



Carbon Credits

For Prelims: [Carbon credits](#), [Carbon markets](#), [Hydrofluorocarbon](#), [Paris Agreement](#), [Kyoto Protocol](#), [Greenhouse gases](#), [Greenwashing](#)

For Mains: Carbon Markets and Their Effectiveness, Environmental Integrity and Greenwashing in Carbon Markets, Carbon Credit Market in India

Source: [IE](#)

Why in News?

A recent study in *Nature journal* reveals that **only 16%** of carbon credits result in **actual emissions reductions**, casting doubt on the effectiveness of carbon markets.

- As the 29th [Conference of the Parties to the United Nations Framework Convention on Climate Change \(COP29\)](#) prioritizes new carbon trading mechanisms, this study raises critical concerns about the reliability of emissions reduction claims.

What are the Key Highlights of the Study?

- **Ineffectiveness of Carbon Credits:** The study analyzed projects generating **carbon credits** equivalent to one billion tonnes of Carbon dioxide (**CO₂**) under [Kyoto Protocol, 1997 mechanisms](#), and revealed that **only 16% of these credits corresponded to actual emissions reductions**.
- **HFC-23 Abatement Success:** The most effective emissions reductions were observed in projects focused on the elimination of [Hydrofluorocarbon \(HFC\)-23, a potent greenhouse gas](#).
 - Around 68% of credits from these projects resulted in actual emissions cuts, making them the most successful among the projects reviewed.
- **Challenges with Other Projects:** Avoided deforestation projects only resulted in a 25% effectiveness rate.
 - An "avoided deforestation project" is a conservation effort that **protects forests from being cleared**, preventing the release of CO₂ that would occur if the trees were cut down.
 - [Solar cooker deployment projects](#) showed even lower effectiveness, with just 11% of credits leading to emissions reductions.
- **Flaws in Assessing Additionality:** The study found that many projects under the **Kyoto Protocol** failed the "**additionality**" rule, meaning emissions reductions could have occurred without the revenue from carbon credits.
 - **Additionality** requires projects to **reduce emissions beyond what would have happened in a business-as-usual scenario**.
 - The study highlighted flaws in current assessments, with many Kyoto mechanisms issuing credits for non-additional reductions, undermining emission claims.
 - These issues emphasise the need for more robust carbon trade mechanisms under the [Paris Agreement, 2015](#) with progress expected at **COP29** in Baku.
- **Recommendations:** The study calls for **stricter eligibility criteria and improved standards**

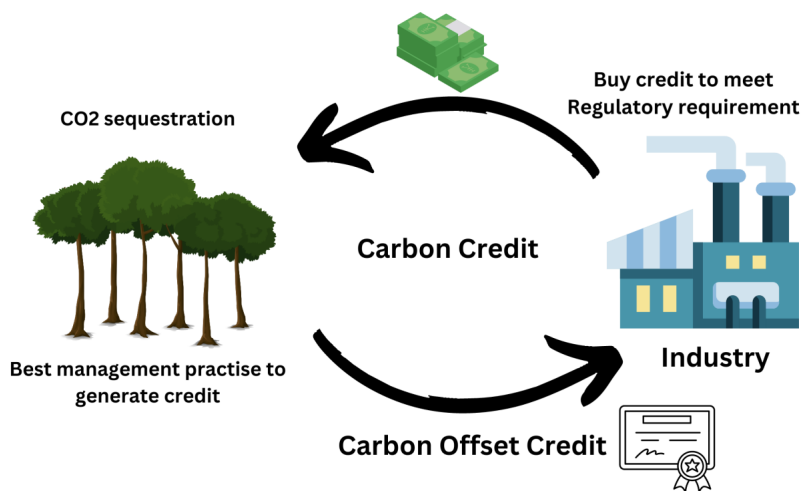
and methodologies to quantify emission reductions.

- Projects with a **high likelihood of additionality should be prioritised**.
- The study stresses the need for **robust carbon trading mechanisms** under the **Paris Agreement**, with safeguards to ensure credits reflect real emissions reductions.

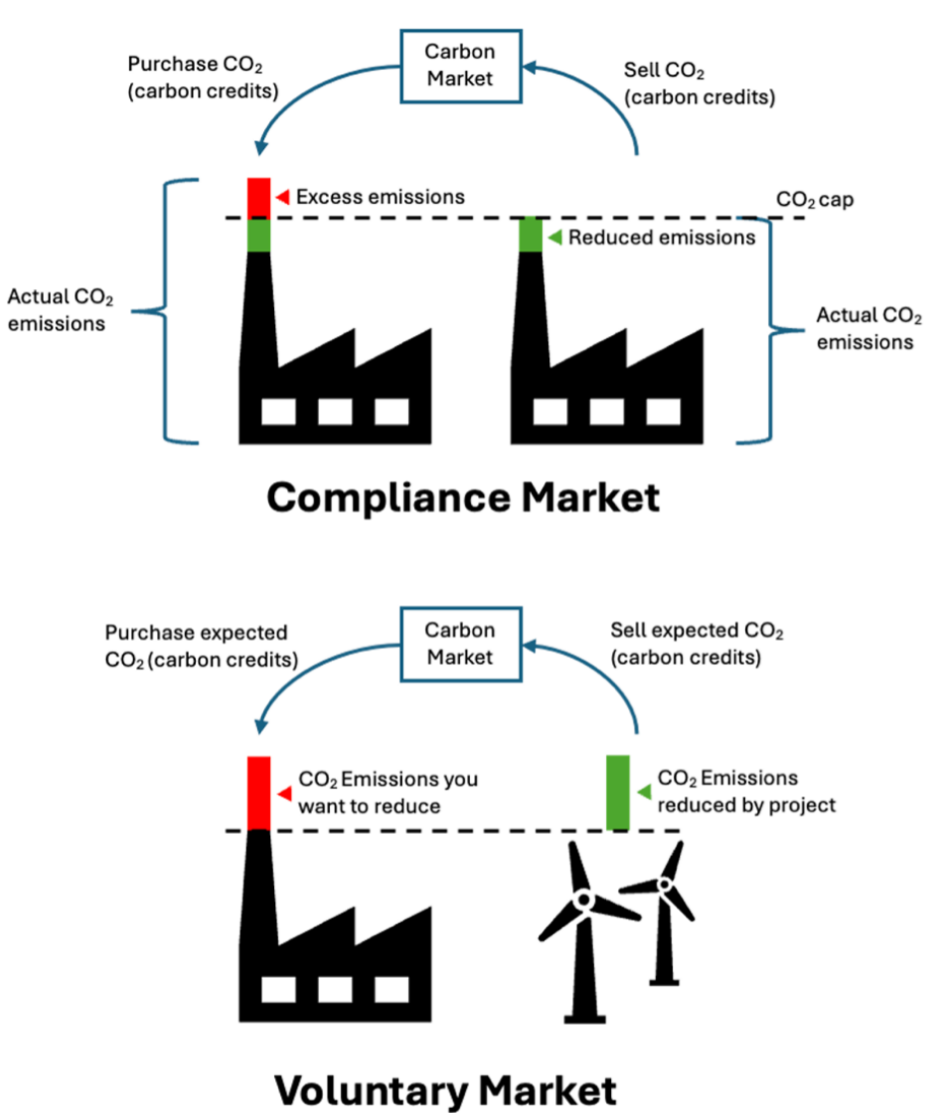
What are Carbon Credits?

- **About:** Carbon credits, or carbon offsets, refer to **carbon emissions reductions or removals**, measured in **tonnes of carbon dioxide equivalent (tCO₂e)**.
 - The concept of carbon credit, introduced in the **Kyoto Protocol, 1997** and reinforced by the **Paris Agreement, 2015** aims to reduce **greenhouse gases (GHG)** emissions through **carbon trading**.
 - Each carbon credit permits the emission of **one tonne of CO₂** or its equivalent.
 - These credits are generated by projects that **absorb or reduce carbon emissions** and are certified by international bodies like the **Verified Carbon Standard (VCS)** and the **Gold Standard**.

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- **Carbon Markets:** The carbon markets established under the **Paris Agreement aim to create more robust, reliable systems** for trading carbon credits and ensuring transparency in emissions reductions.
 - Under **Article 6 of the Paris Agreement**, countries can work together, **transferring carbon credits** from emission-reducing projects to help other countries meet their climate goals.
- **Types of Carbon Markets:**
 - **Compliance Markets:** Established through **national or regional emissions trading schemes (ETS)**, where participants are legally obligated to meet specific emission reduction targets.
 - These markets are driven by regulatory frameworks and impose penalties for non-compliance.
 - Participants include governments, industries, and businesses, all of whom must meet emissions limits set by the authorities.
 - **Voluntary Markets:** In voluntary carbon markets, there is no formal obligation to reduce emissions.
 - Participants, such as companies, cities, or regions, voluntarily engage in carbon trading to offset their emissions and meet sustainability goals, such as achieving climate neutrality or net-zero emissions.
 - This is often done as **part of corporate social responsibility (CSR)** initiatives or to gain a market advantage by showcasing environmental responsibility.



- **Benefits of Carbon Credits:** Projects that aim at forest protection or sustainable land management can preserve **critical habitats**, **animal and plant species**, and **promote ecosystem services**. Carbon credits can also play a **role in financing sustainable projects**.

THE CORE CARBON PRINCIPLES

A. GOVERNANCE

Effective governance
The carbon-crediting program shall have effective program governance to ensure transparency, accountability, continuous improvement and the overall quality of carbon credits.
Tracking
The carbon-crediting program shall operate or make use of a registry to uniquely identify, record and track mitigation activities and carbon credits issued to ensure credits can be identified securely and unambiguously.
Transparency
The carbon-crediting program shall provide comprehensive and transparent information on all credited mitigation activities. The information shall be publicly available in electronic format and shall be accessible to non-specialised audiences, to enable scrutiny of mitigation activities.
Robust independent third-party validation and verification
The carbon-crediting program shall have program-level requirements for robust independent third-party validation and verification of mitigation activities.

B. EMISSIONS IMPACT

Additionality
The greenhouse gas (GHG) emission reductions or removals from the mitigation activity shall be additional, i.e., they would not have occurred in the absence of the incentive created by carbon credit revenues.
Permanence
The GHG emission reductions or removals from the mitigation activity shall be permanent or, where there is a risk of reversal, there shall be measures in place to address those risks and compensate reversals.
Robust quantification of emission reductions and removals
The GHG emission reductions or removals from the mitigation activity shall be robustly quantified, based on conservative approaches, completeness and sound scientific methods.
No double counting
The GHG emission reductions or removals from the mitigation activity shall not be double counted, i.e., they shall only be counted once towards achieving mitigation targets or goals. Double counting covers double issuance, double claiming, and double use.

C. SUSTAINABLE DEVELOPMENT

Sustainable development benefits and safeguards
The carbon-crediting program shall have clear guidance, tools and compliance procedures to ensure mitigation activities conform with or go beyond widely established industry best practices on social and environmental safeguards while delivering positive sustainable development impacts.
Contribution to net zero transition
The mitigation activity shall avoid locking-in levels of GHG emissions, technologies or carbon-intensive practices that are incompatible with the objective of achieving net zero GHG emissions by mid-century.

What are the Concerns Regarding Carbon Credits?

- **Non-Adherence to Additionality:** Carbon credits should only be given for projects that achieve **emissions reductions beyond what would have happened naturally**. This concept is known as **additionality, a core principle of Carbon Credits**.
 - Due to lack of clear additionality rules, credits are given to projects that would have reduced the same amount of emissions anyway, making the **carbon market less effective**.
- **Greenwashing:** Some companies claim carbon credits as a way to appear environmentally responsible without making substantial changes to their operations, a practice known as **greenwashing**.
 - This undermines the **credibility of the carbon credit market** and can mislead consumers and investors about the actual environmental impact.
- **Market Transparency:** Lack of transparency in how carbon credits are generated and traded can raise doubts about the **legitimacy of the market**.
 - Lack of real-time tracking and independent audits weakens the system's integrity, leading to issues like **double-counting emissions reductions**.
- **Inequitable Access:** Developing countries may face barriers in accessing resources or **technology to participate** in carbon credit generation, limiting their ability to benefit from the market. This can perpetuate inequalities in the global climate effort.
- **Key Challenges Facing India's Carbon Credit Market:**
 - **Industry Readiness & Compliance Costs:** The high cost of monitoring and verification systems limits smaller projects in India, especially **Micro, Small and Medium Enterprises (MSMEs)**, which generate around **110 million tonnes** of CO₂ annually, hindering their participation in the carbon market.
 - **Regulatory and Oversight Mechanisms:** **India's carbon market**, while **still in its early stages**, requires strong enforcement and an alignment with both domestic and international standards to be effective.

India's Initiatives Related to Carbon Credit

- **Nationally Determined Contributions (NDCs):** India updated its **NDCs** in 2023 to include the establishment of a **domestic carbon market**.
- **Energy Conservation (Amendment) Act, 2022:** Provides the legal framework for the **Carbon Credit Trading Scheme (CCTS)**. It empowers the Indian government to establish a **domestic carbon market** and to authorise designated agencies to issue **carbon credit certificates (CCCs)**.
 - The CCTS is a unified **Indian Carbon Market (ICM)** established to reduce GHG emissions through the trading of carbon credit certificates.
- **Perform, Achieve and Trade (PAT) scheme**
- **Renewable Energy Certificates (REC)**
- **Green Credit Programme**
- **Monitoring and Verification:** The **Bureau of Energy Efficiency (BEE)** and the **National Steering Committee for Indian Carbon Market (NSCICM)** are responsible for ensuring the integrity of the carbon credits through rigorous monitoring, reporting, and verification processes.

Way Forward

- **Strengthen Additionality:** Implement stringent additionality criteria to ensure credits represent genuine emissions reductions.
 - Ensure transparency through real-time tracking and third-party verification.
- **Focus on Proven, High-Impact Projects:** Prioritise projects like HFC-23 abatement that have demonstrated high emissions reduction effectiveness. Avoid low-impact projects with poor success rates.
- **Establish Robust MRV Systems:** Invest in scalable monitoring, reporting, and verification (MRV) systems, especially for smaller projects. Collaborate with international standards like VCS or Gold

Standard to ensure credibility.

- **Align with International Standards:** Ensure compliance with Article 6 of the Paris Agreement and integrate global carbon market standards.
 - Provide financial and technical support to developing regions to participate effectively in carbon markets.

Drishti Mains Question:

Evaluate the concept of carbon markets. How do flaws in additionality impact the integrity of carbon credit systems?"

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q. Consider the following statements (2023)

Statement—I: Carbon markets are likely to be one of the most widespread tools in the fight against climate change.

Statement—II: Carbon markets transfer resources from the private sector to the State.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement—I and Statement—II are correct and Statement—II is the correct explanation for Statement—I
- (b) Both Statement—I and Statement—II are correct and Statement—II is not the correct explanation for Statement—I
- (c) Statement—I is correct but Statement—II is incorrect
- (d) Statement—I is incorrect but Statement—II is correct

Ans: B

Q. The concept of carbon credit originated from which one of the following? (2009)

- (a) Earth Summit, Rio de Janeiro
- (b) Kyoto Protocol
- (c) Montreal Protocol
- (d) G-8 Summit, Heiligendamm

Ans: B

2nd India-Australia Annual Summit

For Prelims: [G20](#), [Green hydrogen](#), [Ind-Aus ECTA](#), [Make in India](#), [United Nations Convention on the Law of the Sea](#), [Indian Ocean Rim Association](#), [AUSINDEX](#), [Pitch Black](#), [Asia-Pacific Economic Cooperation](#).

For Mains: India and Australia Relations, India-Australia Critical Minerals Investment Partnership, Significance, India Australia Summit.

Source: [PIB](#)

Why in News?

The Prime Minister of India and the Prime Minister of Australia held the **2nd India-Australia Annual Summit** on the sidelines of the **2024 Group of 20 (G20) Summit** in Rio de Janeiro, Brazil.

- Ahead of the fifth anniversary of the [India-Australia Comprehensive Strategic Partnership](#) in **2025**, the Prime Ministers highlighted significant progress in areas including climate change, trade, defence, education, and regional cooperation.



What are the Key Highlights of the India-Australia 2nd Annual Summit?

- **Renewable Energy Partnership:** The **India-Australia Renewable Energy Partnership (REP)** was launched to bolster cooperation in [solar energy](#), [green hydrogen](#), and energy storage.
- **Trade and Investments:** Committed to developing a **Comprehensive Economic Cooperation Agreement (CECA)**, building on the success of the [India-Australia Economic Cooperation and Trade Agreement \(Ind-Aus ECTA\)](#), which led to a **40% increase in mutual trade within two years**.
 - The Prime Ministers highlighted the complementarity between **'Make in India'** and **'Future Made in Australia'**, emphasising their potential to create jobs, drive economic growth, and secure future prosperity.
 - Both Nations welcomed the extension of the **Australia-India Business Exchange (AIBX)**

programme for another four years from July 2024.

- The AIBX is a **4-year program aimed at boosting trade and investment between India and Australia** by providing market insights and fostering commercial partnerships.
- **Enhanced Mobility:** Both nations recognized mobility between Australia and India as key to economic growth, they welcomed the launch of **[Australia's Working Holiday Maker visa programme for India in October 2024](#)**.
 - They also looked forward to the commencement of **Australia's Mobility Arrangement for Talented Early-professionals Scheme (MATES)**, aimed at promoting mobility of early professionals and providing Australian industry access to India's top **[STEM \(science, technology, engineering, and mathematics\) graduates](#)**.
- **Strategic Collaboration:** The leaders agreed to renew the **Joint Declaration on Defence and Security Cooperation (JDSC) in 2025**, reflecting their enhanced defence partnership and strategic convergence.
 - The JDSC, agreed in 2007, aimed to strengthen cooperation in areas such as **[counter-terrorism, disarmament, non-proliferation](#)**, and **[maritime security](#)**.
- **Regional and Multilateral Cooperation:** Both nations reiterated their support for a free, open, and inclusive **[Indo-Pacific](#)**, consistent with the **[United Nations Convention on the Law of the Sea \(UNCLOS\)](#)**.
 - They pledged continued collaboration under the **[Quad framework](#)**, emphasizing areas like pandemic response, **[cybersecurity](#)**, and critical infrastructure.
 - The **[2024 Indian Ocean Conference in Perth](#)** and **India's upcoming [Indian Ocean Rim Association \(IORA\) Chairmanship in 2025](#)** underscore mutual efforts in maritime ecology and sustainable development.
 - Both nations reaffirmed commitments to supporting Pacific island countries through **[Forum for India-Pacific Islands Cooperation \(FIPIC\) framework](#)**.

Note:

The 1st Annual Summit was held in **2023** in New Delhi, the Prime Ministers reaffirmed their support for strengthening the **India-Australia Comprehensive Strategic Partnership**.

What is the India-Australia Comprehensive Strategic Partnership?

- **About:** In June 2020, India and Australia elevated their relationship from a '**Strategic Partnership**' signed in 2009 to a '**Comprehensive Strategic Partnership**' (CSP) to strengthen bilateral ties.
 - It is grounded in mutual trust, shared democratic values, and common interests in areas like regional security, economic growth, and global cooperation.
- **Key Features of the CSP:**
 - **Science, Technology & Research Collaboration:** Enhanced cooperation on medical research, technology, and cyber security.
 - **Maritime Cooperation:** Joint efforts to ensure a free, open, and inclusive Indo-Pacific, with a focus on sustainable maritime resources and combating illegal fishing.
 - **Defence:** Expanding military cooperation by conducting joint exercises like the **["Malabar" exercise](#)** and providing logistics support through agreements such as the **[Mutual Logistics Support Agreement \(MLSA\)](#)** to address common security challenges.
 - **Economic Cooperation:** Re-engaging on a **[Comprehensive Economic Cooperation Agreement \(CECA\)](#)**, encouraging trade, investment, and collaboration in infrastructure, education, and innovation.
- **Implementation:** The CSP includes regular dialogues at various levels, including **[foreign and defence ministers meeting in a '2+2' format](#)**. Annual summits and ministerial meetings are intended to ensure continued cooperation.

Ind-Aus ECTA

- The Ind-Aus ECTA signed in 2022, aimed to boost trade between the two nations. It granted **India preferential access to 100% of Australia's tariff lines**, covering key sectors like gems, textiles, leather, and agriculture.
- In return, **India offered preferential access to over 70% of its tariff lines**, including raw materials like coal and minerals, benefiting both countries' trade interests.

What are the Key Milestones in India-Australia Relations?

- **Bilateral Trade:** India is Australia's **5th largest trading partner** with two-way trade in goods and services valued at USD 49.1 billion in 2023.
 - **India's Exports to Australia:** Refined petroleum, Pearls and gems, Jewellery, and Made-up textile articles.
 - **Australia's Exports to India:** Coal, Copper ores and concentrates, Natural gas, Non-ferrous/Ferrous waste and scrap, and Education-related services.
- **Civil Nuclear Cooperation:** In 2014, India and Australia signed the [Civil Nuclear Cooperation Agreement](#), allowing [uranium exports to India](#).
 - The agreement came into force in 2015, facilitating the supply of uranium for India's peaceful nuclear energy needs.
- **Defence and Security Cooperation:** India-Australia defence ties are strengthened through joint exercises like [AUSINDEX](#), [Pitch Black](#), and initiatives like the **2022 General Rawat Exchange Programme**, a military exchange program.
- **Multilateral Engagement:** Active participation in Quad initiatives, IORA, and the [International Solar Alliance \(ISA\)](#).
 - Australia supports India's candidature for a permanent seat in the [United Nation Security Council](#) and membership in the [Asia-Pacific Economic Cooperation](#).

Conclusion

India and Australia have made notable progress in strengthening their economic and strategic ties, driven by shared democratic values. Despite challenges like delay in developing CECA, and evolving regional security, both nations remain **committed to deepening their partnership**. With continued cooperation, they are well-positioned to enhance ties in the future.

Drishti Mains Question:

Evaluate the evolution of India- Australia trade relations in the context of shifting global dynamics.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q.1 Consider the following countries: (2018)

1. Australia
2. Canada
3. China
4. India
5. Japan
6. USA

Which of the above are among the 'free-trade partners' of ASEAN?

- (a) 1, 2, 4 and 5
 (b) 3, 4, 5 and 6
 (c) 1, 3, 4 and 5

(d) 2, 3, 4 and 6

Ans: (c)

- The Association of Southeast Asian Nations (ASEAN) has free trade agreements with six partners, namely the People's Republic of China, Republic of Korea, Japan, India as well as Australia and New Zealand.

Guided Pinaka Weapon System

Source: PIB

Recently, the [Defence Research and Development Organisation \(DRDO\)](#) successfully completed the Flight Tests of the [Guided Pinaka Weapon System](#) as part of **Provisional Staff Qualitative Requirements (PSQR)** Validation Trials.

- The PSQR parameters include **range, accuracy, consistency**, and the **ability to fire multiple rockets simultaneously in salvo mode**.
- **Guided Pinaka Missile System:** It is a multi-barrel rocket launcher system, designed by the [Armament Research and Development Establishment \(ARDE\)](#), a laboratory of the DRDO.
 - Named after **Lord Shiva's bow**, Pinaka is a **versatile and high-precision rocket system**.
- **Key Features:** Renowned for its mobility, rapid response, and capability to deliver concentrated firepower on enemy targets.
 - The initial version of the weapon system was called **Mark I**, which had a **range of 40 km**.
 - The upgraded version or **Pinaka Mark II** has an extended range of **70 to 80 km**, with plans to reach **120 km** and **300 km** in the future.
 - Tested successfully from upgraded launchers, firing **12 rockets per salvo**.

Read more: [Pinaka Missile System - Drishti IAS](#)

Avian Botulism at Sambhar Lake

Source: DTE

Why in News?

Recently, a mass death of migratory birds died at [Sambhar Lake in Rajasthan](#), likely due to [avian botulism](#). The outbreak is believed to be caused by **high temperatures and reduced salinity in the lake**.

What is Avian Botulism?

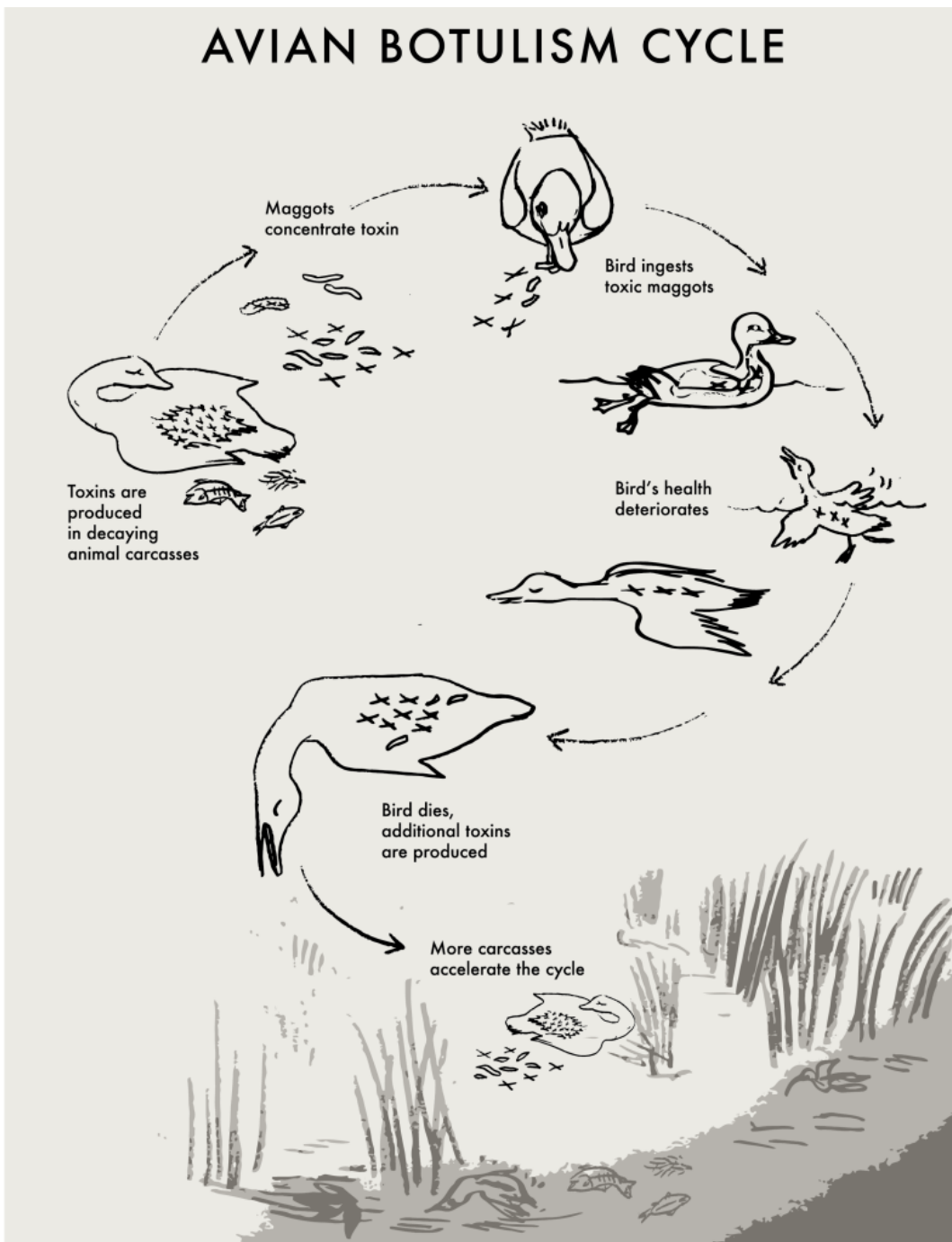
- **Definition:** Avian botulism is a **neuromuscular disease** caused by toxins produced by the bacterium *Clostridium botulinum*. The disease affects **wild birds**, primarily waterfowl and fish-

eating birds, causing paralysis and death.

- **Environmental Conditions:** Avian botulism outbreaks are triggered by specific environmental factors, including:
 - **High water temperatures.**
 - **Low oxygen levels** in water.
 - **Stagnant or sub-optimal water conditions.**
- **Transmission:** Botulism outbreaks occur when invertebrates or fish ingest the bacteria and die in poor water conditions. The **bacteria multiply in the carcasses, producing toxins** that affect waterfowl and fish-eating birds.
 - Scavengers, including other birds and mammals, can also ingest the toxin from the carcasses.
- **Symptoms in Birds: Muscle weakness, paralysis** and difficulty **flying** or **standing**. Affected birds may **lose the ability to hold their heads up**.
- **Disease Management:** There is no treatment for this disease. Control of avian botulism is challenging due to the **natural presence of *Clostridium botulinum*** in the environment.
 - However, removing and **properly disposing of carcasses** helps limit toxin spread. Water level management in smaller lakes can reduce outbreaks.
- **Public Health Concerns:** *Clostridium botulinum* has seven types (A-G), with types C and E affecting wild birds.
 - **Botulism in humans is usually caused by type A or B toxins** from improperly canned food.
 - Type C doesn't impact humans, but type E can be contracted from infected fish, though proper cooking can inactivate the toxin.
 - Precautions, like wearing gloves and washing hands, should be taken when handling dead birds or fish to prevent contamination.
- **Factors Triggering Botulism at Sambhar Lake: High temperatures** in Jaipur (1-5.1°C above normal) in October, **reduced salinity** from freshwater inflow, and a lack of rainfall contributed to **low oxygen levels** in Sambhar Lake, creating ideal conditions for *Clostridium botulinum* growth.

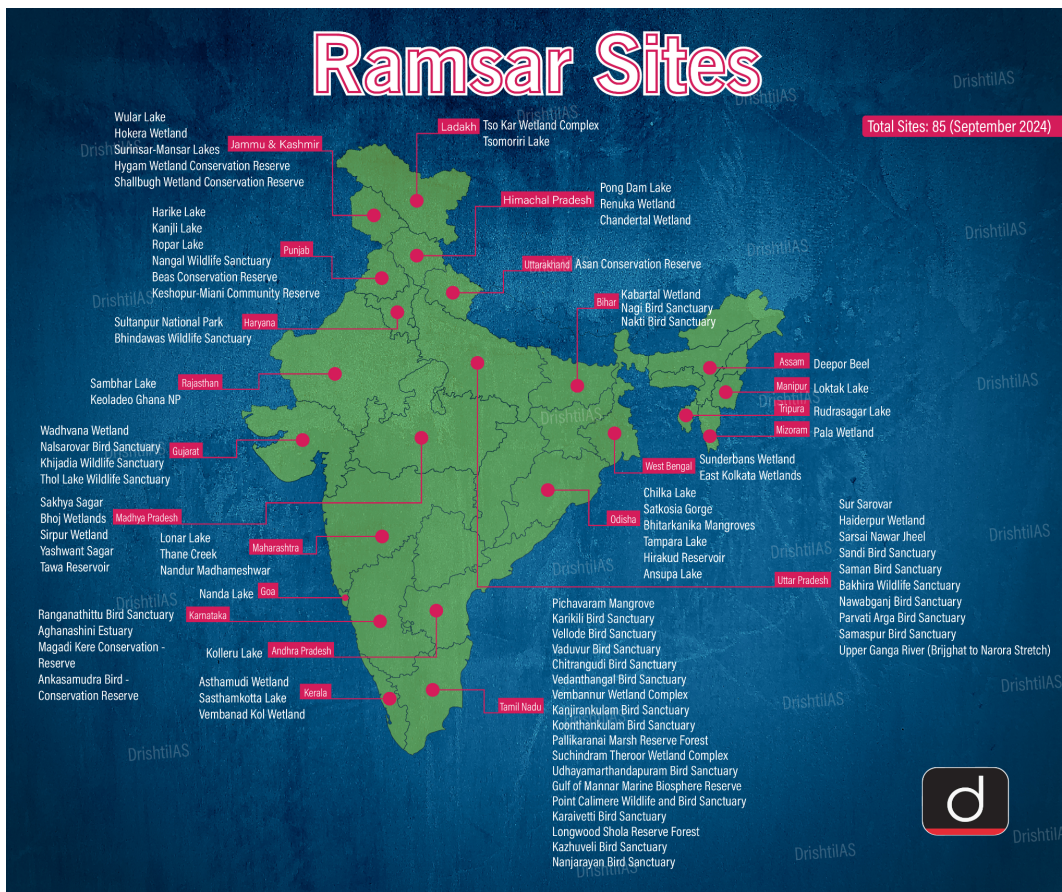


AVIAN BOTULISM CYCLE



Sambhar Lake

- Sambhar Lake, **India's largest saline wetland**, is located in the Nagaur and Jaipur districts of Rajasthan, bordered by the **Aravalli hills**. It is the source of most of **Rajasthan's salt production**.
 - It was designated a **Ramsar site in 1990** due to its ecological significance.
- It attracts thousands of migratory birds, including **flamingos**, from November to February. During the monsoon, the lake comes alive with birds like coots, **black-winged stilts**, **sandpipers**, and **redshanks**.



Anti-Personnel Landmines Convention

[Source: LM](#)

Why in News?

Recently, the **United States** has approved sending **anti-personnel landmines** to Ukraine which are banned under the [Anti-Personnel Landmines Convention, 1997](#).

- In another development, the US has supplied the **Army Tactical Missile System (ATACMS)** to Ukraine which can **hit targets inside Russian territory**.

What is Anti-Personnel Landmines Convention, 1997?

- **About:** It is an international agreement that aims to eliminate the **use, production, stockpiling, and transfer** of anti-personnel landmines.
 - It is commonly referred to as the [Ottawa Convention or Anti-Personnel Mine Ban Treaty](#).
- **Adoption:** It was concluded by the Diplomatic Conference on an International Total Ban on Anti-Personnel LandMines at **Oslo** on **18th September 1997** and entered into force on **1st March 1999**.
- **Scope:** It prohibits anti-personnel mines but does **not cover anti-vehicle mines**.
- **Membership:** The Convention is **signed by 133 States**. Today it has **164 States parties**.
 - The **US, Russia and India** are **not** party to the convention. **Ukraine** is a **signatory**.

Anti-Personnel Landmines

- Landmines are **explosives** that are **concealed** on the ground and are designed to **detonate** when **enemy forces pass over or near them**.
- **Anti-personnel mines** are built to **hurt enemy troops** while **anti-tank mines** are built to destroy **armoured vehicles**.

Note:

ATACMS is a **surface-to-surface ballistic missile** designed to strike targets at a range of **up to 300 km**. It is powered by **solid rocket propellant** and follows a **ballistic trajectory**.

- Ballistic trajectories are used to describe the paths of projectiles like **missiles or artillery shells** that are launched and then fall to their targets due to **gravity**.

UPSC Civil Services Examination Previous Year's Questions (PYQs)

Prelims

Q. Which one of the following is used as an explosive?(2009)

- (a) Phosphorus trichloride
- (b) Mercuric oxide
- (c) Graphite
- (d) Nitroglycerine

Ans: (d)

India's Trade Deficit as an Opportunity

For Prelims: [Trade Deficit](#), [GDP](#), [Foreign Portfolio Investment \(FPI\)](#), [Capital Account](#), [Current Account](#), [Make in India](#), [Budget Deficit](#), [Balance of Payments](#), [Micro, Small, and Medium Enterprises \(MSMEs\)](#), [PM GatiShakti National Master Plan](#), [National Logistics Policy \(NLP\)](#), [Unified Logistics Interface Platform \(ULIP\)](#), [Logistics Data Bank](#), [Global Value Chain](#), [Production-Linked Incentive \(PLI\)](#), [Districts as Export Hubs](#).

For Mains: Benefits and challenges associated with the trade deficit.

[Source: IE](#)

Why in News?

According to some economists, India's **trade deficit** is not a sign of **weak manufacturing** but reflects India's strength in **services** and attractiveness as an **investment destination**.

What is the State of India's Trade Deficit?

- **About:** A trade deficit occurs when a country **imports more goods and services** than it exports. It represents the amount by which the **value of imports exceeds the value of exports** over a certain period.
- **India's Trade Scenario:**
 - **Overall Trade Deficit:** Reduced from **USD 121.6 billion (FY23)** to **USD 78.1 billion (FY24)**.
 - **Services Trade:** Services exports stands at **USD 339.62 in FY24** and Services Trade Surplus stands at **USD 162.06 billion**.
 - India's share in world services exports rose from **0.5% (1993)** to **4.3% (2022)**, making India the **7th largest services exporter** globally.
 - **Merchandise Trade:** Merchandise exports stands at **USD 776 billion (FY23)**. **Merchandise Trade Deficit** narrowed to **USD 238.3 billion (FY24)** from **USD 264.9 billion (FY23)**.
 - **Current Account Deficit (CAD):** Reduced to **USD 23.2 billion (0.7% of GDP, FY24)** from **USD 67 billion (2% of GDP, FY23)**.
 - **Capital Account Balance:** Net inflows rose from **USD 58.9 billion (FY23)** to **USD 86.3 billion (FY24)**, driven by **foreign portfolio investment (FPI)**.

Why is India's Trade Deficit not a Weakness?

- **Strength in Services:** India is a global leader in services and established a **competitive advantage** particularly **IT and pharmaceuticals** due to which it can afford to run a trade deficit in goods.
 - The export surplus in services allows India to import more goods **without destabilising** its economy.
- **Investment Destination:** When India attracts **foreign investment**, it results in a **capital account surplus**, which is mathematically balanced by a **current account deficit**.
 - Therefore, the current account deficit is a **natural consequence** of India's strategy to attract investment.
- **Competitive Exports:** When a country runs a trade deficit, there is **downward pressure** on its **currency**, making it weaker relative to other currencies.
 - A depreciated currency makes the country's **exports cheaper and more competitive** in foreign markets, potentially boosting export activity.
- **Healthy Current Account Deficit:** India has successfully maintained a modest current account deficit of around **2% of GDP**, which is considered **sustainable**.
 - This level of deficit does **not pose an immediate risk** to the country's economic stability, as long as capital inflows match the deficit.
- **Comparative Advantage:** India's trade deficit is **not indicative of inefficiency** in manufacturing but it is based on the principle of **comparative advantage**.
 - Comparative advantage means **India exports what it is best at (services)** and imports goods where it has a **lesser advantage in production**.
- **Manufacturing Growth:** The current account deficit does not hinder the potential for greater manufacturing output.
 - **Machinery and engineering goods** imported to support **Make in India** initiative drive further **manufacturing expansion** in the Indian economy.
- **Higher Consumption Capacity:** By importing goods and services, a country can provide its citizens with a **wider range of products**, including those that may not be locally available or are more expensive to produce domestically and **raising living standards**.
- **Economic Flexibility:** When domestic production is not sufficient to meet demand, imports can fill the gap, preventing economic disruptions and ensuring that consumers and businesses have access to the goods they need.
- **Economic Integration:** Trade deficits reflect **global economic integration**, enabling access to imports that support industries and consumers.

What are the Disadvantages of Trade Deficits?

- **Loss of Economic Sovereignty:** Persistent trade deficits allow **foreign countries to buy domestic assets (opportunistic takeover)**, risking loss of control over key sectors and increasing vulnerability to external influences. E.g., **Opportunistic takeover** of Indian companies.
- **Higher Unemployment:** Persistent trade deficits in an open economy may lead to domestic businesses being **unable to compete with cheaper imports**, causing job losses and economic stagnation.
- **Twin Deficits Hypothesis:** Trade deficits are often linked to **budget deficits**, as a government may **borrow to finance** its economic needs when exports are insufficient to cover imports.
- **Deindustrialization:** Persistent deficits may lead to a **decline in domestic manufacturing** and industrial sectors, as domestic industries struggle to compete with cheaper or higher-quality imports.
- **Balance of Payments Crisis:** If trade deficits are financed by borrowing, a sudden loss of confidence from foreign investors can trigger a **Balance of Payments crisis** as happened in 1991 with India.

What Measures are Needed for a Balanced Trade?

- **Export Credit Support:** Encouraging banks to offer **affordable and adequate export credit**, especially for **micro, small, and medium enterprises (MSMEs)** to gain **economies of scale** and in **competitiveness** in foreign markets.
- **Logistics Infrastructure:** Leveraging initiatives like the **PM GatiShakti National Master Plan** and **National Logistics Policy (NLP)** to streamline operations, reduce costs, and enhance **efficiency** in the logistics sector to support **domestic manufacturing at lower cost**.
 - NLP aims to reduce the **logistics costs to 8%** of the **GDP** by **2030** from the existing **13-14%**.
- **Free Trade Agreements (FTAs):** Ensuring **FTAs** provide better terms for essential imports, enabling the country to meet **domestic demand cost-effectively**.
- **GVC Participation:** By joining **Global Value Chain (GVCs)**, Indian firms can become part of international supply chains, gaining exposure to a broader customer base and increasing export volumes.
- **Domestic Manufacturing:** Expanding the **Production-Linked Incentive (PLI)** schemes and strengthening the **Districts as Export Hubs (DEH)** initiative can boost domestic manufacturing and exports and help reduce trade deficit.
- **High Value Trade:** Increasing exports of **high-value goods and services** can reduce India's trade deficit by generating **more revenue per unit exported**.
 - E.g., companies like **Tata Motors and Mahindra Electric** can increase export of high-value **electric vehicles (EVs)**, export of renewable energy technologies such as **solar panels** etc.
- **Diversification of Export Basket:** By expanding exports into sectors like **defence equipment, aerospace, and renewable energy** (solar panels, wind turbines), India can ensure more **revenue generation** and reduce trade deficit.
- **Addressing Sanitary and Phytosanitary Barriers:** By addressing barriers like **pesticide residue limits, quarantine requirements, and animal health regulations**, India can open up new markets in **high income countries like the US** and increase its exports which can help in addressing **trade deficit**.

Drishti Mains Question:

Discuss the factors contributing to India's trade deficit and suggest measures to address it.

UPSC Civil Services, Previous Year Question (PYQ)

Prelims

Q. With reference to Balance of Payments, which of the following constitutes/constitute the Current Account? (2014)

1. Balance of trade
2. Foreign assets
3. Balance of invisibles
4. Special Drawing Rights

Select the correct answer using the code given below:

- (a) 1 only
(b) 2 and 3
(c) 1 and 3
(d) 1, 2 and 4

Ans: (c)

Q. Which of the following constitute Capital Account? (2013)

1. Foreign Loans
2. Foreign Direct Investment
3. Private Remittances
4. Portfolio Investment

Select the correct answer using the codes given below:

- (a) 1, 2 and 3
(b) 1, 2 and 4
(c) 2, 3 and 4
(d) 1, 3 and 4

Ans: (b)

Mains

Q. Craze for gold in Indians has led to surge in import of gold in recent years and put pressure on balance of payments and external value of rupee. In view of this, examine the merits of Gold Monetization scheme. (2015)

WAVES OTT Platform of Prasar Bharati

Source: PIB

Recently, **Prasar Bharati** launched its **OTT (Over-the-Top) platform WAVES**, to cater to India's increasing demand for digital streaming services.

▪ **WAVES:**

- It offers a variety of content, including live TV, video on demand, radio streaming, games, and e-commerce via the [ONDC network](#).
 - It provides access to 65 live channels, covering genres like infotainment, news, and culture.
- The platform is free to download, with **most content available at no cost**, while premium features are available through subscription plans.

▪ **OTT and Its Regulation:**

- **OTT** refers to streaming services delivering content via the internet, bypassing traditional broadcast methods.
- The OTT platforms are regulated by the **Ministry of Information and Broadcasting**, ensuring content compliance and accountability.
 - In 2022, the **Central Government** introduced the [Information Technology \(Intermediary Guidelines and Digital Media Ethics Code\) Rules 2021](#) to regulate OTT platforms.



Read More: [Over the Top Platform in India](#)

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