



**UPSC
Mentorship**
A Unit of Mentorship India

DAILY CURRENT AFFAIRS

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SOURCES



Table of Contents

1. How a Fertiliser Cap Can Help Fuel India.....	2
2. PM Modi's US Visit from September 21 to 23: Quad Summit and Indian Diaspora Address on Agenda.....	3
3. Nature of J&K Assembly.....	3
4. COP29 in Baku: Azerbaijan to Launch New Climate Fund at This Year's Conference.....	5
5. How Much Will the Fed Cut? Here's Why It Matters.....	6
6. India's Goods Exports Decline by 9% in August; Trade Deficit Widens to \$30 Billion.....	7
7. What is a Telescope? How Good are Modern Telescopes?.....	8
8. Environment Takes Centre Stage as Global Summits Loom.....	9
9. Demographic Advantage: India's Economic Sweet Spot.....	11
10. A Climate Crisis Agenda Remains Urgent.....	12
Daily Quiz.....	13
Solutions.....	16



GS I

1. How a Fertiliser Cap Can Help Fuel India

Source: The Indian Express

Prelims: Agriculture, Fertilizer Policy, Sustainable Development

Mains: Food vs Fuel Debate, Fertiliser Subsidies, Resource Efficiency in Agriculture

Context: The government is urged to implement measures to cap the consumption of high-analysis fertilisers like urea, DAP, and muriate of potash to address the "food vs fuel" debate and improve agricultural sustainability.

Impact of Fertilisers on Competing Sectors:

- Fertilisers such as urea and DAP are derived from natural gas and rock phosphate, which have alternative industrial uses.
- Natural gas, used to produce ammonia for nitrogenous fertilizers, is also essential for transportation and petrochemical industries.
- Similarly, rock phosphate is increasingly being used in electric vehicle batteries, creating competition between food production and energy needs.

India's Vulnerability to Global Supply Disruptions:

- India imports nearly half of its natural gas and lacks significant reserves of phosphate, potash, and sulfur, making its agriculture highly susceptible to global price fluctuations and supply shortages.
- This dependency on imports highlights the need for more efficient nutrient application in Indian agriculture.

Government Policy on Fertiliser Pricing:

- The government's current policy of subsidising fertilisers like urea and DAP has led to their over-application by farmers, further straining resources.
- Farmers need to be encouraged to adopt more efficient fertiliser use practices, such as using complexes and water-soluble fertilisers that deliver nutrients directly to plant roots or leaves, improving nutrient efficiency.

Capping Fertiliser Consumption:

- To reduce over-reliance on high-analysis fertilisers, the government must consider capping or cutting their consumption.
- Improved nutrient use efficiency can lead to a reduction in the overall consumption of bulk fertilisers and imports, benefiting both agriculture and other sectors reliant on these resources.

Conclusion:

- Implementing a fertiliser cap and promoting efficient nutrient use can enhance the sustainability of Indian agriculture, reducing import dependency and easing the "food vs fuel" dilemma.
- A shift towards smarter fertiliser application will ensure both improved crop yields and resource conservation.



GS II

2. PM Modi's US Visit from September 21 to 23: Quad Summit and Indian Diaspora Address on Agenda

Source: The Indian Express

Prelims: International Relations, Quad, Indo-Pacific

Mains: India-US Relations, Multilateral Cooperation, Strategic Partnerships

Context: The Indian Prime Minister in upcoming Summit visit to the United States includes participation in the Quad Leaders' Summit, bilateral meetings, and addressing the Indian diaspora.

Quad Summit in Delaware (Sept 21, 2024):

- The fourth Quad Leaders' Summit, hosted by US President Joe Biden, will focus on reviewing the progress made over the past year and setting the agenda for the next year to support Indo-Pacific development goals.
- India will host the Quad Summit in 2025.

UN General Assembly Address (Sept 23, 2024):

- The Indian PM will address the 'Summit of the Future' at the United Nations General Assembly (UNGA), focusing on "Multilateral Solutions for a Better Tomorrow."

Indian Diaspora Event in New York (Sept 22, 2024):

- The Indian PM will address the Indian community, fostering ties between India and the diaspora. Meeting with CEOs of US-based companies to enhance collaboration in AI, semiconductors, quantum computing, and biotechnology.

2+2 Intersessional Dialogue:

- Ahead of the visit, Indian and US officials discussed Indo-Pacific strategies, Ukraine, Gaza, defense cooperation, clean energy, and space collaboration during the 2+2 Intersessional Dialogue held in Delhi.

Conclusion:

- The Indian PM visit to US is expected to strengthen India-US strategic partnerships, enhance cooperation in cutting-edge technologies, and deepen ties within the Quad framework for Indo-Pacific development.

3. Nature of J&K Assembly

Source: The Indian Express

Prelims: Jammu and Kashmir Reorganisation Act, Union Territory Governance

Mains: Constitutional Changes, Powers of Union Territories' Legislative Assemblies

Context: The first phase of the Jammu and Kashmir Assembly elections begins on September, 2024, marking the first election since the abrogation of Article 370 and the reorganization of Jammu and Kashmir in 2019.

Jammu and Kashmir's New Structure:



- After the abrogation of Article 370 and the passing of the Jammu and Kashmir Reorganisation Act, 2019, the region lost its statehood and was reorganized into two Union Territories: Jammu and Kashmir (with a legislative assembly) and Ladakh (without one).
- This structural shift has altered the powers of the new Legislative Assembly in Jammu and Kashmir.

Limited Legislative Powers:

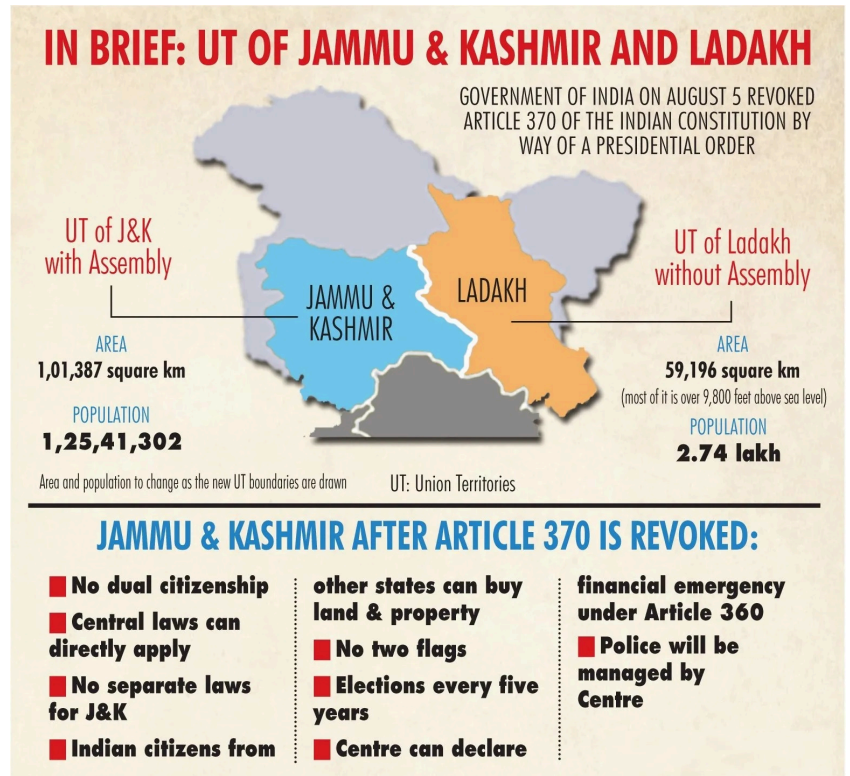
- The new Assembly's legislative power is defined by Section 32 of the 2019 Act, allowing it to make laws on matters in the State List, except for subjects like public order and police.
- The Assembly also has some control over the Concurrent List. However, its powers are significantly constrained compared to state assemblies.

Role of the Lieutenant Governor (LG):

- The Lieutenant Governor (LG), appointed by the central government, holds a dominant role. According to Section 53 of the Act, the LG can act independently on matters outside the Assembly's purview, particularly on public order, police, bureaucracy, and anti-corruption issues.
- The LG's discretionary power extends to financial matters, further limiting the Assembly's authority.

Conclusion:

- The new Jammu and Kashmir Assembly has restricted powers compared to traditional state assemblies, with significant authority vested in the Lieutenant Governor.
- The upcoming election will determine the composition of this legislature, but the central government retains substantial control over key aspects of governance.



GS III

4. COP29 in Baku: Azerbaijan to Launch New Climate Fund at This Year's Conference

Source: The Indian Express

Prelims: Climate Finance, COP29, International Climate Agreements

Mains: Climate Action, Climate Finance Mechanisms, Global Climate Governance

Context: Azerbaijan will host COP29 in Baku from November 11 to 22, 2024, with the main agenda focused on finalising an agreement on climate finance.

Climate Finance Action Fund (CFAF)

Announcement:

- Azerbaijan, a petroleum-based economy, will launch the CFAF at COP29 to finance climate action in developing countries.
- The fund will seek voluntary contributions from fossil-fuel producing countries and companies, with Azerbaijan making the initial contribution.
- The exact target for the fund has not been revealed.

COP29 Agenda on Climate Finance:

- A central focus of COP29 is reaching an agreement on the quantum of climate finance that developed countries must mobilise post-2025.
- Negotiations have been ongoing but have made little progress so far.
- The 2015 Paris Agreement mandates that the \$100 billion annual target be scaled up after 2025 and reviewed every five years.

Other Proposals by Azerbaijan's COP29 Action Agenda includes:

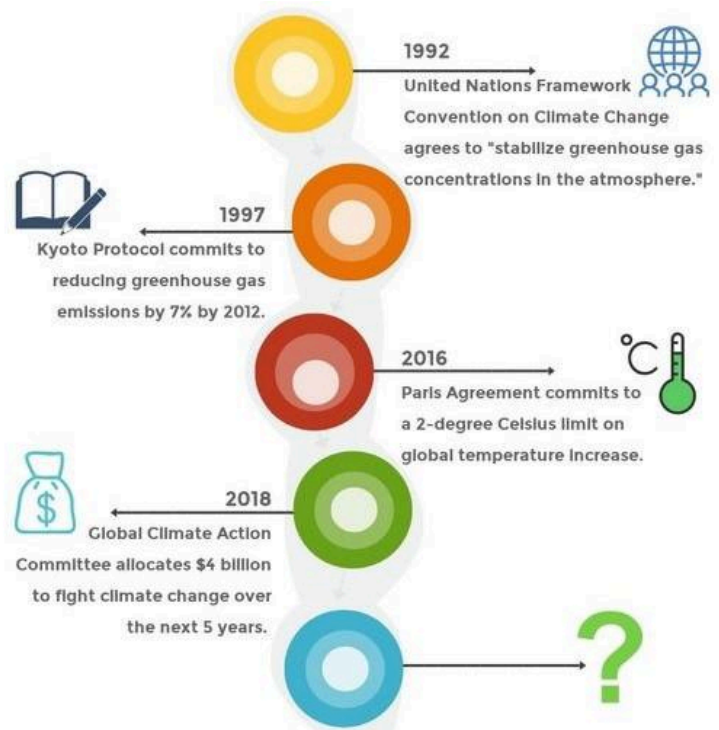
- Increasing global energy storage capacity sixfold by 2030.
- A declaration promoting the development of a global green hydrogen market.
- An agreement to minimise the emissions footprint from data centers and digitization growth.

Operational Plan for CFAF:

- The CFAF aims to accumulate at least \$1 billion with commitments from at least 10 countries before becoming operational.
- Half of the funds will support climate projects in developing countries, while the other half will assist in implementing national climate action plans.

Conclusion:

- The launch of Azerbaijan's CFAF could play a crucial role in bolstering climate finance for developing nations.



- However, challenges remain in mobilising sufficient global contributions and reaching consensus on broader climate finance agreements at COP29.

5. How Much Will the Fed Cut? Here's Why It Matters

Source: The Indian Express

Prelims: Monetary Policy, US Federal Reserve

Mains: Global Financial Markets, Impact of US Interest Rate Cuts on Emerging Markets

Context: The US Federal Reserve is expected to announce its first rate cut since March 2020, raising global anticipation as central banks worldwide follow suit.

Anticipation of Rate Cut:

- The Federal Open Market Committee (FOMC) of the US Federal Reserve is expected to announce a rate cut following its two-day meeting from September 17, 2024.
- This marks the first rate cut in over four years, and while the exact size remains uncertain, market predictions suggest a 50 basis-point cut, with some favoring a smaller 25 basis-point reduction.

Global Central Banks in Sync:

- The Federal Reserve joins other central banks, including the European Central Bank (ECB) and Brazil's central bank, which have already begun rate cuts.
- The Fed's expected move follows Federal Reserve remarks at a possible rate cut, signaling that inflationary pressures were subsiding.

Economic Implications for the US and Global Markets:

- A rate cut by the Fed could provide a boost to US economic growth by reducing borrowing costs for households and businesses.
- This would stimulate demand, increase wages, and help rekindle the growth cycle. Furthermore, the Fed's decision has broader implications for global markets, especially for emerging economies like India.

Impact on India:

- A lower interest rate in the US could make emerging markets more attractive for investors, as the difference between US and Indian interest rates widens.
- This would boost foreign investments and improve India's growth prospects. Additionally, lower returns in US debt markets might prompt investors to turn towards emerging market equities, including Indian markets.

Conclusion:

- The Fed's anticipated rate cut could have significant global repercussions, affecting interest rates, investments, and economic growth in both the US and emerging markets.
- With inflation moderating, the decision represents a pivotal moment for global monetary policy.



6. India's Goods Exports Decline by 9% in August; Trade Deficit Widens to \$30 Billion

Source: The Indian Express

Prelims: International Trade, India's Export and Import Trends

Mains: Causes of Export Decline, Trade Deficit, Policy Measures

Context: In August 2024, India's goods exports saw a significant decline of 9%, while imports rose by 3%, leading to a sharp widening of the trade deficit, which reached \$30 billion—the highest in ten months.

Export and Import Trends:

- Goods exports in August 2024 totaled \$34.71 billion, down from \$38.28 billion in August 2023.
- Goods imports stood at \$64.36 billion, compared to \$62.30 billion in August 2023, reflecting an increase in import activity.
- This has widened the trade deficit to \$30 billion.

Global Trade Factors:

- Weaker demand in Western countries and a slowdown in China have negatively impacted India's exports, particularly petroleum products.
- Global challenges such as sanctions on Russia affecting the procurement of rough diamonds have further hindered export growth.

Policy Response:

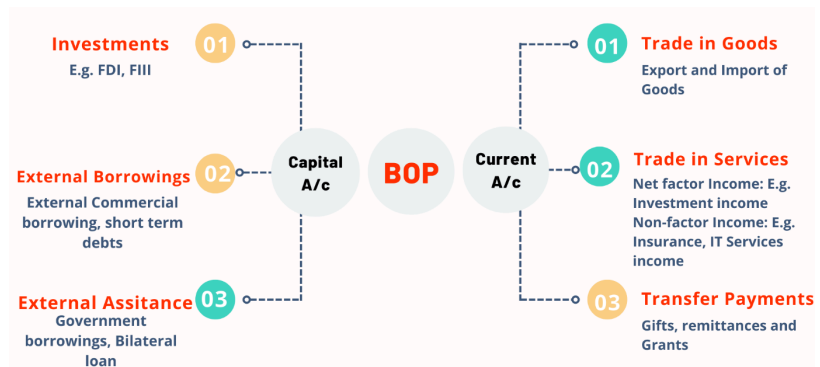
- India is implementing measures to improve trade with African markets and reduce reliance on advanced economies that are facing slowdowns.
- The Ministry of Commerce is working with the Ministry of Shipping to address container shortages that are hampering exports.

Global Trade Outlook:

- The World Trade Organization (WTO) noted that global trade could improve in the second half of 2024, but uncertainty remains due to changing monetary policies in advanced economies and weakening export orders.
- WTO's Goods Trade Barometer suggests a slight pickup in global trade volumes, but recovery remains uncertain.

Conclusion:

- India's goods export decline and rising imports reflect broader global trade challenges and domestic economic conditions.
- The government's focus on diversifying export markets and addressing logistical issues aims to mitigate these challenges, though the trade deficit remains a critical concern for the economy.



7. What is a Telescope? How Good are Modern Telescopes?

Source: The Hindu

Prelims: Types of Telescopes, Telescope Features

Mains: Technological Advancements, Impact on Astronomy, Limitations and Solutions

Context: Modern telescopes have transformed astronomical observation with exceptional detail and insights. This overview covers the types of telescopes, their key features, recent advancements, and the challenges they face.

Telescopes:

It enhances brightness rather than magnifies objects, collecting more light to reveal distant cosmic phenomena.

They are crucial tools for astronomers, highlighting our small place in the universe and fueling curiosity and exploration.

Types of Telescopes:

1. **Reflecting Telescopes:** Utilise a concave mirror to focus light, with larger mirrors providing clearer images. Most modern telescopes are reflectors, designed to minimise image blurring with parabolic mirrors.
2. **Refracting Telescopes:** Employ lenses to bend light, forming images. Although less common today, they are still used for specific purposes, such as the notable Yerkes Observatory's 1.02-meter lens refractor.

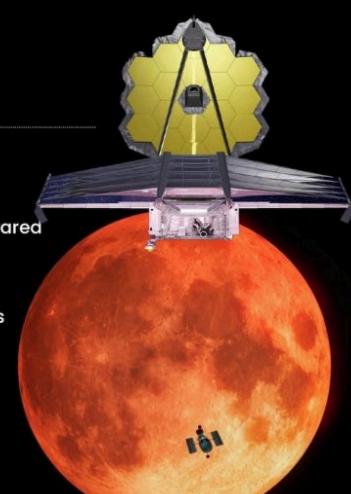
Key Features of Telescopes:

- **Aperture:** Larger apertures gather more light, enhancing visibility of distant objects. Telescopes have significantly larger apertures than the human eye, improving brightness and clarity.
- **Magnitude:** Measures the brightness of celestial objects; lower numbers indicate greater brightness. Telescopes can reveal fainter objects beyond the reach of the naked eye.
- **Resolution:** Refers to the ability to distinguish fine details. Even basic telescopes offer higher resolution compared to human vision.

Technological Advancements:

- Modern telescopes incorporate technologies such as deformable mirrors and tomography to correct atmospheric distortions, leading to clearer and more detailed observations.

James Webb Telescope Vs Hubble Space Telescope

Location of operation JWST: 1.5 million km away from Earth HST: 570 km away from Earth	Primary mirror JWST: 6.5 meter HST: 2.4 meter
No of mirror segments JWST: 18 segments HST: 1 segment	Mission objective JWST: Look back 13.5 bn years and watch the birth of new galaxies HST: Look back 12.5 bn years and peer into young galaxies
Service conditions JWST: Not serviceable HST: Can be repaired	
Wavelengths JWST: Explore near-infrared and mid-infrared light HST: Explores into ultraviolet, visible, parts of near-infrared light	

Limitations and Solutions:

- **Mirror Size:**
 - Large mirrors can sag under their own weight.
 - To address this, modern telescopes use multiple mirror segments to maintain large light-collecting areas without distortion.

Advanced Telescopes Around the World:

- **Large Binocular Telescope (LBT):** Features two 8.4-meter mirrors with an effective aperture of 11.9 meters, located in **Arizona**.
- **Extremely Large Telescope (ELT):** Under construction in **Chile**, with a planned aperture of 39.3 meters, expected to be operational by 2028. Will offer unprecedented resolving power.
- **Subaru Telescope:** Located in **Hawaii**, known for capturing extremely faint celestial objects with extended exposure times.

Conclusion:

- Modern telescopes, with their advanced technologies and high resolution, have significantly advanced our understanding of the cosmos.
- Despite challenges such as mirror sagging, ongoing developments in telescope technology promise even greater discoveries in the future.

8. Environment Takes Centre Stage as Global Summits Loom

Source: The Indian Express

Prelims: Global Summits, Biodiversity, Climate Change, Desertification, Plastic Pollution

Mains: International Environmental Policy, Global Environmental Challenges, Summit Objectives

Context: In the coming months, the UN will host major international conferences to address global challenges like warming, biodiversity loss, desertification, and plastic pollution.

Upcoming Summits:

1. **Conference of the Parties (COP) on Biodiversity:**
 - **Dates and Location:** October 21 to November 1, 2024, in Cali, Colombia.
 - **Purpose:** The conference will review progress since the last summit and discuss national strategies to meet the global goal of placing 30% of the planet under environmental protection by 2030.
 - **Background:** The 2022 Montreal summit achieved a landmark agreement to protect 30% of Earth's surface, aiming to halt biodiversity loss and restore ecosystems.
2. **Conference of the Parties (COP) on Climate Change:**
 - **Dates and Location:** November 11 to 22, 2024, in Baku, Azerbaijan.
 - **Purpose:** The summit will focus on climate finance, specifically how rich nations will support developing countries affected by climate change. This includes discussions on financial commitments and aid distribution.
 - **Background:** The 2023 Dubai summit established a historic commitment to transition away from fossil fuels. This year's COP29 will build on this with a focus on financial support for vulnerable nations.
3. **Conference of the Parties (COP) on Desertification:**
 - **Dates and Location:** December 2 to 13, 2024, in Riyadh, Saudi Arabia.



- **Purpose:** The session will address desertification, the process of land degradation caused by climate variation and human activities such as overgrazing. The aim is to make significant progress in combating desertification.
 - **Background:** Desertification leads to the loss of fertile land, impacting agriculture and ecosystems. The conference seeks to initiate concrete actions to reverse this trend.
4. **Final Session on Plastic Pollution:**
- **Dates and Location:** November 25, 2024, in South Korea.
 - **Purpose:** This session will finalize negotiations on a global treaty to tackle plastic pollution. The treaty aims to address the environmental impact of plastic waste across various ecosystems.
 - **Background:** In 2022, 175 nations agreed to fast-track a treaty to combat plastic pollution. The treaty will focus on controlling plastic production, enhancing recycling efforts, and reducing environmental contamination.

Conclusion:

- These upcoming global summits will play a crucial role in addressing some of the planet's most pressing environmental issues.
- With a focus on biodiversity, climate change, desertification, and plastic pollution, the sessions aim to foster international cooperation and generate actionable strategies to protect and restore the environment.



Editorial, Ideas and Opinions

9. Demographic Advantage: India's Economic Sweet Spot

Source: The Hindu

Prelims: Demographic Dividend, Labour Force Participation, Economic Reforms

Mains: Labour Market Challenges, Economic Reforms, AI/ML Impact on Employment

Context: India's median age of 28 and 63% working-age population boost its economic potential. However, with a labour force participation rate of 55.2%, effectively harnessing this demographic advantage remains a challenge.

Labour Market Trends:

- India's rapid economic growth is being propelled by its youthful population, but labour force participation remains low, particularly in manufacturing.
- The growth led by the services sector, rather than manufacturing, is contributing to a decline in labour intensity, though the country is not experiencing "jobless growth."

Reforms Agenda:

- Ongoing reforms are critical to maintaining and accelerating India's growth trajectory.
- Coordination between the Centre and States is essential to advance reforms, particularly in manufacturing and employment.

Labour Laws and MSMEs:

- Outdated labour laws and compliance burdens are discouraging Micro, Small, and Medium Enterprises (MSMEs) from scaling up, despite their role as employment backbones.
- The delay in implementing the new labour codes is sending negative signals to investors, making it vital for leading states to break this impasse.

Skilling Initiatives:

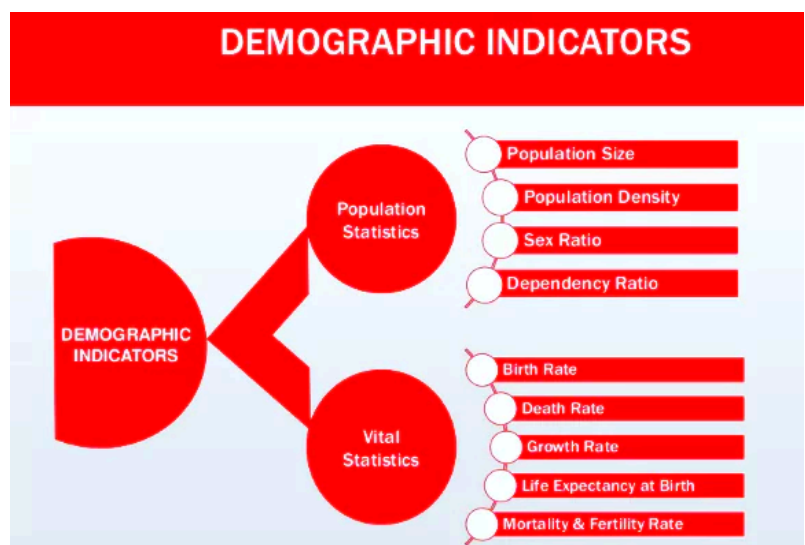
- Only 4.4% of the workforce aged 15-29 is formally skilled, highlighting a significant gap.
- Public-private partnerships are essential to bridge this gap by providing industry-relevant training.
- The New Education Policy (NEP) 2020 emphasizes foundational and higher-order cognitive skills, but regular updates are needed to align with evolving industry demands.

Impact of AI/ML on Employment:

- It poses risks to low-skilled, repetitive jobs, but human oversight will remain crucial.
- The AI/ML sector is expected to grow significantly, providing opportunities for India, which already has the second-largest talent pool in this field, though there is a substantial gap between demand and supply.

Conclusion:

- India's demographic dividend presents a unique economic opportunity, but effectively employing its large, young population requires continuous reforms, skilling initiatives, and a focus on high-growth, labour-intensive sectors.
- The rise of AI/ML offers new opportunities, and India is well-positioned to harness its demographic advantage for long-term growth.



In Brief

10. A Climate Crisis Agenda Remains Urgent

Source: The Hindu

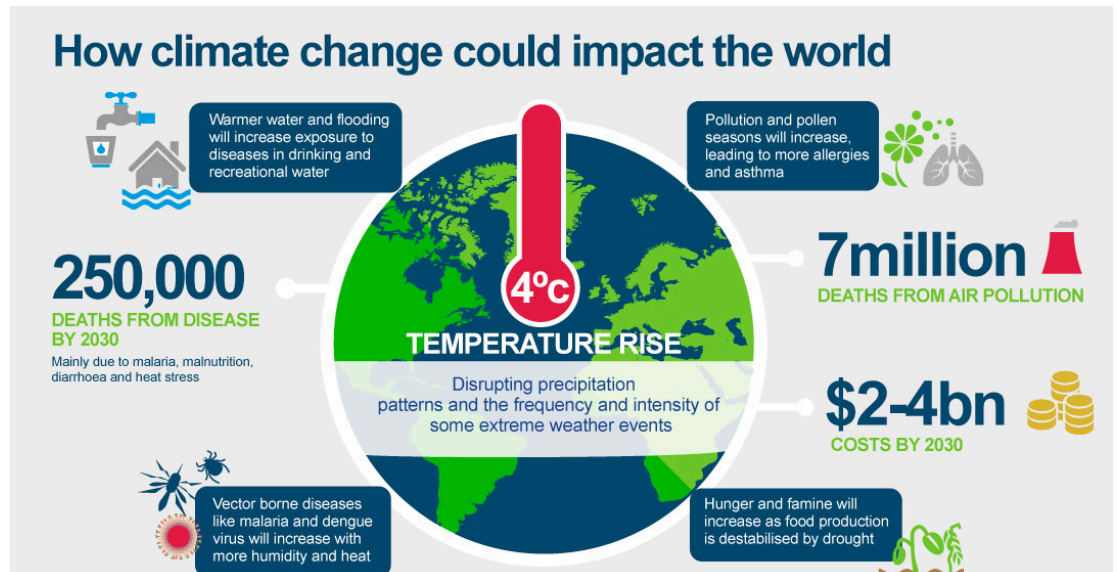
Prelims: Climate Action, Short-Lived Climate Pollutants, Carbon Markets

Mains: India's Climate Goals, Air Pollution Mitigation, Carbon Market Development

Context: India must intensify climate action to meet 2030 targets, addressing challenges like coal reliance and a 22% clean energy share.

Climate and Environmental Challenges:

- India faces pressing issues, including heat stress, air quality, waste management, and energy efficiency, that require immediate attention.
- The growing demand for energy calls for comprehensive policies to address these environmental challenges, particularly encouraging businesses to view climate action as an opportunity.



Mitigating Short-Lived Climate Pollutants (SLCPs):

- India's extreme heat wave risk can be reduced by cutting SLCPs like methane, black carbon, and hydrofluorocarbons to curb near-term warming.
- Methane, a potent short-term heat trapper, is a key reduction target. The Kigali Amendment could prevent 0.5°C of warming, and a new methane treaty may reduce warming by 0.3°C by the 2040s.

Improving Air Quality:

- Reducing black carbon and enhancing the National Clean Air Programme can significantly improve public health and air quality.
- Solutions require collective responsibility, investment in clean air initiatives, data-driven interventions, and a recognition of clean air's role in economic growth.

Carbon Markets and Emissions Trading:

- India plans to launch the 'India Carbon Market' in 2026 to help achieve its Nationally Determined Contributions (NDCs).
- This market could become the world's largest emissions trading system by 2030, potentially avoiding \$35 trillion in climate-related costs over the next 50 years.
- A more nuanced approach to carbon trading is needed, treating long-lived pollutants like CO2 separately from SLCPs like methane and black carbon.

Conclusion:

- India's climate crisis agenda is urgent and requires comprehensive action, including SLCP mitigation, air quality improvements, carbon market development, and stronger governance.
- The country's climate future hinges on swift, coordinated, and accountable efforts across sectors, alongside proactive political leadership that prioritizes sustainability.



Daily Quiz

Q1. Consider the following statements regarding the impact of a fertiliser cap on India's agriculture and resource efficiency:

1. Fertilisers like urea and DAP are derived from natural gas and rock phosphate, which have alternative uses in industries such as transportation and electric vehicle batteries.
2. India has significant reserves of natural gas and rock phosphate, reducing its vulnerability to global supply disruptions for these resources.
3. The government's current subsidy policy on fertilisers leads to over-application by farmers, straining resources and highlighting the need for more efficient nutrient application practices.

Which of the above statements is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

Q2. Consider the following statements regarding PM Modi's visit to the United States from September 21 to 23, 2024:

1. The visit will include participation in the Quad Leaders' Summit hosted by US President Joe Biden, focusing on the progress of Indo-Pacific development goals, and India is set to host the next Quad Summit in 2025.
2. During the visit, PM Modi will address the 'Summit of the Future' at the UN General Assembly and participate in a special event to engage with Indian diaspora in New York, including meetings with CEOs of US-based companies.

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

- A. Both statements are correct, and Statement 2 provides further context on the PM's engagement with the Indian

diaspora and collaboration with US companies.

- B. Both statements are correct, but Statement 2 contradicts the key features of the PM's visit.
- C. Statement 1 is correct, and Statement 2 is incorrect.
- D. Statement 2 is correct, and Statement 1 is incorrect.

Q3. What was the primary change in governance for Jammu and Kashmir after the abrogation of Article 370 and the passage of the Jammu and Kashmir Reorganisation Act, 2019?

- A. Jammu and Kashmir became a full-fledged state with expanded legislative powers.
- B. The Jammu and Kashmir Assembly gained more legislative powers, including control over public order.
- C. Ladakh received a legislative assembly while Jammu and Kashmir was left without one.
- D. Jammu and Kashmir was reorganized into two Union Territories: Jammu and Kashmir and Ladakh.

Q4. Consider the following statements regarding the upcoming COP29 conference in Baku and Azerbaijan's new Climate Finance Action Fund (CFAF):

1. Azerbaijan will launch the CFAF at COP29 to finance climate action in developing countries, with voluntary contributions from fossil-fuel producing countries and companies, and Azerbaijan making the initial contribution.
2. A central focus of COP29 is finalizing an agreement on the quantum of climate finance that developed countries must mobilize post-2025, in line with the Paris Agreement's \$100 billion annual target.
3. Other proposals on Azerbaijan's COP29 agenda include increasing global energy storage capacity sixfold by 2030,



developing a global green hydrogen market, and minimizing the emissions footprint from data centers.

Which of the above statements is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

Q5. Consider the following statements regarding the anticipated Federal Reserve rate cut:

1. The Federal Open Market Committee (FOMC) is expected to announce a rate cut of 50 basis points following its meeting, marking the first rate cut since March 2020.
2. The anticipated rate cut by the Fed could boost investments in emerging markets, including India, by making these markets more attractive compared to US debt markets, potentially increasing foreign investments and improving growth prospects.

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

- A. Both statements are correct, and Statement 2 provides further context on the impact of the rate cut on emerging markets.
- B. Both statements are correct, but Statement 2 contradicts the expected outcomes of the rate cut.
- C. Statement 1 is correct, and Statement 2 is incorrect.
- D. Statement 2 is correct, and Statement 1 is incorrect.

Q6. Which of the following global factors has negatively impacted India's exports according to recent trends?

- A. Increased demand for petroleum products in Western countries.
- B. Economic sanctions on Russia affecting the procurement of rough diamonds.
- C. Accelerated growth in China's economy.
- D. Strengthening of the Indian rupee against major currencies.

Q7. Consider the following statements regarding modern telescopes and their technological advancements:

1. Modern telescopes enhance brightness rather than magnify objects, using larger apertures to collect more light and reveal distant cosmic phenomena.
2. Reflecting telescopes use concave mirrors to focus light, with larger mirrors providing clearer images, while refracting telescopes employ lenses to form images.
3. Modern telescopes employ technologies like deformable mirrors and tomography to correct atmospheric distortions, and some advanced telescopes like the Extremely Large Telescope (ELT) and Subaru Telescope are leading in terms of resolution and capability.

Which of the above statements is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

Q8. Regarding the COP on Desertification, which of the following statements is NOT accurate?

- A. The conference will be held from December 2 to 13, 2024, in Riyadh, Saudi Arabia.
- B. The primary aim of the summit is to make significant progress in combating desertification and land degradation.
- C. Desertification is solely caused by natural climate variations, with no human impact.
- D. The conference seeks to initiate concrete actions to reverse the loss of fertile land and its impact on agriculture.

Q9. Consider the following statements regarding India's demographic advantage and its impact on economic growth:

1. India's youthful population and median age of 28 years contribute to its economic potential, though the low labour force participation rate of 55.2% poses a challenge in fully harnessing this demographic advantage.



2. Ongoing reforms, particularly in labour laws and coordination between the Centre and States, are crucial for maintaining and accelerating India's economic growth, while skilling initiatives and adapting to AI/ML advancements are essential for bridging employment gaps.

Which of the above statements is/are correct?

- A. 1 and 2
- B. 1 only
- C. 2 only
- D. Neither 1 nor 2

Q10. What distinguishes the approach to carbon

trading in India's future carbon market from traditional carbon markets?

- A. The new market will focus exclusively on long-lived pollutants like CO₂.
- B. The approach will separate short-lived climate pollutants (SLCPs) from long-lived pollutants like CO₂ in trading mechanisms.
- C. It will ban all forms of emissions trading by 2030.
- D. It will prioritize only domestic emissions without considering international impacts.



Solutions

1. Correct Answer is C

Explanation:

- **Statement 1 is correct:** Fertilisers like urea and DAP are derived from natural gas and rock phosphate, which have alternative industrial uses. Natural gas is crucial for transportation and petrochemical industries, while rock phosphate is increasingly used in electric vehicle batteries.
- **Statement 2 is incorrect:** India does not have significant reserves of natural gas and rock phosphate. In fact, India imports nearly half of its natural gas and lacks substantial reserves of phosphate, potash, and sulfur, making it vulnerable to global supply disruptions.
- **Statement 3 is correct:** The current government policy of subsidizing fertilisers like urea and DAP leads to their over-application, which strains resources and highlights the need for more efficient nutrient application practices.

2. Correct Answer is A

Explanation:

- **Statement 1 is accurate** as it reflects the agenda of the Quad Leaders' Summit, which will review progress and set goals for Indo-Pacific development, and India is scheduled to host the next Quad Summit in 2025.
- **Statement 2 is also accurate;** it covers the PM's address at the UNGA's 'Summit of the Future,' engagement with the Indian diaspora in New York, and meetings with US-based CEOs to discuss collaboration in advanced

technologies. Thus, both statements align with the key elements of PM Modi's visit as described.

3. Correct Answer is D

Explanation:

- After the abrogation of Article 370 and the passing of the Jammu and Kashmir Reorganisation Act, 2019, Jammu and Kashmir lost its statehood.
- It was reorganized into two Union Territories: Jammu and Kashmir (with a legislative assembly) and Ladakh (without one).
- This change included a shift in legislative powers and governance structures.

4. Correct Answer is D

Explanation:

- **Statement 1 is correct:** Azerbaijan will indeed launch the Climate Finance Action Fund (CFAF) at COP29, seeking voluntary contributions from fossil-fuel producers and companies, with Azerbaijan making the initial contribution.
- **Statement 2 is correct:** A key agenda item for COP29 is reaching an agreement on how much climate finance developed countries need to mobilize after 2025, in line with the Paris Agreement's mandate to scale up the \$100 billion annual target.
- **Statement 3 is correct:** Azerbaijan's COP29 agenda includes proposals to significantly increase global energy storage capacity, promote a global green hydrogen market, and reduce emissions from data centers,



reflecting a comprehensive approach to addressing climate issues.

5. Correct Answer is D

Explanation:

- **Statement 1 is incorrect** because while a rate cut is expected, the exact size remains uncertain, with predictions ranging between 25 to 50 basis points, not definitively set at 50 basis points.
- **Statement 2 is correct** as it accurately describes the potential impact of a rate cut on emerging markets like India. Lower interest rates in the US could make these markets more attractive to investors, potentially boosting foreign investments and improving growth prospects.

6. Correct Answer is B

Explanation:

- Global challenges such as sanctions on Russia have affected the procurement of rough diamonds, which has been a hindrance to India's export growth, particularly in the context of weak demand and global trade slowdowns.

7. Correct Answer is D

Explanation:

- **Statement 1 is correct:** Modern telescopes enhance brightness by collecting more light through larger apertures, which helps in revealing distant cosmic phenomena more clearly.
- **Statement 2 is correct:** Reflecting telescopes use concave mirrors to focus light and are designed to minimise image blurring. Refracting telescopes use lenses to bend light, though they are less common today.
- **Statement 3 is correct:** Modern telescopes incorporate

technologies such as deformable mirrors and tomography to correct atmospheric distortions, and notable telescopes like the Extremely Large Telescope (ELT) and Subaru Telescope are at the forefront of astronomical observation with their advanced capabilities.

8. Correct Answer is C

Explanation:

- Desertification is caused by both natural climate variations and human activities such as overgrazing.
- The COP on Desertification aims to address both aspects to combat land degradation effectively.

9. Correct Answer is A

Explanation:

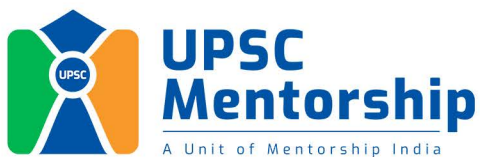
- **Statement 1 is correct:** India's median age of 28 and large working-age population boost its economic potential. However, the low labour force participation rate (55.2%) challenges the full utilization of this demographic advantage.
- **Statement 2 is correct:** Ongoing reforms and better coordination between the Centre and States are essential for economic growth. Additionally, addressing outdated labour laws, enhancing skilling initiatives, and adapting to AI/ML advancements are critical for effectively leveraging India's demographic advantage and bridging employment gaps.

10. Correct Answer is B

Explanation:

- India's planned carbon market will adopt a nuanced approach by treating SLCPs separately from long-lived pollutants like CO₂ in trading mechanisms.
- Rather than focusing solely on long-lived pollutants or banning emissions trading.





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