



RBI

Annual Report 2025-26

Why in News?

- Reserve Bank of India (RBI) released its Annual Report 2025-26 highlighting India's macroeconomic position, financial stability, inflation outlook and future challenges.
- The report is important for UPSC GS Paper III: Indian Economy, Banking, Monetary Policy and Inclusive Growth.

About RBI Annual Report

- Released annually by the Reserve Bank of India.
- Prepared under the Reserve Bank of India Act, 1934.
- It reviews RBI's working, economic developments, banking trends, monetary management and future economic outlook.



Major Highlights of RBI Annual Report 2025-26

- Indian economy remained resilient despite global uncertainty, geopolitical conflicts and supply chain challenges.
- India's growth was supported by domestic demand, investment activity, financial sector strength and macroeconomic stability.
- Real GDP growth outlook remained strong compared with many major economies.

- Inflation management continued to be a major focus of monetary policy.
- RBI highlighted the need to maintain price stability while supporting sustainable economic growth.

Inflation & Monetary Policy

- RBI continues to follow Flexible Inflation Targeting framework.
- Inflation target: 4% Consumer Price Index (CPI) inflation with tolerance band of +/- 2%.

- Major inflation risks include global commodity prices, climate events, food price volatility and geopolitical tensions.
- Monetary policy aims to balance growth and inflation control.

Banking & Financial Sector

- Indian banking sector showed improvement due to stronger balance sheets and better asset quality.
- Capital position of banks remained healthy.

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WORLD ENVIRONMENT DAY 2026

Introduction

- World Environment Day is observed every year on 5th June to create global awareness about environmental protection.
- It is led by the United Nations Environment Programme (UNEP) and has become a major platform for global environmental action.
- The observance originated after the 1972 Stockholm Conference on the Human Environment and was first celebrated in 1973.
- World Environment Day highlights issues such as climate change, biodiversity loss, pollution, ecosystem degradation and sustainable development.



eco-friendly lifestyles and reduce pressure on natural resources.

- It supports global commitments under Sustainable Development Goals (SDGs), especially SDG 13 (Climate Action), SDG 14 (Life Below Water) and SDG 15 (Life on Land).

Environmental Challenges

- **Climate Change:** Increasing greenhouse gas emissions have resulted in global warming, extreme weather events and rising sea levels.
- **Plastic Pollution:** Plastic waste threatens oceans, wildlife, soil health and human well-being through microplastic contamination.
- **Biodiversity Loss:** Habitat destruction, pollution and unsustainable develop-

ment are accelerating species decline.

- **Forest Degradation:** Loss of forests reduces carbon storage capacity and affects ecological balance.
- **Water Stress:** Overuse, pollution and climate change are increasing freshwater scarcity.

India's Environmental Initiatives

- **Mission LiFE (Lifestyle for Environment):** Promotes sustainable individual behaviour and responsible consumption.
- **Ek Ped Maa Ke Naam Campaign:** Encourages tree plantation and public participation in environmental conservation.
- **National Action Plan on Climate Change:** Includes missions related to solar energy, energy efficiency, sustainable agriculture and Himalayan ecosystem protection.
- **Renewable Energy Expansion:** India is promoting solar, wind and other non-fossil energy sources to reduce emissions.
- **Plastic Waste Management Rules:** Focus on reducing plastic pollution through recycling and Extended Producer Responsibility.

Way Forward

- Strengthen renewable energy transition.
- Promote circular economy based on reduce, reuse and recycle principles.

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- RBI emphasised risk management, strong governance and financial stability.
- Digital banking growth requires stronger cybersecurity and consumer protection mechanisms.

Digital Economy & Payments

- Digital payment ecosystem continued rapid expansion.
- UPI and digital financial infrastructure improved financial inclusion.
- RBI focused on safe innovation through regulation and supervision.
- Cybersecurity is becoming a major priority with rising digital transactions.

External Sector & Global Challenges

- Global uncertainties remain due to geopolitical tensions and changing financial conditions.

- India's external sector resilience depends on export competitiveness, foreign exchange stability and strong macroeconomic fundamentals.
- Supply chain diversification provides opportunities for India.

Climate & Sustainable Finance

- Climate change is emerging as a financial risk.
- RBI highlighted importance of green finance and climate risk assessment.
- Financial institutions need preparedness against environmental risks.

Conclusion

The RBI Annual Report 2025-26 reflects India's strong economic fundamentals, stable financial system and ability to handle global uncertainties. However, sustainable growth requires continuous focus on

inflation control, banking stability, digital security, climate finance and inclusive development.

Prelims Practice Question

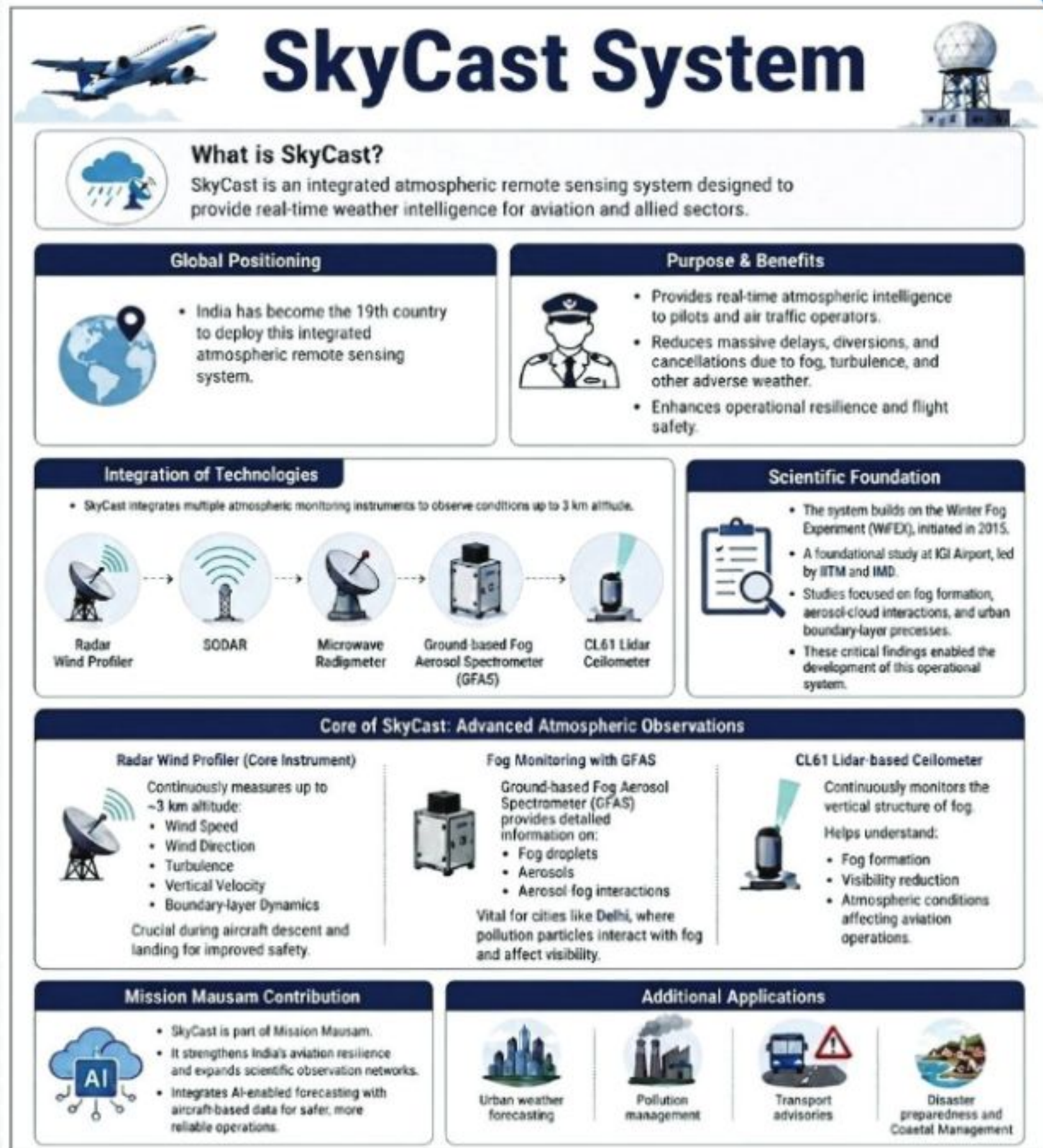
Q. If the RBI decides to adopt an expansionist monetary policy, which of the following would it not do?

1. Cut and optimise the Statutory Liquidity Ratio
2. Increase the Marginal Standing Facility Rate
3. Cut the Bank Rate and Repo Rate

Select the correct answer using the code given below:

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

Answer: (b) 2 only



SkyCast System

What is SkyCast?
SkyCast is an integrated atmospheric remote sensing system designed to provide real-time weather intelligence for aviation and allied sectors.

Global Positioning
• India has become the 19th country to deploy this integrated atmospheric remote sensing system.

Purpose & Benefits
• Provides real-time atmospheric intelligence to pilots and air traffic operators.
• Reduces massive delays, diversions, and cancellations due to fog, turbulence, and other adverse weather.
• Enhances operational resilience and flight safety.

Integration of Technologies
• SkyCast integrates multiple atmospheric monitoring instruments to observe conditions up to 3 km altitude.
Radar Wind Profiler, SODAR, Microwave Radiometer, Ground based Fog Aerosol Spectrometer (GFAS), CL61 Lidar Ceilometer.

Scientific Foundation
• The system builds on the Winter Fog Experiment (WiFEX), initiated in 2015.
• A foundational study at IGI Airport, led by IITM and IMD.
• Studies focused on fog formation, aerosol-cloud interactions, and urban boundary-layer processes.
• These critical findings enabled the development of this operational system.

Core of SkyCast: Advanced Atmospheric Observations

Radar Wind Profiler (Core Instrument)
Continuously measures up to ~3 km altitude:
• Wind Speed
• Wind Direction
• Turbulence
• Vertical Velocity
• Boundary-layer Dynamics
Crucial during aircraft descent and landing for improved safety.

Fog Monitoring with GFAS
Ground-based Fog Aerosol Spectrometer (GFAS) provides detailed information on:
• Fog droplets
• Aerosols
• Aerosol-fog interactions
Vital for cities like Delhi, where pollution particles interact with fog and affect visibility.

CL61 Lidar-based Ceilometer
Continuously monitors the vertical structure of fog. Helps understand:
• Fog formation
• Visibility reduction
• Atmospheric conditions affecting aviation operations.

Mission Mausam Contribution
• SkyCast is part of Mission Mausam.
• It strengthens India's aviation resilience and expands scientific observation networks.
• Integrates AI-enabled forecasting with aircraft-based data for safer, more reliable operations.

Additional Applications
Urban weather forecasting, Pollution management, Transport advisories, Disaster preparedness and Coastal Management.



SKYCAST SYSTEM

Why in News?

- India inaugurated its first SkyCast System at Indira Gandhi International Airport (IGI), New Delhi.
- It is an advanced integrated aviation weather monitoring system developed under Mission Mausam.
- India became the 19th country in the world to deploy such advanced aviation weather monitoring infrastructure.

About SkyCast System

- SkyCast is a next-generation atmospheric remote sensing system designed for aviation weather intelligence.
- It integrates real-time information related to fog, aerosols, wind, turbulence, moisture and visibility conditions.
- It provides accurate nowcasting and supports safer aircraft take-off and landing

operations.

- The system was developed under the Ministry of Earth Sciences initiative Mission Mausam.

Scientific Background

- The foundation of SkyCast comes from the Winter Fog Experiment (WiFEX).
- WiFEX was jointly initiated by the Indian Institute of Tropical Meteorology (IITM) and India Meteorological Department (IMD) at IGI Airport in 2015.
- It improved scientific understanding of fog formation, aerosol interaction and visibility reduction.

Important Technologies Used in SkyCast

- Radar Wind Profiler: Measures wind speed, wind direction, turbulence, vertical

velocity and atmospheric boundary-layer changes.

- Ground-based Fog Aerosol Spectrometer (GFAS): Studies fog droplets, aerosols and their interaction, especially useful in pollution-affected regions.
- CL61 Lidar-based Ceilometer: Monitors vertical fog structure and visibility conditions.
- SODAR and Microwave Radiometer: Help collect atmospheric data for better forecasting.

Importance of SkyCast System

- Improves aviation safety by providing real-time weather intelligence to pilots and airport authorities.
- Helps reduce flight delays, cancellations and diversions caused by fog and

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- Improve climate adaptation and disaster resilience.
- Increase community participation in conservation.
- Balance economic growth with ecological sustainability.

Conclusion

World Environment Day 2026 reminds humanity that environmental protection is essential for long-term survival and devel-

opment. Climate action, sustainable lifestyles, biodiversity conservation and responsible resource use are necessary to create a balance between human progress and nature.

Prelims PYQ

Question: The 'Common Carbon Metric', supported by UNEP, has been developed for:

- (a) Assessing the carbon footprint of building operations around the world

(b) Enabling commercial farming entities to enter carbon emission trading
(c) Enabling governments to assess the overall carbon footprint caused by their countries

(d) Assessing the overall carbon footprint caused by the use of fossil fuels by the world in a unit time

Answer: (a) Assessing the carbon footprint of building operations around the world

severe weather.

- Supports artificial intelligence-based forecasting systems.
- Improves urban weather forecasting, pollution monitoring and disaster preparedness.
- Strengthens India's weather-smart infrastructure.

Mission Mausam

- Mission Mausam aims to improve India's weather and climate forecasting capabilities using advanced technology.
- It focuses on better observation systems, high-resolution forecasting models and improved early warning services.
- It supports sectors like aviation, agriculture, disaster management and public

safety.

Way Forward

- Expand SkyCast facilities to more airports across India.
- Integrate artificial intelligence and machine learning for improved forecasting.
- Strengthen atmospheric observation networks.
- Promote indigenous development of advanced meteorological technologies.

Conclusion

SkyCast System represents a major step in India's journey towards advanced weather intelligence and safer aviation. By combining modern atmospheric technologies with real-time forecasting, it will improve aviation efficiency, climate resilience and disaster

preparedness.

Prelims PYQ

Question: Consider the following statements:

1. The India Meteorological Department is responsible for meteorological observations and weather forecasting in India.
2. It functions under the Ministry of Earth Sciences.

Which of the statements given above is/ are correct?

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

Answer: (c) Both 1 and 2

Economic Threat of El Nino to India

Why in News?

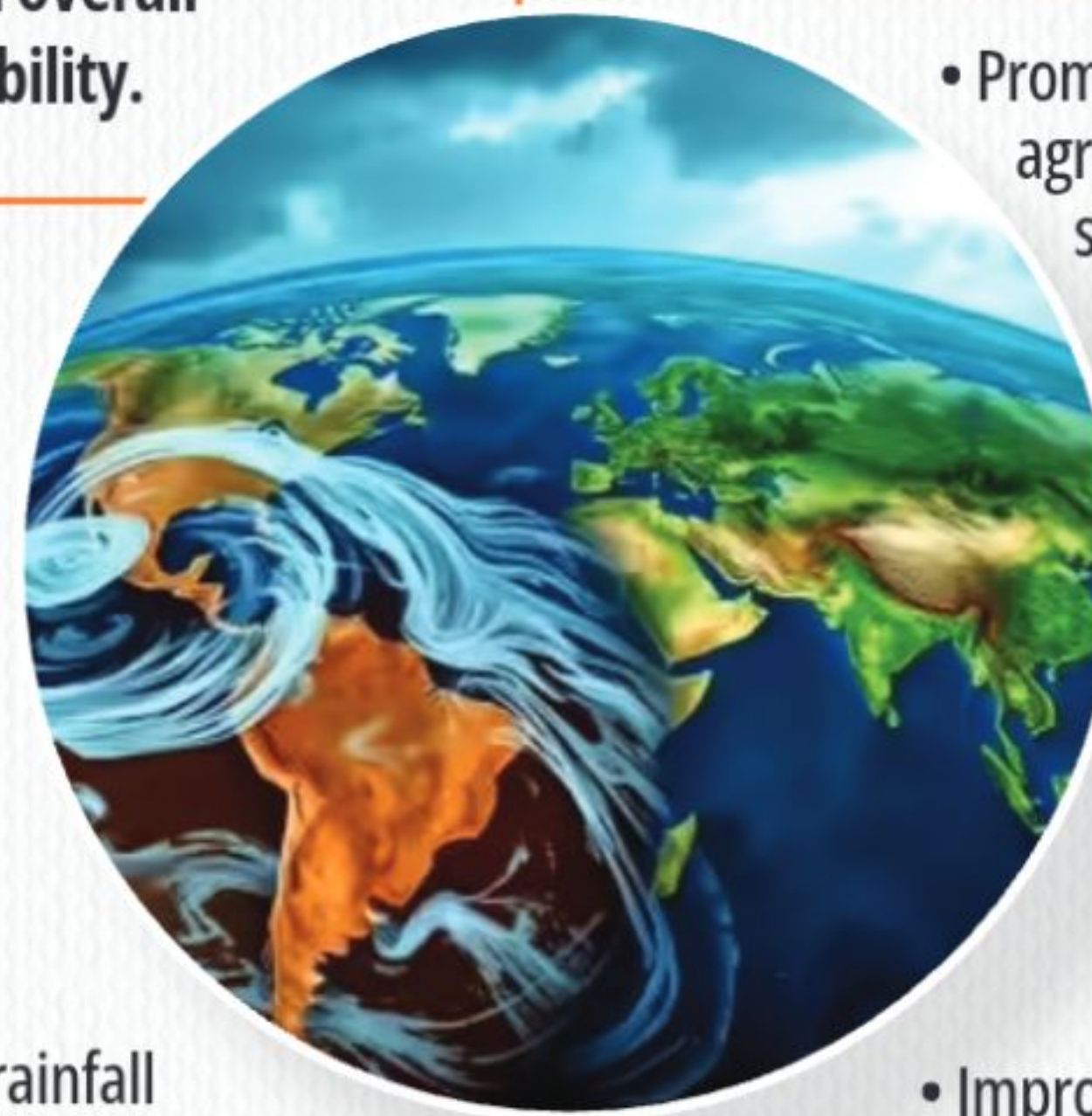
- El Nino has emerged as an economic concern for India because of its possible impact on monsoon rainfall, agriculture, inflation and economic growth.
- Climate-related disruptions can affect food production, rural income, energy demand and overall macroeconomic stability.

Climate Change & El Nino Link

- Global warming can intensify extreme weather events associated with ENSO patterns.
- Rising temperatures increase risks of heat waves, crop stress and water shortages.
- Climate adaptation strategies are becoming essential for economic stability.

Measures to Reduce Economic Risk

- Promote climate-resilient agriculture and drought-resistant crop varieties.
- Improve irrigation coverage and efficient water-use technologies.
- Strengthen weather forecasting and early warning systems.
- Expand crop insurance coverage for farmers.
- Improve food buffer stocks and supply chain management.



About El Nino

- El Nino is the warm phase of the El Nino Southern Oscillation (ENSO) cycle.
- It occurs due to abnormal warming of sea surface temperatures in the central and eastern equatorial Pacific Ocean.
- It weakens normal trade winds and changes global atmospheric circulation patterns.
- El Nino events are generally associated with weaker monsoon conditions and higher chances of drought in India.

Economic Impact of El Nino on India

- Agriculture: Weak rainfall can reduce crop production, especially rain-fed kharif crops such as rice, pulses, oilseeds and cotton.
- Food Inflation: Lower agricultural output can increase prices of essential food items and affect household consumption.
- Rural Economy: Reduced farm income lowers rural demand and affects industries dependent on rural markets.
- GDP Growth: Agriculture-linked slowdown

can create pressure on overall economic growth.

- Energy Sector: Heat waves increase electricity demand, while low rainfall can reduce hydropower generation.
- Water Security: Poor rainfall affects reservoirs, irrigation supply and drinking water availability.
- Fiscal Pressure: Government spending may increase through relief measures, food subsidies and support schemes.

Impact on Indian Monsoon

- Indian agriculture is strongly dependent on southwest monsoon rainfall.
- El Nino can disturb normal monsoon circulation and increase rainfall variability.
- However, every El Nino year does not automatically result in drought because other factors such as Indian Ocean Dipole also influence monsoon behaviour.

- Encourage diversification of rural livelihoods.

Related Initiatives in India

- Pradhan Mantri Fasal Bima Yojana provides insurance protection against crop losses.
- National Mission for Sustainable Agriculture promotes climate-resilient farming.
- PM Krishi Sinchayee Yojana focuses on improving irrigation efficiency.
- National Action Plan on Climate Change addresses climate-related challenges.

EL NIÑO
A SILENT ECONOMIC THREAT TO INDIA
A warming ocean today, a costlier tomorrow.

WHAT IS EL NIÑO?
El Niño is the warm phase of ENDO (El Niño-Southern Oscillation) characterized by unusual warming of the central and eastern equatorial Pacific Ocean. It disrupts global weather patterns, including India's monsoon.

EL NIÑO CONDITIONS
Warmer than normal sea surface

HOW EL NIÑO HURTS INDIA'S ECONOMY

- AGRICULTURE IMPACT**
Below-normal monsoon leads to lower crop output, especially of kharif crops like rice, pulses, oilseeds, sugarcane and cotton.
- FOOD INFLATION**
Reduced production of cereals, vegetables and pulses pushes up food prices, hurting both consumers and the poor.
- RURAL ECONOMY HIT**
Farm income declines, demand slows, and poverty and distress in rural areas increase.
- GDP GROWTH SLOWS**
Lower agricultural growth, industrial slowdown and reduced consumption collectively drag down India's GDP growth.
- ENERGY SECTOR PRESSURE**
Lower hydropower generation and higher demand for thermal power raise energy costs and import dependence.
- WATER SECURITY AT RISK**
Less rainfall reduces reservoir levels, groundwater recharge and drinking water availability.
- FISCAL STRAIN**
Higher spending on relief, irrigation, food imports and subsidies increases fiscal burden.

THE BIGGER PICTURE
El Niño is not just a weather event—it is an economic shock multiplier. Early warning, smart planning and climate resilience are India's best defense.

PREPARE TODAY, PROTECT TOMORROW
BUILDING INDIA'S RESILIENCE TO EL NIÑO

EL NIÑO THREATENS
• Monsoon
• Agriculture
• Economy
• Livelihoods

RESILIENCE BUILDS
• Food Security
• Rural Prosperity
• Economic Stability
• Sustainable Future

WHAT CAN BE DONE?

STRONG EARLY WARNING SYSTEMS	Improve climate forecasting and disseminate timely warnings to farmers and stakeholders.
CLIMATE-RESILIENT AGRICULTURE	Promote drought-resistant seeds, crop diversification and sustainable farming practices.
WATER MANAGEMENT AND CONSERVATION	Enhance water storage, rainwater harvesting, micro-irrigation and efficient use of water.
RISK MANAGEMENT AND INSURANCE	Expand crop insurance coverage and strengthen safety nets for farmers.
DIVERSIFY ENERGY SOURCES	Invest in renewable energy and improve energy efficiency to reduce vulnerability.
POLICY SUPPORT AND INVESTMENT	Increase investment in climate adaptation, rural infrastructure and research.

INDIA'S KEY INITIATIVES

- PM Fasal Bima Yojana
- National Mission for Sustainable Agriculture
- PM Kisan Sanchayee Yojana
- National Action Plan on Climate Change

EL NIÑO MAY BE NATURAL, BUT PREPAREDNESS IS OUR CHOICE.
A Resilient India, A Secure Future.

Way Forward

- Build a climate-resilient economy through scientific planning.
- Increase investment in agricultural technology and water conservation.
- Improve coordination between climate science and economic policymaking.
- Strengthen adaptation capacity of vulnerable communities.

Conclusion

El Niño is not only a climatic phenomenon but also an economic challenge for India because of its connection with agriculture, inflation, water resources and growth. Strengthening climate resilience, scientific forecasting and sustainable resource management is essential to minimise its impact on India's development.

Prelims PYQ

Question: La Nina is suspected to

have caused recent floods in Australia. How is La Nina different from El Niño?

1. La Nina is characterised by unusually cold ocean temperature in equatorial Indian Ocean whereas El Niño is characterised by unusually warm ocean temperature in equatorial Pacific Ocean.
2. El Niño has adverse effect on south-west monsoon of India, but La Nina has no effect on monsoon climate.

Which of the statements given above is/are correct?

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

Answer: (d) Neither 1 nor 2



India-Oman

Comprehensive Economic Partnership Agreement (CEPA)

Background

- India and Oman share historic trade, cultural and strategic relations.
- CEPA aims to deepen bilateral economic cooperation through trade liberalisation, investment promotion and service sector cooperation.

About CEPA

- Comprehensive Economic Partnership

Agreement is a wider form of trade agreement covering goods, services, investment, intellectual property and economic cooperation.

- It helps reduce tariff and non-tariff barriers between partner countries.

Importance for India

- Provides better access for Indian exports in West Asian markets.
- Supports India's Act West Policy and

strengthens Indian Ocean Region partnerships.

- Enhances opportunities in textiles, pharmaceuticals, gems and jewellery, agriculture, engineering goods and services.

Strategic Significance

- Oman's geographical location near important sea routes gives India better connectivity with Gulf and African markets.
- Supports energy security and supply chain diversification.

Challenges

- Protecting domestic producers from excessive competition.
- Ensuring strict rules of origin implementation.
- Managing geopolitical uncertainty in West Asia.

Conclusion

The topic is important for UPSC because it connects governance, economy, environment, technology and sustainable development. Understanding objectives, significance, challenges and future solutions helps in both Prelims and Mains preparation.

Prelims PYQ

Q. Which of the following is/are objectives of trade agreements?

1. Reducing trade barriers
2. Promoting economic cooperation
3. Increasing market access.

Answer: 1, 2 and 3.

Digital Sovereignty in Cloud Computing



Background

- Growing dependence on global cloud companies has raised concerns about control over national data and digital infrastructure.
- Recent disruption and sanctions-related concerns highlighted the need for digital independence.

Meaning

- Digital sovereignty means a nation's ability to control its data, digital infrastructure, technology policies and cybersecurity systems.

Need for Digital Sovereignty

- Protection of sensitive government and citizen data.
- Reducing over-dependence on foreign technology providers.
- Ensuring continuity of critical services during global conflicts or sanctions.

Importance for India

- Supports Digital India and secure digital governance.
- Important for banking, defence, healthcare, artificial intelligence and public digital infrastructure.

Challenges

- High cost of building independent cloud infrastructure.
- Need for advanced semiconductor and computing capabilities.
- Balancing global cooperation with national security.

Conclusion

The topic is important for UPSC because it connects governance, economy, environment, technology and sustainable development. Understanding objectives, significance, challenges and future solutions helps in both Prelims and Mains preparation.



5 Countries Elected to UN Security Council:

Why in News?

- The United Nations General Assembly elected 5 countries as non-permanent members of the United Nations Security Council (UNSC).
- The elected countries are Austria, Kyrgyzstan, Portugal, Trinidad and Tobago, and Zimbabwe.
- They will serve a two-year term from 1 January 2027 to 31 December 2028.

About United Nations Security Council (UNSC)

- UNSC is one of the six principal organs of the United Nations.
- It has the primary responsibility for maintaining international peace and security.
- Total members: 15 countries.
- 5 permanent members: China, France, Russia, United Kingdom and United States.
- 10 non-permanent members are elected by the UN General Assembly for two-year terms.

Election Process of Non-Permanent Members

- Five non-permanent members are elected every year.
- Election takes place through secret ballot in the UN General Assembly.
- A candidate requires two-thirds

majority support from present and voting members.

- Seats are distributed according to geographical representation.

Newly Elected Members and Regional Representation

- Austria and Portugal represent Western European and Others Group.
- Kyrgyzstan represents Asia-Pacific Group and secured its first UNSC membership.
- Zimbabwe represents African Group.
- Trinidad and Tobago represents Latin America and Caribbean Group.

Importance of Non-Permanent Members

- Participate in discussions related to global peace and security.
- Vote on UNSC resolutions.
- Help represent interests of different regions.
- Can influence debates on conflicts, sanctions, peacekeeping and international security issues.

Limitations of Non-Permanent Members

- They do not possess veto power.
- Permanent members have greater influence because of veto authority.

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- Short two-year tenure limits long-term policy influence.

UNSC Reforms & India's Stand

- India supports expansion and reform of UNSC to reflect present global realities.
- India argues that developing countries need better representation.
- India seeks permanent membership due to its population, economy, peacekeeping contribution and global role.
- India is part of G4 nations along with Germany, Japan and Brazil supporting UNSC reforms.

Conclusion

The election of new UNSC non-permanent members highlights the importance of wider global participation in maintaining peace and security. However, challenges such as unequal representation and veto dominance continue to create demands for UNSC reforms. A more inclusive Security Council is necessary to represent modern geopolitical realities.

Prelims Practice Question

Q. With reference to the United Nations Security Council, consider the following statements:

1. The Security Council has 15 members.
2. Non-permanent members are elected for a period of two years.
3. All members of the Security Council possess veto power.

Which of the statements given above is/are correct?

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

Answer: (a) 1 and 2 only

WPI Base Year Revised to 2022-23 & Producer Price Index (PPI) :

Introduction

- India is modernising its inflation measurement system by revising the Wholesale Price Index (WPI) base year from 2011-12 to 2022-23 and introducing the Producer Price Index (PPI).
- The reform aims to make price measurement more accurate, reflect current economic structure and align India's statistical system with international practices.
- The Office of Economic Adviser under the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry, is responsible for WPI compilation.

Wholesale Price Index (WPI)

- WPI measures the average change in prices of goods traded at the wholesale level.
- It reflects producer-level price changes mainly for goods before reaching consumers.
- Current WPI limitations include absence of service sector coverage and limited reflection of the modern economy.
- WPI is used for inflation analysis, economic planning and as a deflator in national accounts.

Revision of WPI Base

Year to 2022-23

- Base year revision updates the reference period used for measuring price changes.



- The new base year improves representation of recent production patterns, new products and structural changes in the economy.
- It helps remove outdated items and introduce goods relevant to the present economy.
- Regular revision improves reliability, comparability and policy usefulness of economic indicators.

Producer Price Index (PPI)

- PPI measures the average change in prices received by producers for goods and services.

- It captures price movement at the production stage before reaching final consumers.
- PPI provides early signals of inflation because producer-level changes often influence consumer prices later.
- It includes broader coverage compared to WPI by considering services along with goods.

Difference Between WPI & PPI

- WPI focuses mainly on wholesale transactions of goods, while PPI focuses on

prices received by producers.

- WPI generally excludes services, whereas PPI provides wider economic coverage including service activities.
- PPI follows international statistical standards and helps improve inflation analysis.

Importance of Introducing PPI in India

- Provides a better picture of producer-level inflation.
- Improves monetary and fiscal policy decision-making.
- Helps industries understand input and output price pressures.
- Supports more accurate calculation of real economic growth by improving deflation methods.
- Brings Indian statistical practices closer



to global standards.

Way Forward

- Ensure timely revision of economic indicators.
- Strengthen data collection systems.
- Increase service sector coverage in price indices.
- Improve transparency and reliability of economic statistics.

Conclusion

The revision of WPI base year to 2022-23 and introduction of Producer Price Index represent an important reform in India's inflation measurement system. It will provide a more realistic picture of economic changes, strengthen policymaking and improve India's alignment with

global statistical standards.

Prelims PYQ

Question: With reference to Indian economy, demand-pull inflation can be caused/increased by which of the following?

1. Expansionary policies
2. Fiscal stimulus
3. Inflation-indexing wages
4. Higher purchasing power
5. Rising interest rates

Select the correct answer using the code given below:

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

Answer: (a) 1, 2 and 4 only



Why in News?

- Maharashtra launched the Maha Water Mission to strengthen scientific water management and address challenges related to water scarcity.
- The initiative focuses on sustainable water conservation, efficient utilisation and data-based governance of water resources.

About Maha Water Mission

- It is a water governance initiative of Maharashtra aimed at ensuring long-term water security.
- The mission focuses on conservation, monitoring and responsible use of available water resources.
- It promotes coordination between government



departments, local institutions and communities.

- The initiative supports sustainable management of groundwater and surface water resources.

Water 7/12 System

- A major component associated with the mission is the Water 7/12 system inspired by land record management practices.
- It aims to scientifically document water availability, inflow, usage, outflow and remaining balance at local levels.
- Water auditing and water balance assessment will help improve transparency in resource management.
- The approach encourages evidence-based planning for drought management and conservation.

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Need for Such Initiatives

- India faces increasing water stress due to climate change, population growth and unsustainable extraction.
- Groundwater depletion has become a serious concern because of excessive agricultural and urban demand.
- Uneven rainfall and drought conditions require better water storage and management strategies.
- Scientific water accounting can help prevent wastage and improve equitable distribution.

Importance of Maha Water Mission

- Promotes sustainable water resource management.
- Helps in drought mitigation and climate adaptation.
- Encourages community participation in water conservation.

- Improves decision-making through data-driven water governance.
- Supports agriculture by improving water availability and planning.

Related National Initiatives

- Jal Shakti Abhiyan: Promotes rainwater harvesting and water conservation activities.
- Atal Bhujal Yojana: Focuses on sustainable groundwater management with community participation.
- Amrit Sarovar Mission: Aims to conserve and rejuvenate water bodies.
- National Water Mission: Works towards conservation of water and improving water-use efficiency.

Conclusion

Maha Water Mission represents a shift towards scientific, transparent and sustainable water governance. By combining technology, community participation and conservation practices, such initiatives can strengthen water security, improve

climate resilience and support sustainable development.

Prelims PYQ

Question: With reference to 'Water Credit', consider the following statements:

1. It puts microfinance tools to work in the water and sanitation sector.
2. It is a global initiative launched under the aegis of the World Health Organization and the World Bank.
3. It aims to enable poor people to meet their water needs without depending on subsidies.

Which of the statements given above are correct?

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

Answer: (c) 1 and 3 only

Why in News?

- Jai Prakash Narayan Bird Sanctuary, also known as Surha Tal, located in Ballia district of Uttar Pradesh, was designated as India's 100th Ramsar Site on World Environment Day, 5 June 2026.
- The recognition marks an important achievement in India's wetland conservation efforts and biodiversity protection.

About Jai Prakash Narayan Bird Sanctuary (Surha Tal)

- It is a freshwater wetland situated in Ballia district, Uttar Pradesh.
- The wetland supports rich bird diversity and provides habitat for several resident and migratory bird species.
- It plays an important role in maintaining ecological balance, groundwater recharge, flood regulation and local biodiversity conservation.

About Ramsar Convention

- The Ramsar Convention is an international treaty for conservation and wise use of wetlands.
- It was adopted in 1971 in Ramsar city of Iran and came into force in 1975.
- India became a party to the Ramsar Convention in 1982.
- Ramsar Sites are wetlands recognised as internationally important because of their ecological, biological and

Jai Prakash Narayan Bird Sanctuary: INDIA'S 100th Ramsar Site



hydrological value.

Importance of Wetlands

- Wetlands act as natural water filters by removing pollutants.
- They help in flood control by absorbing excess water.
- They store carbon and support climate change mitigation.
- They provide breeding and feeding grounds for birds, fish and other species.
- They support livelihoods through fisheries, tourism and ecosystem services.

Threats to Wetlands

- Urban expansion and encroachment.
- Pollution from industrial and domestic waste.
- Climate change impacts such as changing rainfall patterns.
- Invasive species affecting native biodiversity.
- Unsustainable resource extraction.

India's Wetland Conservation Efforts

- Wetlands (Conservation and Management) Rules, 2017 provide a framework for protection and sustainable management.
- National Plan for Conservation of Aquatic Ecosystems promotes conservation of wetlands and lakes.
- Amrit Dharohar initiative focuses on conservation of Ramsar Sites through community participation.

- Mission LiFE promotes environment-friendly lifestyle practices.

Way Forward

- Strengthen scientific monitoring of wetlands.
- Promote community-led conservation models.
- Control pollution and restore degraded wetlands.
- Integrate wetland conservation with climate adaptation strategies.

Conclusion

The declaration of Jai Prakash Narayan Bird Sanctuary as India's 100th Ramsar

Site reflects India's growing commitment towards wetland protection and ecological security. Protecting wetlands is essential for biodiversity conservation, climate resilience, water security and achieving sustainable development goals.

Prelims PYQ

Question: If a wetland of international importance is brought under the 'Montreux Record', what does it imply?

(a) Changes in ecological character have occurred, are occurring or are likely to occur in the wetland as a

result of human interference

(b) The country where the wetland is located should enact a law to prohibit human activities around the wetland
(c) The survival of the wetland depends on cultural practices of certain communities

(d) It is given World Heritage Site status

Answer: (a) Changes in ecological character have occurred, are occurring or are likely to occur in the wetland as a result of human interference

Why in News?

- Recent studies highlighted ecological changes in Sambhar Lake due to variations in rainfall, changing hydrology and increasing human pressure.
- Satellite-based studies show the importance of monitoring this fragile wetland ecosystem.

About Sambhar Lake

- Sambhar Lake is India's largest inland saline lake located in Rajasthan.
- It lies mainly across Jaipur, Nagaur and Ajmer districts near the Aravalli region.
- It was designated as a Ramsar Site of International Importance in 1990.
- It is an important habitat for migratory birds, especially flamingos and other waterbirds.

Geographical & Ecological Features

- It is a shallow salt lake whose water level changes depending on monsoon rainfall.
- It receives water from seasonal streams including Mendha, Rupangarh, Khari and other catchment sources.
- The saline ecosystem supports salt-tolerant organisms, algae and microorganisms.
- The lake forms an important part of the Central Asian Flyway used by migratory birds.

Importance of Sambhar Lake

- Biodiversity Conservation: Provides feeding and breeding habitat for several migratory and resident birds.
- Climate Regulation: Wetlands help in carbon storage and maintaining ecological balance.
- Economic Importance: Supports salt production and livelihoods of local communities.
- Scientific Importance: Helps researchers study wetland ecology, hydrology and climate impacts.

Sambhar Lake

Threats and Environmental Concerns

- Expansion of illegal salt production activities affects natural water flow.
- Groundwater extraction and borewells disturb the hydrological balance.
- Pollution and habitat disturbance threaten biodiversity.
- Climate change may alter rainfall patterns and wetland health.
- Past incidents of avian botulism caused large-scale bird mortality, highlighting ecological vulnerability.

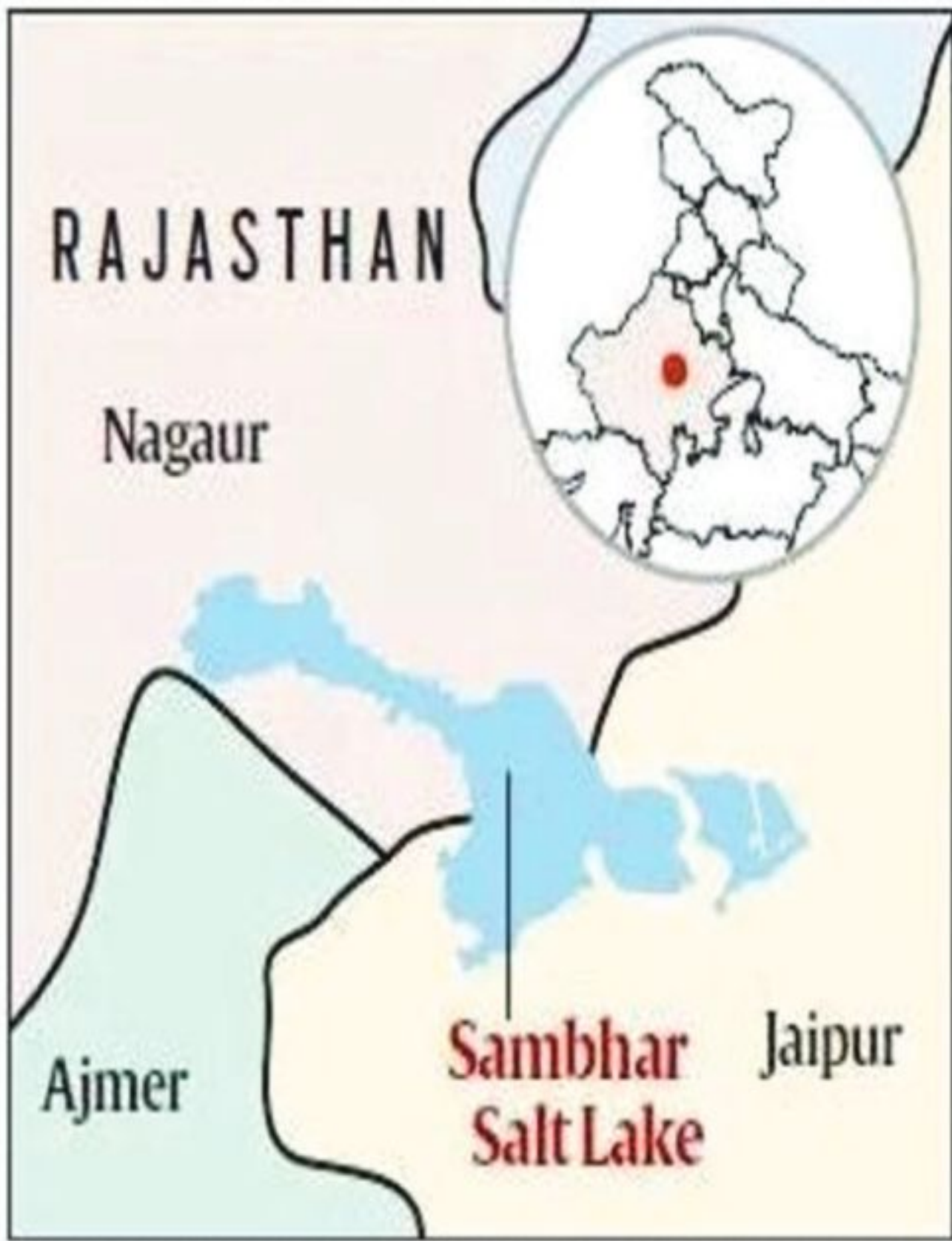
Ramsar Convention



- The Ramsar Convention is an international agreement for conservation and wise use of wetlands.
- It was adopted in Ramsar, Iran in 1971.
- India became a member of the convention in 1982.
- Ramsar Sites are wetlands recognised for international ecological importance.

Conservation Measures

- Implement strict protection under Wetlands (Conservation and Management) Rules, 2017.
- Control illegal salt extraction and encroachments.



- Promote scientific monitoring through satellite technology.
- Encourage sustainable tourism and community participation.
- Protect migratory bird habitats through ecosystem-based management.

Conclusion

Sambhar Lake is not only India's largest inland saline lake but also an important ecological asset supporting biodiversity, migratory birds and local livelihoods. Sustainable management, scientific monitoring and strict conservation efforts are essential to protect this Ramsar wetland for future generations.

Prelims PYQ

Question: If a wetland of international importance is brought under

the 'Montreux Record', what does it imply?

- (a) Changes in ecological character have occurred, are occurring or are likely to occur due to human interference
- (b) The country must prohibit all human activities around the wetland
- (c) The wetland receives UNESCO World Heritage status
- (d) The wetland becomes a biodiversity hotspot

Answer: (a) Changes in ecological character have occurred, are occurring or are likely to occur due to human interference

The Aravallis as a Natural Shield Against Desertification



Context

- Recent dust storms in Rajasthan highlighted the ecological importance of the Aravalli Range in protecting northern India from desertification.
- The topic is important for GS Paper 3: Environment, Ecology, Biodiversity and Conservation.

About Aravalli Range

- Aravalli Range is one of the oldest fold mountain systems in the world.
- It extends for around 692 km across Gujarat, Rajasthan, Haryana and Delhi.
- Rajasthan contains a major portion of the range.
- It separates the Thar Desert region from the fertile Indo-Gangetic plains.

How Aravallis Act as Natural Shield Against Desertification

- Aravallis work as a physical barrier against dust-bearing winds coming from the Thar Desert.
- When strong winds strike the hills, wind speed decreases and dust particles settle on western slopes.
- Forests and vegetation cover trap airborne dust particles and reduce soil erosion.
- The range restricts eastward expansion of desert-like conditions towards Haryana, Delhi and western Uttar Pradesh.
- It helps maintain ecological stability in north-western India.

Role During Dust Storms

- Dust storms are common in north-west India during pre-monsoon months from April to June.

- High temperature, dry land surface and unstable atmospheric conditions create favourable conditions for dust storms.
- Westerly and south-westerly winds carry dust from desert regions.
- Healthy Aravalli ecosystems reduce the intensity and movement of dust storms.

Ecological Importance

- Supports biodiversity and wildlife habitats.
- Acts as an important groundwater recharge zone.
- Source region for rivers such as Sabar-mati and Luni.
- Controls soil erosion and supports climate regulation.
- Provides ecosystem services to agriculture and urban settlements.

Threats to Aravalli Ecosystem

- Illegal and excessive mining of minerals damages hills and landscapes.
- Deforestation reduces natural protection capacity.
- Urbanisation and conversion of forest land weaken ecological balance.
- Habitat fragmentation affects biodiversity.
- Loss of vegetation increases vulnerability to desertification.

Aravalli Green Wall Initiative

- Launched to restore degraded landscapes and improve green cover around Aravalli regions.
- Aims to create ecological barriers against desertification.
- Covers districts of Gujarat, Rajasthan, Haryana and Delhi.
- Supports India's commitment towards land restoration and combating desertification.

Link with Global Environmental Goals

- Supports United Nations Convention to Combat Desertification (UNCCD) objectives.
- Contributes towards Sustainable Development Goal 15: Life on Land.
- Important for climate adaptation and ecosystem restoration.

Challenges in Conservation

- Balancing economic development and environmental protection.
- Regulating mining activities effectively.
- Restoration of degraded areas requires long-term planning.
- Need for coordination between multiple



states.

Way Forward

- Promote large-scale afforestation using native species.
- Strengthen monitoring against illegal mining.
- Encourage community participation in conservation.
- Use satellite monitoring for ecological protection.
- Adopt sustainable land management practices.

Conclusion

The Aravalli Range is not only a geological formation but an ecological security system for north India. Protecting and restoring the Aravallis is essential for

controlling desertification, reducing dust storms, conserving biodiversity and ensuring sustainable development.

Prelims PYQ Question

Question: Which of the following can contribute to desertification?

1. Deforestation
2. Overgrazing
3. Unsustainable agricultural practices

Select the correct answer:

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

Answer: (d) 1, 2 and 3