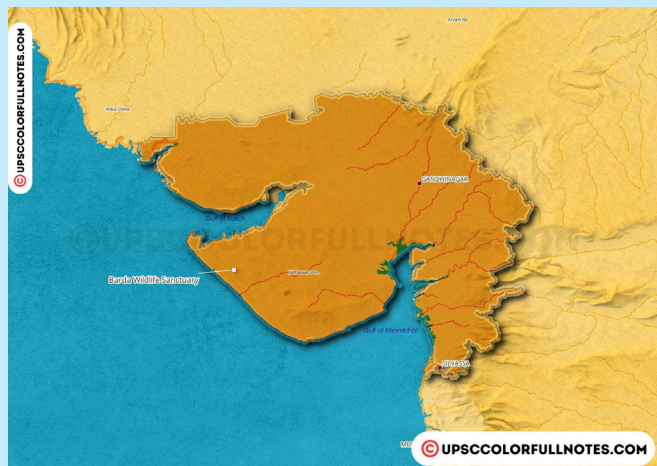
- SOLVE is the **Solid Motor-based Sub-Orbital Launch Vehicle for Experiments** developed by ISRO.
- It is **designed to support the Gaganyaan human spaceflight programme**.
- SOLVE is **used to test the parachute recovery system of the Gaganyaan Crew Module**.
- It **uses a solid rocket motor to carry the Crew Module to sub-orbital altitude before splashdown**.
- ISRO **successfully conducted the first ground test (SOLVE-ST01) on 3 July 2026** at the Satish Dhawan Space Centre, Sriharikota.
- The programme validates critical technologies for the safe return of astronauts before India's crewed space missions.

Canine Distemper Virus (CDV)

- **Canine Distemper Virus (CDV)** is a **highly contagious viral disease** that primarily affects **dogs** and several **wild carnivores** such as tigers, lions, leopards, foxes, wolves, and hyenas.
- It is caused by the **Canine Distemper Virus**, a member of the **Morbillivirus** genus in the **Paramyxoviridae** family.
- The virus spreads through **respiratory droplets**, direct contact, and contaminated food, water, or surfaces.
- It attacks the **respiratory, gastrointestinal, and nervous systems**, often causing fever, pneumonia, diarrhoea, neurological disorders, and death.
- There is **no specific cure** for the disease; **vaccination** is the most effective method of prevention in domestic dogs, helping reduce transmission to wildlife.

FS Tau star system

- FS Tau is a young multiple-star system located in the **Taurus–Auriga star-forming region**, about 450 light-years from Earth and is only ~2.8 million years old.
- **FS Tau A is a binary protostar system**, while **FS Tau B is a young protostar** surrounded by a dense protoplanetary disc of gas and dust.
- FS Tau B emits asymmetrical bipolar jets that create **Herbig–Haro objects** (luminous clouds formed when jets ejected by young stars collide with surrounding interstellar gas and dust)
- The **Hubble Space Telescope** recently captured detailed images of the **FS Tau system**, providing valuable insights into the early stages of star formation.

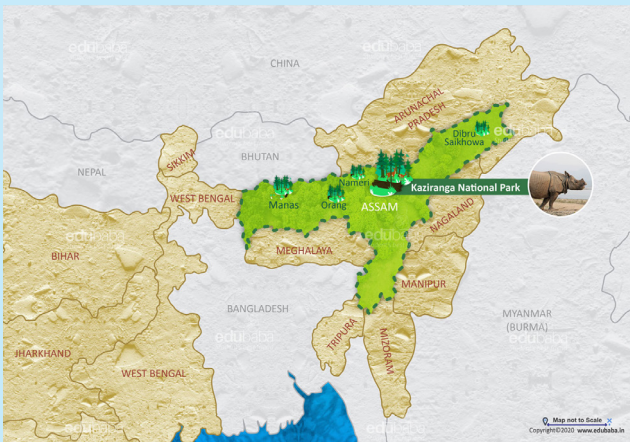
**PLACES IN NEWS****Barda Wildlife Sanctuary**

- **Barda Wildlife Sanctuary** is located in the **Porbandar** and **Devbhumi Dwarka** districts of **Gujarat**, in the **Barda Hills**, about **100 km west of Gir National Park**.
- It was declared a **Wildlife Sanctuary in 1979** and is being developed as the **second habitat for the Asiatic Lion** under **Project Lion** to reduce the risk of keeping the entire wild population confined to Gir.
- The sanctuary comprises **tropical dry deciduous forests, thorn scrub, grasslands, and hilly terrain**, supporting rich biodiversity.
- Major fauna include the **Asiatic Lion, Leopard, Chinkara, Nilgai, Sambar, Chital, Wild Boar, Striped Hyena**, and numerous bird species.
- It is drained by the **Bileshwari** and **Joghri** rivers, which sustain the sanctuary's ecosystems.

Matarbari Deep Sea Port

- **Matarbari Deep Sea Port** is located at **Matarbari Island, Maheshkhali Upazila, Cox's Bazar District, Bangladesh**, on the **Bay of Bengal**.
- It is **Bangladesh's first deep-sea port** and is being developed with financial and technical assistance from the **Japan International Cooperation Agency (JICA)**.
- The port has a **16-metre draft**, enabling **large container ships (Panamax and Capesize vessels)** to dock directly, unlike Bangladesh's existing shallow-water ports.
- It is expected to reduce congestion at **Chattogram Port**, enhance **regional connectivity**, and strengthen trade in the **Bay of Bengal**.
- The port is strategically important for **Bangladesh, India's North-Eastern States**, and the wider **Indo-Pacific** region by improving maritime trade and logistics.

Kaziranga National Park



- Kaziranga National Park is located in **Assam between the Brahmaputra River and the Karbi (Mikir) Hills** and is the largest undisturbed floodplain ecosystem of the Brahmaputra Valley.
- It was **declared a UNESCO World Heritage Site in 1985** and is globally renowned for conservation of the one-horned rhinoceros.
- The park's terrain consists of tall elephant grass, marshes, reeds, shallow pools, and forests, supporting rich wetland biodiversity.
- The **Diffalu River flows through the park, while the Moradifalu River forms part of its southern boundary**; both are tributaries of the Brahmaputra.

- **Kaziranga is home to the world's largest population of one-horned rhinoceroses and also supports tigers, Asian elephants, wild buffaloes, eastern swamp deer, hoolock gibbons, capped langurs, and the Gangetic river dolphin.**