

CURRENT AFFAIRS

WEEKLY



MAINS ARTICLE

GS-I

- ▣ GENDER PERFORMATIVITY
- ▣ BHAGAT SINGH

GS-II

- ▣ TURKEY'S ASPIRATION TO JOIN BRICS
- ▣ VIOLENCE IN MIDDLE EAST
- ▣ ISRAEL-IRAN CRISIS
- ▣ ASYMMETRICAL FEDERALISM AND TRIBAL AUTONOMY IN INDIA
- ▣ INDIA'S SEWER AND SEPTIC TANK WORKERS: THE NAMASTE INITIATIVE

GS-III

- ▣ URBAN CONSUMPTION AND ITS IMPACT ON INDIA'S ECONOMY
- ▣ SEBI'S NEW RULES FOR F&O TRADING
- ▣ MIDDLE-INCOME TRAP

PRELIMS ARTICLE

GEOGRAPHY

- ▣ Nepal Floods
- ▣ Monsoon 2024 Ends with Above Normal Rainfall
- ▣ Parbati-Kalisindh-Chambal river linking project
- ▣ Baltimore Bridge

INTERNATIONAL RELATIONS

- ▣ India elected to GlobE Network steering committee

POLITY & GOVERNANCE

- ▣ Swachh Bharat Mission-Urban 2.0
- ▣ Clause 6 of the Assam Accord
- ▣ PM Surya Ghar: Muft Bijli Yojana (PMSY)
- ▣ Dharti Aaba Janjatiya Gram Utkarsh Abhiyan
- ▣ 10 Years of the

Swachh Bharat Mission

ECONOMY

- ▣ India's Core Sector Output Contracts for the First Time in Four Years
- ▣ Bottom of Form
- ▣ India's CAD widens to 1.1% of GDP

SCIENCE & TECHNOLOGY

- ▣ Shinkansen Bullet Train Technology
- ▣ Earth's mini-moon
- ▣ Mars Atmospheric Loss
- ▣ World Rabies Day

ENVIRONMENT

- ▣ Permafrost Collapse in the Himalayas
- ▣ India signs Treaty of the High Seas
- ▣ Karnataka rejects Kasturirangan report
- ▣ Sea Robins

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DISCLAIMER

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

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SECTION -A

MAINS ISSUES

GENDER PERFORMATIVITY

CONTEXT

Gender performativity, introduced by Judith Butler in her 1990 work *Gender Trouble*, has become a foundational concept in gender theory. It offers a nuanced framework for understanding gender as a fluid, socially constructed identity rather than a fixed binary associated with biological sex. This perspective invites a re-evaluation of traditional gender norms, highlighting the roles that societal expectations play in shaping individual identities.

Key Dimensions of Gender Performativity

▣ Conceptual Foundations

- ▶ **Social Construction:** Butler argues that gender is not inherent or biologically predetermined but is constructed through repeated actions and societal discourse. This challenges the essentialist view that ties gender identity directly to biological sex.
- ▶ **Fluidity of Identity:** Gender is seen as dynamic and changeable, shaped by context and culture rather than fixed traits. This notion aligns with third-wave feminism and queer theory, promoting a more inclusive understanding of gender.

▣ Theories of Gender

- ▶ **Gender Essentialism vs. Social Constructivism:**
 - ◆ **Essentialism** posits that gender roles are biologically predetermined, leading to a static view of identity.
 - ◆ **Constructivism** posits that gender is formed through social norms and experiences,

emphasizing how individuals internalize and perform gendered behaviors.

- ◆ **Example of Social Norms:** In educational settings, boys and girls are often subjected to different expectations—such as hair length or behavior—demonstrating how societal norms enforce rigid gender roles.

▣ Butler's Argument

- ▶ **Critique of Binary Distinction:** Butler critiques the separation of sex and gender, asserting that even biological sex is socially interpreted. This view suggests that both sex and gender are intertwined and shaped by societal norms.
- ▶ **Gender as Performance:** Butler posits that gender is not something one is, but something one does—an ongoing enactment of societal roles rather than a static identity.

▣ Performativity vs. Performance

- ▶ **Performativity:** Refers to the repetitive nature of gender enactment that creates the illusion of a stable identity. It suggests that gender is an ongoing process, influenced by societal expectations.
- ▶ **Performance:** Implies conscious role-playing within defined gender norms. In contrast, performativity encompasses unconscious actions that reinforce these norms, suggesting that individuals learn gendered behaviors through socialization.

▣ Critiques and Expansions

- ▶ **Transgender Perspectives:** Critics like Julia Serano challenge Butler's framework for its potential inadequacies in addressing transgender experiences.

Serano introduces the concept of “subconscious sex,” arguing that gender identity can arise from internal inclinations independent of societal conditioning.

- ▶ **Intersection of Internal and External Influences:** While acknowledging the role of societal norms, Serano emphasizes that gender identity can be deeply personal and intrinsic, suggesting a more complex interplay between social influence and individual experience.

BHAGAT SINGH

CONTEXT

Bhagat Singh's birth anniversary (September 28) is being commemorated, prompting discussions about his legacy and ideological contributions beyond his portrayal as a mere revolutionary figure. The media is reflecting on his multifaceted personality and thoughts, emphasizing the importance of understanding his philosophies in the CONTEXT of contemporary issues.

Who Was Bhagat Singh (1907-1931)?

- Bhagat Singh was born on September 28, 1907 in the village of Banga in Lyallpur district (present-day Faisalabad, Pakistan).
- He was an influential Indian revolutionary, great patriot, socialist revolutionary and freedom fighter known for his activism against British colonial rule.
- He supported Mahatma Gandhi in the **Non-Cooperation Movement** and was affected by the **Jallianwala Bagh massacre (1919)** and the violence against unarmed Akali protestors at **Nankana Sahib (1921)**.
- He founded the **Naujawan Bharat Sabha** in the year 1926 to encourage the peasants and workers to fight against British rule. He was the secretary of that organisation.
- Singh joined the **Kirti Kisan Party** in 1926 in Lahore. He started writing for 'Kirti' and wrote against the atrocities of the British.
- In 1928, the **Hindustan Socialist Association (HSRA)** was also established by him, along with Sukhdev, Chandrasekhar Azad and others.
- The main events which changed the course of the life of Bhagat Singh leading to his early martyrdom at the age of 23 were the –
 - ▶ the Rowlatt Act
 - ▶ the Jallianwala Bagh massacre
 - ▶ the Non-Cooperation Movement
 - ▶ the event at Chauri-Chaura
 - ▶ the Kakori Train Conspiracy
 - ▶ the Central Assembly bombing at Delhi
- In 1931, Singh was executed (along with his comrades, **Sukhdev Thapar and Shivaram Rajguru**) at the age of 23 for murdering **British police officer John Saunders**, becoming a martyr and an icon of resistance against imperialism in India.

His Ideologies and Contributions

- ▶ **Universal Brotherhood:** Singh emphasized the concept of universal love and equality, advocating for a world without class divisions and communal strife. His early writings reflected his vision of a harmonious society where economic disparities and conflicts were eradicated.
- ▶ **Critique of Religion and Faith:** An outspoken atheist, Singh viewed organized religion as a barrier to social progress. He argued for a rational approach to life, challenging traditional beliefs that hindered humanity's advancement.
- ▶ **Political Activism and Youth Engagement:** He strongly believed that students should engage in political activism. Singh argued that education must encompass an understanding of socio-political conditions, encouraging youth to actively participate in the struggle for their rights.
- ▶ **Social Justice and Untouchability:** Singh addressed the plight of untouchables and marginalized communities, urging them to recognize their historical contributions and unite for social and political emancipation.
- ▶ **Revolutionary Thought:** His writings articulated a clear vision for revolution, advocating for the complete overthrow of the existing social order in favor of a socialist framework. He saw revolution as essential for societal progress, opposing complacency and advocating for continuous change.
- ▶ **Romanticism and Human Emotion:** Beyond his political writings, Singh valued human emotions, particularly love, as a transformative force in personal and political life. He believed that true love could elevate human character and strengthen individuals in the face of adversity.
- ▶ **Eclectic Literary Influences:** Singh's intellectual development was shaped by a diverse range of influences, including Marxism, anarchism, and various literary figures. His writings reflect a deep engagement with global revolutionary thought, positioning him as a thinker of international significance.



FACT BOX

Important Events

Rowlatt Act

- ▶ The Rowlatt Act was enacted by the British government in March 1919.
- ▶ It aimed to curb the growing nationalist movements by allowing the government to imprison individuals without trial and to impose strict controls on the press and public assemblies.
- ▶ **Impact:** The Act was widely opposed in India, leading to protests and unrest, which culminated in the Jallianwala Bagh massacre.

Jallianwala Bagh Massacre

- ▶ **Date:** The massacre occurred on April 13, 1919.
- ▶ At Amritsar’s Jallianwala Bagh, where thousands of peaceful Indian protesters had congregated to commemorate Baisakhi, the spring festival
- ▶ Without warning, the British officer in charge of the **Amritsar region, Brigadier General Reginald Dyer**, marched into Jallianwala Bagh with fifty armed soldiers and ordered them to open fire on the crowd.
- ▶ The shooting lasted about ten minutes, killing an estimated 379 people and injuring over one thousand.

Non-Cooperation Movement

- ▶ The movement was initiated by Mahatma Gandhi in 1920 in response to the Jallianwala Bagh massacre and the Rowlatt Act.
- ▶ **Goals:** It aimed to resist British rule through non-violent means, encouraging Indians to boycott British goods, institutions, and honors.
- ▶ **Impact:** While it gained significant traction, the movement was called off by Gandhi in February 1922 following the violent Chauri-Chaura incident.

Chauri-Chaura

- ▶ **Date:** The incident occurred on February 4, 1922.
- ▶ **Details:** A mob protesting the British police’s actions set fire to a police station, resulting in the deaths of three civilians and 22 policemen.
- ▶ **Consequences:** Gandhi viewed the violence as contrary to his principles of non-violence and subsequently called off the Non-Cooperation Movement.

Kakori Train Conspiracy

- ▶ The conspiracy took place on August 9, 1925.
- ▶ **Objective:** Revolutionaries aimed to rob a train carrying government funds to finance their activities against British rule.
- ▶ **Outcome:** Several revolutionaries, including Ram Prasad Bismil, were arrested, and four were sentenced to death, while others received life imprisonment.

Central Assembly Bombing at Delhi

- The bombing occurred on April 8, 1929.
- **Perpetrators:** Bhagat Singh and Batukeshwar Dutt were the main figures behind the act.
- **Purpose:** They aimed to protest repressive laws and make their voices heard in the Central Legislative Assembly. Instead of causing harm, they intended to create a spectacle to draw attention to their cause and were arrested following the bombing.

TURKEY’S ASPIRATION TO JOIN BRICS

CONTEXT

Turkey’s recent bid to join the **BRICS group**—comprising **Brazil, Russia, India, China, and South Africa**—has raised significant discussions regarding its geopolitical strategy, economic motivations, and implications for its relationship with NATO. Also, this as a sign of Turkey’s growing interest in fostering relations with India, particularly as it seeks BRICS membership.

Why Turkey wants to join BRICS?

- **Economic Diversification:** Historically reliant on **European markets**, Turkey’s economy has faced stagnation. By joining BRICS, Turkey aims to access emerging markets, particularly in Asia, enhancing its trade relationships.
- **Strategic Positioning:** Joining BRICS offers Turkey the chance to enhance its geopolitical significance. By aligning with emerging economies like China and India, Turkey aims to reshape its image as a leader within the Islamic world while distancing itself from its previous hardline stance.

Potential Implications for Turkey’s International Relations

- **NATO Dynamics:** While Turkey is unlikely to abandon NATO, the move signals a strategic diversification of its foreign policy. This **dual alignment** could enhance Turkey’s geopolitical leverage but may lead to **tensions with NATO members**, especially given **Turkey’s prior acquisition of Russian defense systems**.
- **Regional Influence:** Membership in BRICS could amplify Turkey’s influence in regions such as the **Balkans, the Middle East, and Central Asia**.
- **Economic and Investment Opportunities:** Through BRICS, Turkey anticipates attracting investments, particularly for infrastructure and renewable energy projects. The **BRICS New Development Bank** could be a vital source of funding, facilitating Turkey’s economic growth and enhancing its capacity to navigate current financial challenges.
- In BRICS, **Brazil, China and India** are currently emerging as the **world’s largest economies**. By joining BRICS, Turkey will place itself in a group that advocates a more equitable global order, challenging the dominance of West-led institutions such as the IMF and the World Bank.



FACT BOX

BRICS

- BRICS took shape as a group in September 2006.
- It was started by **Brazil, Russia, India and China (BRIC)**. After **South Africa** was accepted as a full member in **2010**, its name was changed to BRICS.
- However, now the bloc has a total of **10 full members** (latest addition of Egypt and Saudi Arabia).
 - The new full members are **Egypt, Ethiopia, Iran, Saudi Arabia and the United Arab Emirates**.
- Russia is currently chairing the BRICS group.

VIOLENCE IN MIDDLE EAST

CONTEXT

The Middle East is once again under **intense scrutiny** after the death of its leader Sheikh Hassan Nasrallah. Hezbollah has confirmed the death of its leader, after Israel said it had killed the 64-year-old in an airstrike on Beirut.

What is Hezbollah?

- Hezbollah is a **militant group** founded in Lebanon in 1982 during the 15-year **Lebanese Civil War**. It has evolved into a significant political and military force within the country.
- Supported by Iran, Hezbollah aims to resist Israeli presence and influence in the region.
- Its animosity toward Israel has persisted since the latter's occupation of **southern Lebanon**, which lasted until 2000.
- It is considered a **terrorist organization** by the U.S. government.

Recent Escalations

- Following Hamas' attack on Israel on October 7, 2024, Hezbollah expressed solidarity with Hamas, leading to increased skirmishes at the Israel-Lebanon border.
- The situation escalated dramatically after Israeli airstrikes targeted Hezbollah assets, marking the deadliest day of conflict in Lebanon since 2006, with significant civilian casualties.
 - Hezbollah and Hamas are both supported by Iran. Both groups share a common enemy in Israel.
- Military Capabilities:** Hezbollah's military capabilities

"PARTY OF GOD"
Hezbollah
 Also spelled Hezbollah or Hizbullah
 Arabic: izb Allāh, meaning "Party of God"

Hezbollah is a political party and militant group that first emerged during Lebanon's civil war as a militia after the Israeli invasion in 1982.

Based in Lebanon, it stands as a significant Islamist movement in the Middle East.

The organisation maintains a robust military wing and concurrently operates a political party, exercising considerable influence within Lebanon.

Hezbollah has been designated as a terrorist organisation by the US, Israel and some other countries.

Network 18 creative

Figure No. 01

are noteworthy, with a reported arsenal capable of targeting all regions of Israel. This capability is supported by Iranian military aid.

What is Middle-East Crisis?

- The Middle East is a region marked by instability and complex conflicts affecting many of its countries. Key issues include:
 - ▶ **Destruction in Syria:** Ongoing violence has led to widespread devastation.
 - ▶ **Iraq's Challenges:** The country is struggling with political fragmentation and violence.
 - ▶ **Unrest in Egypt and Libya:** Both nations have experienced significant upheaval and instability.
 - ▶ **Rivalries Among Gulf Monarchies:** Tensions between oil-rich nations complicate regional dynamics.
 - ▶ **Relations with Iran:** Complicated ties with Iran influence various conflicts and alliances.
 - ▶ **Social Discontent:** Widespread dissatisfaction among populations fuels unrest.
 - ▶ **Ethno-sectarian Divisions:** Conflicts often exploit divisions based on ethnicity and sect.
 - ▶ **Rise of Jihadism:** Extremist groups continue to gain influence.
 - ▶ **U.S. Policy Confusion:** Inconsistent American policies have added to the region's challenges.
 - ▶ **Israeli-Palestinian Conflict:** Ongoing disputes between Israel and Palestinians remain a central issue. Israel is currently fighting:

- ◆ Gaza Strip
- ◆ pockets of the West Bank
- ◆ Hezbollah in the north
- ◆ Houthi forces in Yemen along the Red Sea and the Islamic Republic



FACT BOX

What Is the Middle East?

- The Middle East is a geographical region primarily located in **western Asia**, extending into parts of **northern Africa and southeastern Europe**.
- **Geographical Boundaries**
 - ▶ **Western Border:** The Mediterranean Sea, which separates the region from European countries like Greece and Italy.
 - ▶ **Northern Border:** Countries such as **Armenia, Azerbaijan, and Georgia** are often associated with the region, though their classification can vary between Europe, Asia, or as a separate region.
 - ▶ **Southern Border:** The **Red Sea and the Arabian Sea** surround countries like Saudi Arabia, Yemen, and Oman.
 - ▶ **Central Feature:** The Persian Gulf, a key body of water, shapes the region's center and includes nations such as the **United Arab Emirates, Qatar, Bahrain, Kuwait, and Iran**.



Figure No. 02

Key Countries in the Middle East

- **Western Asia:** Includes **Israel, Lebanon, Syria, Turkey, and Cyprus.**
- **Northern Africa:** **Egypt** is often considered part of the Middle East due to its geographical and cultural ties.
- **Persian Gulf States:** **United Arab Emirates, Qatar, Bahrain, Kuwait, and Iran.**

(figure No. 02 on previous page)

ISRAEL-IRAN CRISIS

CONTEXT

Iran's missile attack on Israel has stoked fears of a wider conflict in West Asia.

Why are Israel and Iran enemies?

- Israel and Iran were allies until the 1979 Islamic revolution in Iran,
- They became enemies primarily due to the ideological shift following the 1979 Islamic Revolution in Iran, which transformed the country into a regime that opposes Israel's existence.
- Iran openly denies Israel's right to exist, referring to it as a "cancerous tumor" that must be destroyed.
- Israel perceives Iran as an existential threat due to its support for militant groups like Hezbollah and Hamas, which aim to undermine Israeli security.
- Additionally, concerns over Iran's nuclear program, which Israel fears could lead to the development of nuclear weapons, further exacerbate tensions between the two nations.



Figure No. 03

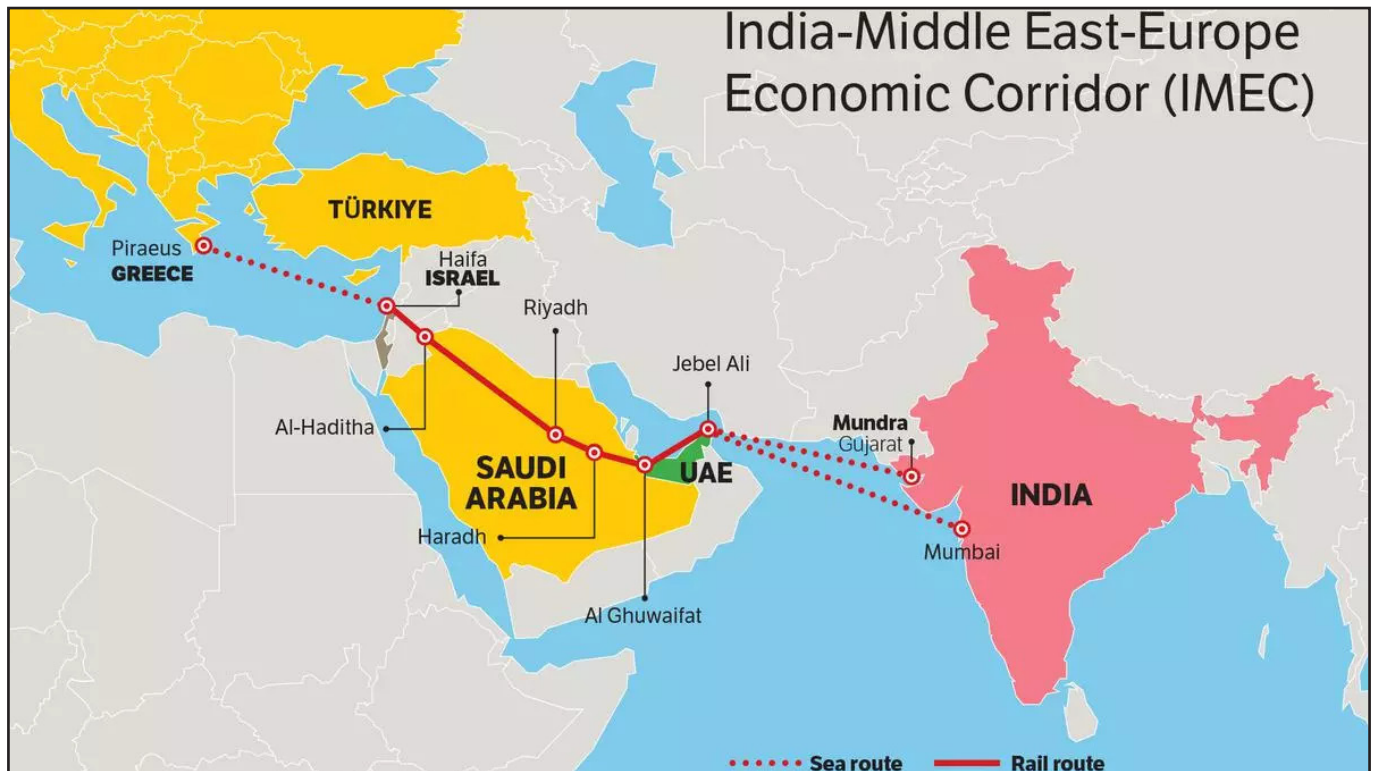


Figure No. 04

What happened?

- Tehran fired roughly **200 ballistic missiles** in an unprecedented assault on Israel, taking the region closer to a full-scale war.
- Israel, which largely intercepted the missiles with the help of its allies, has vowed retaliation against Iran. Tehran has also promised to strike back if Israel attacks.

Iran’s Reasons:

- Iran said it launched a barrage of missiles against Israel in response to the assassination of the Lebanese group Hezbollah leader Hassan Nasrallah and Islamic Revolutionary Guard Corps (IRGC) commander Abbas Nilforoushan, and the killing of Hamas leader Ismail Haniyeh in Tehran in July.
- It also said the attack was a response to **Israel’s deadly strikes in Gaza and Lebanon.**

India’s Concerns


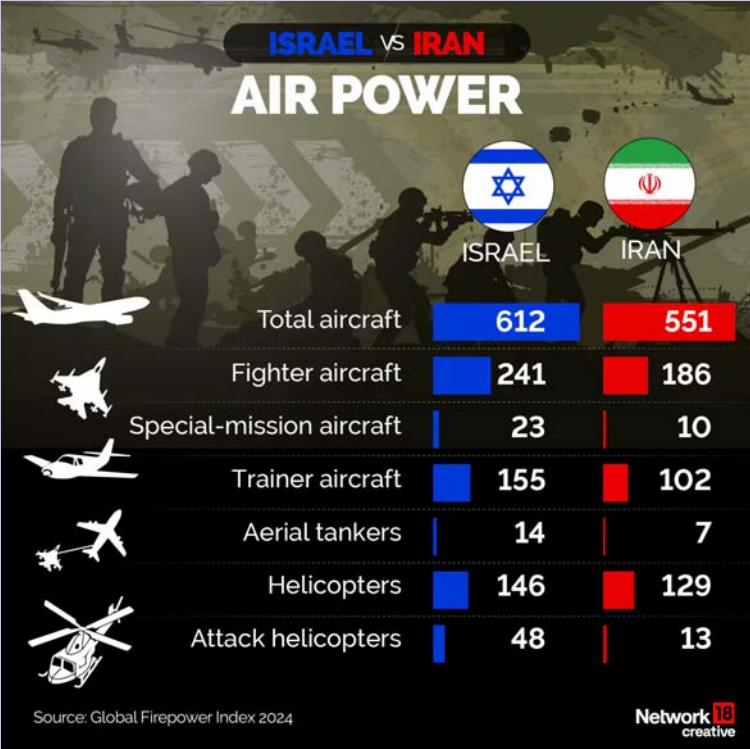
As the conflict in the Middle East escalates, particularly with Israel’s offensive in Gaza and its implications for regional stability, India finds itself navigating a complex landscape of diplomatic, economic, and security concerns. While India has called for restraint and the protection of civilians, several broader issues warrant attention.

- **Trade Troubles:** The potential for an Israel-Iran conflict poses significant risks for global trade, particularly in the **Red Sea region**, a vital shipping route for oil and goods. The Yemen-based Houthis have already escalated attacks on vessels in this area, threatening maritime security.

- ▶ A full-blown war would mean diverting the shipments through **Cape of Good Hope** to avoid attacks. Moreover, the blocking of the **Strait of Hormuz** through which India gets its LNG from Qatar and oil from Iraq and Saudi Arabia could be another challenge.
- ▶ Hormuz, located between **Oman and Iran**, connects the Persian Gulf with the Gulf of Oman and the Arabian Sea. Hormuz is the **world’s most important oil chokepoint** because large volumes of oil flow through the Strait.
- **Expensive oil:** Iran is a powerhouse in the global oil market as a key member of OPEC, and the recent missile strikes have spooked oil markets. Despite rising oil imports from Russia, India also depends on Middle East for oil and gas imports. The share of Middle Eastern oil in India’s August crude imports rose to 44.6% from 40.3% in July.
- ▶ **Iraq, Saudi Arabia, the UAE and Kuwait** are main Middle Eastern suppliers of oil to India.
- **Threatened IMEC Plan:** The Iran-Israel war could impede the progress of the India-Middle East-Europe Corridor (IMEC), which was announced last year during the G20 meeting in New Delhi.
- ▶ The IMEC plan comprises an Eastern Corridor connecting India to the Gulf region and a Northern Corridor connecting the Gulf region to Europe. It will include a railway and ship-rail transit network, as well as road transport routes.

(Table No. 01 on next page)

Comparative analysis of the military capabilities of Israel and Iran

	Iran's Missiles	Israel's Missile Defense Systems
<p>Military Strength</p>  <p>Source: Global Firepower Index 2024</p> <p>Network 18 creative</p>	<p>Iran boasts a larger military force, comprising 610,000 active personnel, 350,000 reservists, and 220,000 paramilitary forces.</p>	<p>Israel has 170,000 active military personnel, along with 465,000 reserves and 35,000 paramilitary forces.</p>
<p>Air power</p>  <p>Source: Global Firepower Index 2024</p> <p>Network 18 creative</p>	<p>Iran has a total of 551 aircraft, comprising 186 fighter jets and 129 helicopters, of which 13 are designated as attack helicopters</p>	<p>Israel operates 612 aircraft, including 241 fighter jets and 146 helicopters, with 48 classified as attack helicopters. Notably, Israel's air power includes 23 special-mission aircraft, enhancing its operational flexibility.</p>

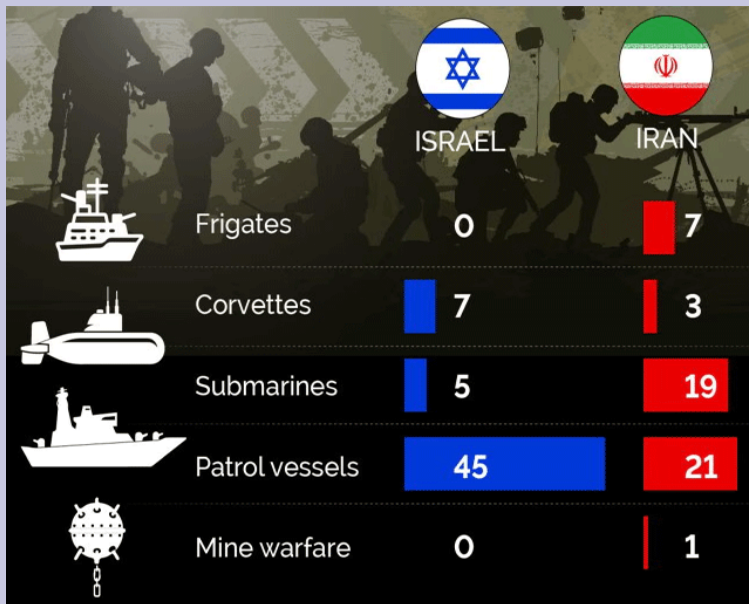
Land forces



Iran operates 1,996 tanks and a larger fleet of 65,765 armored vehicles.

Israel maintains 1,370 tanks and 43,407 armored vehicles, in addition to 650 self-propelled artillery units and 150 rocket artillery systems.

Naval capabilities



Iran has seven frigates and three submarines, along with 19 patrol vessels and one mine warfare vessel, showcasing a stronger naval presence in the region.

Israel's naval capabilities are relatively limited, with no frigates and five submarines, along with seven corvettes and 45 patrol vessels.

Important Missiles

- **Shahab-1:**
Range: 300 km
 - **Fateh Missile:**
Range: 300-500 km
 - **Shahab-2:**
Range: 500 km
 - **Zolfaghar:**
Range: 700 km
 - **Qiam-1:** Range: 750 km
 - **Shahab-3:**
Range: 2,000 km
- **Arrow System:**
Range: 2,000 to 2,400 km
 - ▶ **Altitude:** Up to 100 km (exosphere)
 - ▶ **Capabilities:** Designed to intercept ballistic missiles; among the most advanced in the world.

		<ul style="list-style-type: none"> ◦ David's Sling: Range: 300 km <ul style="list-style-type: none"> ▶ Altitude: Approximately 15 km ▶ Capabilities: Effective for intercepting medium-range threats. ◦ Iron Dome: Range: About 70 km <ul style="list-style-type: none"> ▶ Altitude: Up to 10 km ▶ Capabilities: Primarily designed for intercepting short-range rockets and artillery shells, less effective against ballistic missiles.
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Table No. 01

ASYMMETRICAL FEDERALISM AND TRIBAL AUTONOMY IN INDIA

CONTEXT

Climate activist Sonam Wangchuk is protesting for Ladakh's inclusion in the **Sixth Schedule of the Indian Constitution**. This movement echoes similar demands from Arunachal Pradesh and Manipur for greater autonomy and protections for tribal populations. These developments have sparked renewed discussions on **asymmetrical federalism** in India, as the **Fifth and Sixth Schedules** highlight the varying degrees of autonomy granted to different regions.

What is Asymmetrical Federalism?

- Asymmetrical federalism refers to a system where some states or regions enjoy greater autonomy and special provisions than others.
- Unlike symmetrical federations such as the United States or Australia, where all states hold the same powers, India's federalism allows for diverse arrangements tailored to specific historical and cultural CONTEXTs.
- This model is crucial for addressing the unique needs of tribal populations, particularly in northeastern India.
- Historical context of the Fifth and Sixth Schedules
- The roots of the **Fifth and Sixth Schedules** can be traced back to British colonial policies.
- Prior to British rule, tribal populations in India enjoyed significant autonomy over their ancestral lands and

customary laws.

- However, British forest policies and land regulations disrupted these traditional rights, leading to various tribal uprisings such as the **Kol rebellion (1831-32)**, **Santhal revolt (1885)**, **Munda Rebellion (1899-1900)** and **Bastar rebellion (1911)**.
- In response to growing discontent, the **Government of India Act, 1935**, established 'excluded' and 'partially excluded' areas, where legislative powers were vested in governors. These historical precedents laid the groundwork for the Fifth and Sixth Schedules in the Indian Constitution.
- **Fifth Schedule:** This schedule applies to 'scheduled areas' primarily inhabited by tribal populations.
 - ▶ The President of India can declare these areas based on criteria such as **tribal majority and economic backwardness**.
 - ▶ The Fifth Schedule grants specific powers to the Governor, including the regulation of land transfers and the establishment of **Tribes Advisory Councils (TAC)** to advise on welfare and advancement initiatives.
- **Sixth Schedule:** Applicable to 'tribal areas' in **Assam, Meghalaya, Mizoram, and Tripura**, the Sixth Schedule provides for the creation of **Autonomous District Councils (ADCs)**.
 - ▶ These councils have legislative powers to regulate land use, inheritance, and social customs, thereby ensuring a degree of self-governance for tribal populations.

- ▶ The ADCs can also manage local infrastructure and financial matters, which enhances local autonomy.

Special Provisions for Northeastern States

- Beyond the Fifth and Sixth Schedules, several northeastern states have special provisions under **Part XXI of the Constitution**.
- **Articles 371A to 371H** establish protections for local customs, governance structures, and responsibilities of state governors to promote development and maintain law and order.
- These are contained in Articles 371A (Nagaland), 371B (Assam), 371C (Manipur), 371F (Sikkim), 371G (Mizoram) and 371H (Arunachal Pradesh).

Need for Further Reforms

Despite the constitutional safeguards, challenges remain regarding the actual autonomy of Fifth and Sixth Schedule areas:

- **Limited Practical Autonomy:** The regulations made by governors in scheduled areas require approval from the Central government, which can undermine local governance. Political differences between parties at different levels can further complicate the situation.
- **Unnotified ST Habitations:** Many tribal habitations across India are not recognized as 'scheduled areas,' denying them constitutional protections and rights. A systematic effort to notify these areas is essential.
- **Pending Legislative Reforms:** The **125th Constitutional Amendment Bill (2019)**, aimed at enhancing the powers of ADCs, is still pending. Timely passage of this bill is crucial to empower local governance structures effectively.
- **Growing Demands for Inclusion:** Recent resolutions from state assemblies in Arunachal Pradesh and Manipur call for their inclusion in the Sixth Schedule, along with similar demands from Ladakh. Addressing these demands promptly is vital to protect tribal interests.
- **Forest Rights Recognition:** The implementation of the Forest Rights Act, 2006, should be ensured across the country, particularly in Fifth and Sixth Schedule areas, to recognize the traditional rights of tribal communities over forest lands.

INDIA'S SEWER AND SEPTIC TANK WORKERS: THE NAMASTE INITIATIVE

CONTEXT:

The Indian government has recently launched an ambitious initiative to profile and **support sewer and septic tank workers (SSWs)** across the country. This effort is part of the **NAMASTE programme**, which aims to mechanize sewer cleaning and prevent deaths associated with hazardous manual cleaning. Recent data reveals alarming statistics regarding the demographics of these workers, their conditions, and the need for systemic reforms in sanitation practices.

Key Findings

- **Demographics of Workers:** Over 38,000 workers have been profiled, with **91.9% belonging to Scheduled Castes (SC), Scheduled Tribes (ST), or Other Backward Classes (OBC)**. Specifically, 68.9% are SC, 14.7% are OBC, and 8.3% are ST.
 - ▶ The profiling is conducted by the **Ministry of Social Justice and Empowerment** and focuses on various roles related to sewer cleaning, including drivers and helpers as part of its NAMASTE programme.
- **Hazardous Conditions:** Between 2019 and 2023, at least 377 workers died while performing hazardous cleaning tasks. The **NAMASTE programme** seeks to address these safety issues by providing training and better equipment.
- **Current Status:** The profiling has been completed in twelve states and Union Territories, while others are still ongoing. The government estimates there are approximately 100,000 SSWs across India.
- **Economic Support:** Since the program's inception, capital subsidies of Rs 2.26 crore have been disbursed to 191 beneficiaries for self-employment projects.

Causes of the Issue

- **Historical Discrimination:** Sanitation work in India is locked in with caste and carries social stigma. The majority of SSWs belong to marginalized communities highlights deep-rooted caste-based inequalities in access to better employment opportunities.
- **Inadequate Mechanization:** The lack of mechanized solutions for sewer cleaning has perpetuated hazardous working conditions, forcing workers to rely on manual methods that pose significant health risks.

Need to focus on SSWs

- The Union government's rationale is that manual scavenging as a practice has ended across the country and what needs to be fixed now is the **hazardous cleaning of sewers and septic tanks**.
- It draws this distinction based on a technical difference in how manual scavenging and hazardous cleaning are defined in the **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act**.
- The NAMASTE programme targets "workers directly associated with sewer and septic tank cleaning including drivers of desludging vehicles, helpers, machine operators and cleaners".
- There are 100 core sanitation workers for an urban population of five lakh. As of 2021, there are likely to be one lakh SSWs employed by India's 4,800 ULBs.

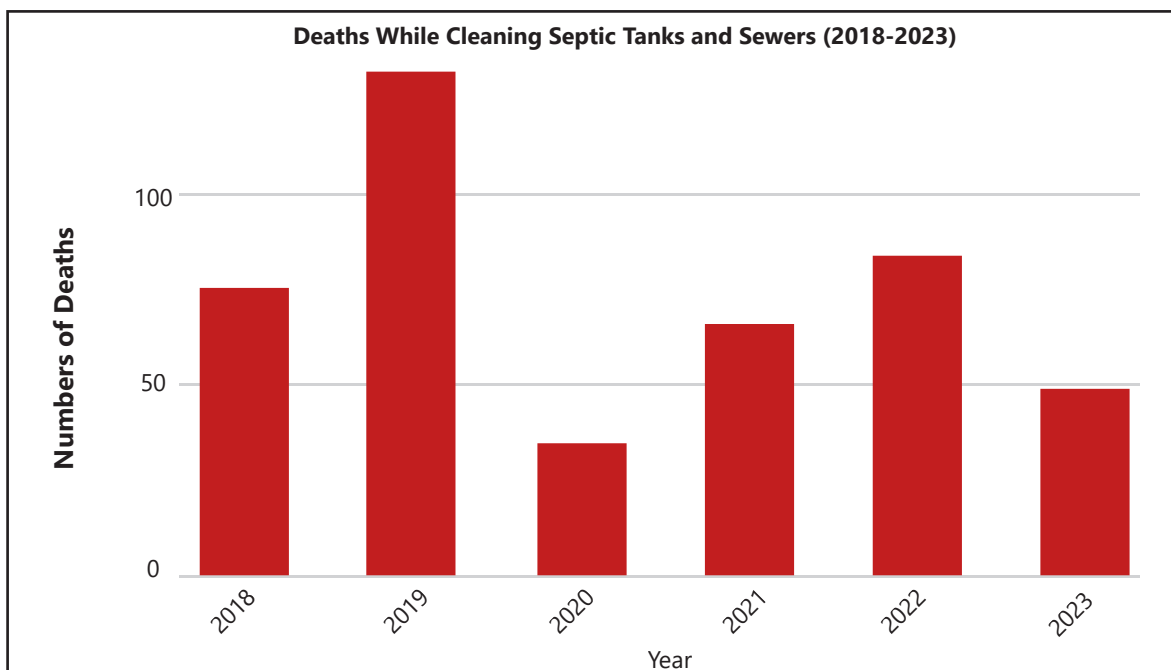


Figure No. 05



FACT BOX

About NAMASTE Scheme

- The **National Action for Mechanized Sanitation Ecosystem (NAMASTE) Scheme** is a testament to the Government's human-centric approach where no sanitation workers have to manually engage in the hazardous task of sewer and septic tank cleaning operations.
- NAMASTE programme is a scheme to mechanise all sewer work and prevent deaths due to hazardous cleaning work.
- It is jointly initiated by the **Ministry of Social Justice and Empowerment and the Ministry of Housing and Urban Affairs**.
- **Implementing Agency:** National Safai Karamcharis Finance and Development Corporation (NSKFDC)
- The components of the scheme include:
 - ▶ **Profiling of SSWs** in ULBs through digital tools (1 lakh SSW to be identified).
 - ▶ **Health Insurance** of SSW under PM-JAY.
 - ▶ **Occupational safety training** of SSWs and Sanitation Response Units for NAMASTE.
 - ▶ **Capital Subsidy** up to Rs 5 lakh for procurement of Sanitation Related Vehicles/ Equipment.
 - ▶ **Distribution of PPE** to SSWs.
 - ▶ **Distribution of safety devices to Emergency Response Sanitation Unit (ERSU).**
 - ▶ **IEC Campaign** for awareness on SSW safety and dignity.

- In 2023-24, this scheme was brought in to replace the **Self-Employment Scheme for Rehabilitation of Manual Scavengers (SRMS)**.

Key-Legislations

- In 1993, India introduced the **The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993**, outlawing manual scavenging. But only on paper.
- In 2013, The **"Prohibition of Employment as Manual Scavengers and their Rehabilitation Act"** expanded the scope of the 1993 legislation and called for rehabilitation of those employed in the hazardous cleaning of sewers, septic tanks and other kinds of insanitary latrines.
 - ▶ Any person or agency who engages any person for manual scavenging in violation of the provisions of the MS Act, 2013 is punishable under Section 8 of the above Act, with imprisonment up to 2 years or fine up to Rs. One Lakh or both.

URBAN CONSUMPTION AND ITS IMPACT ON INDIA'S ECONOMY

CONTEXT

The **Finance Ministry's recent economic review** has flagged signs of **weakening urban consumption**, prompting the need for close monitoring. While India's economic momentum remains robust, driven by domestic consumption and investment, this development raises critical questions about the broader implications for the economy.

What is Urban Consumption?

- Urban consumption refers to the total goods and services consumed by individuals and households living in urban areas.
- It encompasses various expenditures, including food, housing, transportation, healthcare, and entertainment.
- As urban areas tend to have higher disposable incomes and access to diverse goods and services, urban consumption plays a vital role in driving economic growth.

Importance of Consumption in the Economy

Consumption is a key component of Gross Domestic Product (GDP), typically accounting for a significant portion of overall economic activity. Here's how it impacts the economy:

- Economic Growth:** Increased consumption drives demand for goods and services, stimulating production and, consequently, economic growth. Businesses respond to higher demand by expanding operations, which can lead to job creation.
- Investment Decisions:** Strong consumer spending signals businesses to invest in capacity expansion, thereby enhancing productivity and innovation.
- Government Revenues:** Higher consumption translates to increased sales tax and other revenue streams for the government, allowing for more public spending on infrastructure and services.
- Business Confidence:** Healthy consumption levels boost investor and business confidence, encouraging long-term investments.

Current Economic Landscape

The Finance Ministry's report indicates a concerning trend in urban consumption, particularly evident in the following areas:

- Lower Capital Expenditure:** States have reduced their capital expenditures, which can slow down infrastructure development and economic activity.
- Moderation in Passenger Vehicle Sales:** A decline in vehicle sales, coupled with rising inventory levels, suggests that consumers are becoming more cautious in their spending. This trend may indicate potential weaknesses in urban consumption patterns.

While these signs warrant monitoring, the ministry remains optimistic about the overall economic outlook for 2024-25. It maintains a real GDP growth projection of 6.5% to 7%, buoyed by robust domestic consumption and investment.

External Economic Factors

The ministry highlights several external factors influencing India's economic landscape:

- Global Economic Uncertainties:** The continuing uncertainty in global economic prospects poses challenges, including fears of recession in advanced economies and geopolitical conflicts.

- Low Oil Prices:** Although low oil prices benefit India by reducing import bills, they come amidst potential corrections in booming stock markets worldwide, which could have spillover effects on the Indian economy.

Inflation and Agricultural Outlook

- Inflation remains stable at 3.7% as of August, supported by benign core inflation and favorable monsoon conditions.
- Adequate reservoir levels are expected to boost rabi crop outputs, which will further strengthen rural incomes and demand.
- However, uneven rainfall could affect agricultural productivity in some regions.

SEBI'S NEW RULES FOR F&O TRADING

CONTEXT

Securities and Exchange Board of India (SEBI) has announced new measures to strengthen the framework for **index derivatives trading** in India. These changes aim to protect small investors and enhance market stability, especially amid rising concerns about speculative trading practices.

Key Changes in Derivative Trading

- Reduction of Weekly Expiries:** The number of weekly expiries for index derivative contracts will be reduced to one per benchmark index per exchange. Currently, exchanges offer 18 weekly contracts each month. This change aims to curb speculative trading and reduce risks from uncovered options.
- Increased Contract Sizes:** The minimum trading amount for derivatives will rise from Rs 5-10 lakh to Rs 15 lakh. This increase is intended to ensure that investors are taking on appropriate risks in the derivatives market. In the future, the contract value may further adjust to between Rs 15 lakh and Rs 20 lakh.
- Higher Margin Requirements:** To address volatility on expiry days, Sebi will introduce an additional extreme loss margin (ELM) of 2% for all open short options on expiry day. This measure is designed to protect investors from severe market fluctuations during busy trading sessions.
- Upfront Collection of Premiums:** From February 1, 2025, brokers must collect option premiums upfront. This shift discourages excessive intraday leverage, ensuring that investors have sufficient collateral to cover their positions.
- Removal of Calendar Spread Benefits:** The practice of calendar spreads—offsetting positions across different expiries—will be eliminated for contracts expiring on the same day. This aims to reduce speculative trading, particularly on expiry days.
- Intraday Monitoring of Position Limits:** Effective April 1, 2025, stock exchanges will begin monitoring position limits for equity index derivatives multiple times

throughout the trading day. This change helps ensure that traders do not exceed permissible limits without detection.

Impact on Retail Investors

- **Curbing Speculation:** The increase in contract sizes is expected to deter speculative trading, especially among smaller retail investors who may not have the financial capacity to manage larger losses.
- **Lower Participation in Options Trading:** The reduction in weekly expiries and the elimination of calendar spread benefits may lead to decreased retail participation in options trading. Analysts believe this could stabilize the market by reducing high-frequency trading and speculation.
- **Gradual Implementation for Stability:** The phased rollout of these measures allows the market to adjust gradually, preventing sudden shocks and fostering a healthier trading environment.
- **Reassessing Trading Strategies:** Retail investors will need to rethink their trading strategies, particularly regarding rollover timing and margin management in light of these new rules.



FACT BOX

About Futures and Options Trading

- Derivatives are essentially financial contracts that derive their value from the underlying asset, such as **stocks, commodities, and currencies** at a specified future date.
- Futures and Options (F&O) or derivative trading refers to trading in financial contracts that derive their value from an underlying asset, such as **stocks, commodities, or indices**.
- Derivative contracts are of two types - futures and options.
 - ▶ **Futures:** A futures contract is an agreement to buy or sell an asset at a predetermined price on a specific date in the future.
 - ◆ **For example,** if you enter a futures contract to buy a stock at Rs 100 in one month, you are obligated to buy that stock at that price, regardless of its market value at that time.
 - ▶ **Options:** An options contract gives the buyer the right, but not the obligation, to buy or sell an asset at a specific price before or on a certain date. There are two types:
 - ◆ **Call Option:** Gives the right to buy.
 - ◆ **Put Option:** Gives the right to sell.
 - ◆ **For instance,** if you buy a call option for a stock at Rs 100, you can choose to buy the stock at that price anytime before the option expires.

MIDDLE-INCOME TRAP

CONTEXT

The World Bank's annual thematic report, the **World Development Report (WDR)**, has this year focused on the concept of the **middle-income (MI) trap**. The report states that it would take us nearly 75 years to set foot outside the threshold of the middle-income trap, our economy is currently embroiled in.

What is a Middle-Income Economy?

- Since 1987, the World Bank has classified economies into four income categories:
 - ▶ High income (HI)
 - ▶ Upper middle income
 - ▶ Lower middle income
 - ▶ Low income
- Over 35 years, the number of HI countries has doubled from 41 to 86, while low-income countries have decreased from 49 to 26.
- The number of MI countries, however, has increased from 74 to 108. As of 2022, HI countries make up 16% of the world population but account for 60% of global GDP.

As of now, 108 countries are classified as middle-income economies, comprising 75% of the global population and contribute about 38% of global GDP.

Distinctions between high-income-level countries to those of low/middle income countries.

High income	Low/Middle income
Population lower than 250 million	Population higher than 250 million
Lowering debt	Rising debt
Increase in free trade	Growing protectionism
High energy security	Energy transition
Capital intensive	Labor intensive

What is Middle-Income Trap?

- A middle-income trap (MIT) is a situation in which **middle-income countries** are unable to transition to a high-income economy for a sustained period of time.
- In simple terms, the MI trap refers to a phenomenon where countries reach a certain GDP per capita threshold (about 11% of the U.S. GDP per capita) but struggle to progress to high-income status.
- Rapid growth, closely followed by a period of economic downturn, is indicative of an MIT.
- According to the WDR, only 34 economies have successfully made this transition in the last 35 years.

India's condition

- India transitioned from a low-income to a lower-middle-income economy in 2007.
- With a per capita income of \$2,400 in 2022, India represents about 3.1% of U.S. per capita income (\$76,590).
- As of June 2024, India's external debt reached \$663.8 billion, a \$39.7 billion increase from March 2023. The central government's internal debt was estimated at approximately ₹131 trillion, up from ₹99 trillion in 2021.
- The systemic slowdown in economic growth characteristic of the MI trap has persisted since 1970, with middle-income countries failing to surpass one-tenth of the U.S. GDP per capita.
- **Factors Keeping Countries in the MI Trap:** Despite understanding the components necessary for a developed economy—like strong macroeconomic foundations and governance—many middle-income countries struggle to escape the MI trap.
- **Research highlights several contributing factors, including:**
 - ▶ Volatile economic growth
 - ▶ Slowing productivity
 - ▶ Undervalued exchange rates
 - ▶ Weakening institutions
 - ▶ Difficulty in channeling technological innovations
 - ▶ Reduction in labour participation
 - ▶ Income inequalities
- As these countries transition from low to middle-income status, they often face diminishing returns on investment, hindering further growth.

What are the solutions to escape the MI Trap?

- The WDR suggests that middle-income countries need to adopt new strategies, termed the "three Is": **investment, infusion, and innovation**. This approach outlines two crucial transitions:
 - ▶ **Investment and Infusion:** Lower-middle-income countries should focus on investment while imitating and diffusing modern technologies.
 - ▶ **Innovation:** Upper-middle-income countries should integrate innovation into their growth strategies to become modern tech leaders.
- Japan and South Korea exemplify these transitions, initially licensing technologies from industry leaders before evolving into technology innovators. The report also cites Eastern European nations like Estonia, Poland, and Bulgaria, which have managed their transitions at different paces.

Lessons for India

- While the potential for development is high, India must acknowledge the challenges ahead. Currently, there is no clear policy roadmap to becoming a developed nation.
- The WDR emphasizes the need for humility and agility, as it could take India nearly 75 years to reach even a quarter of U.S. GDP at current trends.
- To break past the middle-income threshold, macroeconomic indicators like **TFP (Total Factor Productivity), Gross national income (GNI), capital investments, and research and development (R&D)** must be prioritised.



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SECTION - B

QUICK BYTES

NEPAL FLOODS

CONTEXT

Recent torrential monsoon rains in Nepal have resulted in devastating floods, claiming the lives of over 200 people. This alarming situation highlights the dual nature of the South Asian monsoon—vital for agriculture and livelihoods but also a catalyst for destruction through floods and landslides.

What is the South Asian Monsoon?

- The Southwest or Asian Summer Monsoon is a significant meteorological phenomenon that delivers 70-80% of South Asia's annual rainfall from June to September.
- This system occurs when the **intense summer heat warms the landmass of the Indian subcontinent**, causing the **air to rise and draw in cooler winds from the Indian Ocean**.
- The result is substantial rainfall that is essential for millions of farmers and food security in a region home to approximately two billion people.
- However, the monsoon's unpredictable nature often leads to catastrophic events.
- **Challenges in Forecasting the Monsoon:** Despite extensive research, predicting the monsoon remains a complex challenge. The variability in rainfall timing and distribution complicates forecasting efforts.
 - ▶ **For instance**, while Pakistan has experienced severe flooding this season, parts of eastern and northeastern India reported the lowest July rainfall in 122 years.

Factors responsible for altering rainfall pattern:

- ▶ Factors influencing monsoon behavior include global atmospheric and oceanic conditions, such as the **El Niño effect and the Equatorial Indian Ocean Oscillation (EQUINOO)**.
- ▶ **Local influences**, like **aerosol pollution and dust clouds** from the Sahara, also play a role in altering rainfall patterns.
- ▶ **Climate change** is increasingly affecting the South Asian monsoon. The region has experienced rising temperatures and more frequent cyclones, yet the precise impact of climate change on the monsoon is still unclear.

MONSOON 2024 ENDS WITH ABOVE NORMAL RAINFALL

CONTEXT

India's monsoon season concluded, with the country receiving 8% above-normal rainfall for the June-September period, according to the **India Meteorological Department (IMD)**.

Performance

- **Rainfall Statistics:** The all-India cumulative rainfall from June to September stood at 935 mm, which is 8% above the normal rainfall of 870 mm. This surplus indicates a strong monsoon season, significantly benefiting agricultural productivity.
- **Soil Moisture Conditions:** According to the agriculture department, root zone soil moisture levels were either better than or comparable to the average of the past nine years in several key states, including Karnataka, Andhra Pradesh, Tamil Nadu, Telangana, Gujarat, Rajasthan, Uttar Pradesh, most parts of Madhya Pradesh, Chhattisgarh,

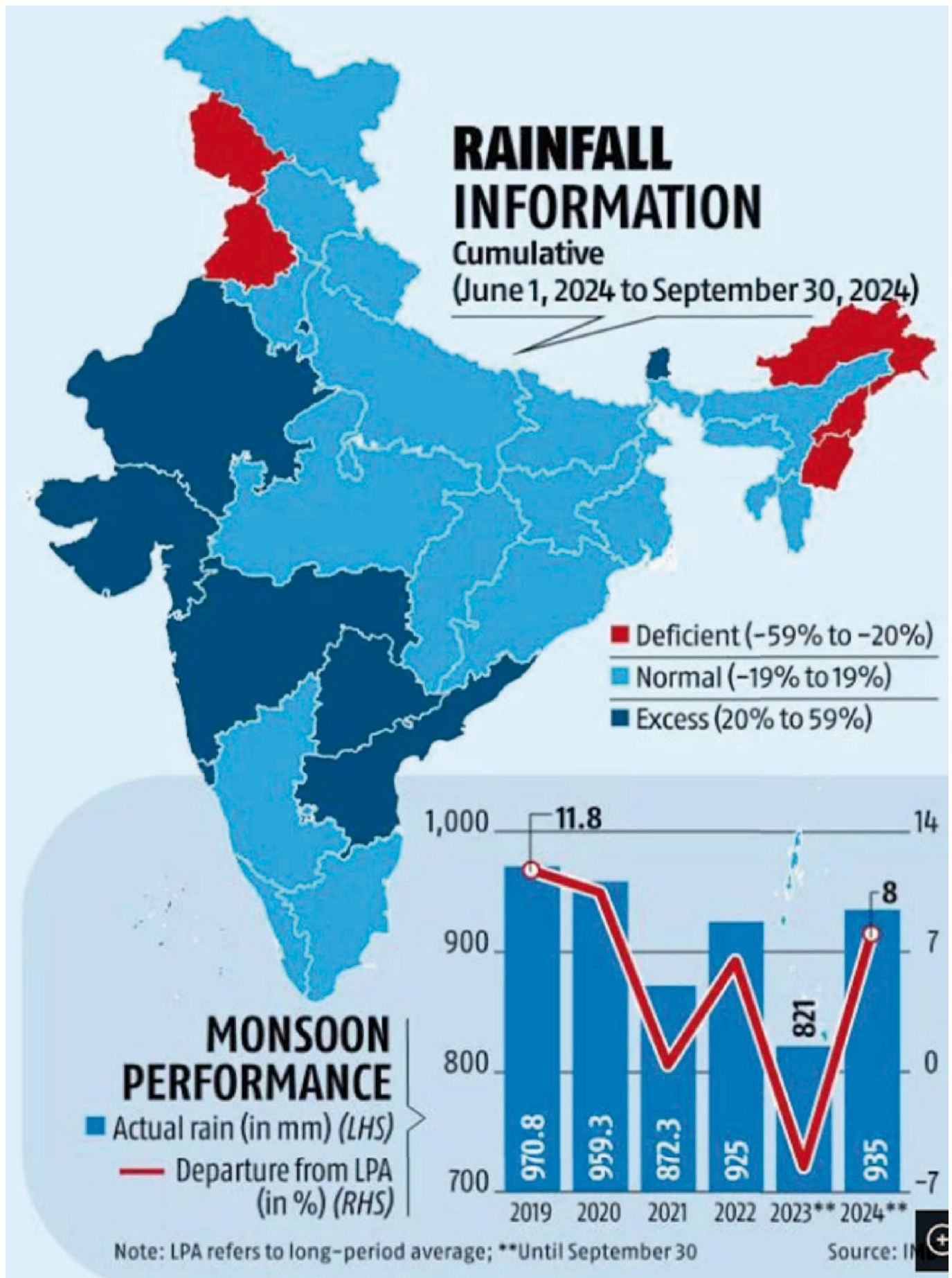


Figure No. 06

Punjab, and southern Haryana.

- **Regional Variations:** However, soil moisture levels were found to be below the nine-year average in northern Bihar, certain areas of Jharkhand, and northern West Bengal, highlighting regional disparities in moisture availability.
- There were 69 low-pressure days this season, compared to the normal of 55.
- Fourteen low-pressure systems formed, and six of these intensified into depressions, against a normal of 5-6.
- The **Madden Julian Oscillation**, an eastward-moving system of rain-bearing winds and clouds, stayed in a favourable phase longer than usual, sustaining active monsoon conditions.

About Indian Summer Monsoon

- The monsoon season brings in 75% of India’s annual rainfall, watering crops, filling reservoirs, and driving the bulk of India’s economy.
- June and July are critical months for planting kharif crops like **rice, pulses, oilseeds, and cotton.**

- The Indian Summer Monsoon (Southwest Monsoon) is caused by the differential heating of land and water.
- In summer, the Asian land mass heated up to form a low-pressure system, which attracted winds from the Arabian sea and Bay of Bengal, which were at lower temperatures and thus high-pressure systems.

Energetics theory of the monsoon:

- ▶ **Solar Radiation and Temperature Differences:** The tilt of the Earth’s axis leads to varying solar radiation across the globe. During summer in the northern hemisphere, land masses, especially over India and Central Asia, absorb more heat than surrounding oceans, resulting in a significant **temperature gradient.**
- ▶ **Development of Low Pressure:** The intense heating over the land creates a **low-pressure zone.** Warm air rises, leading to a reduction in atmospheric pressure at the surface. This contrasts with the relatively cooler, high-pressure regions over the oceans.
- ▶ **Shifting ITCZ:** The **intertropical convergence zone (ITCZ)**, which is a band of low pressure near the

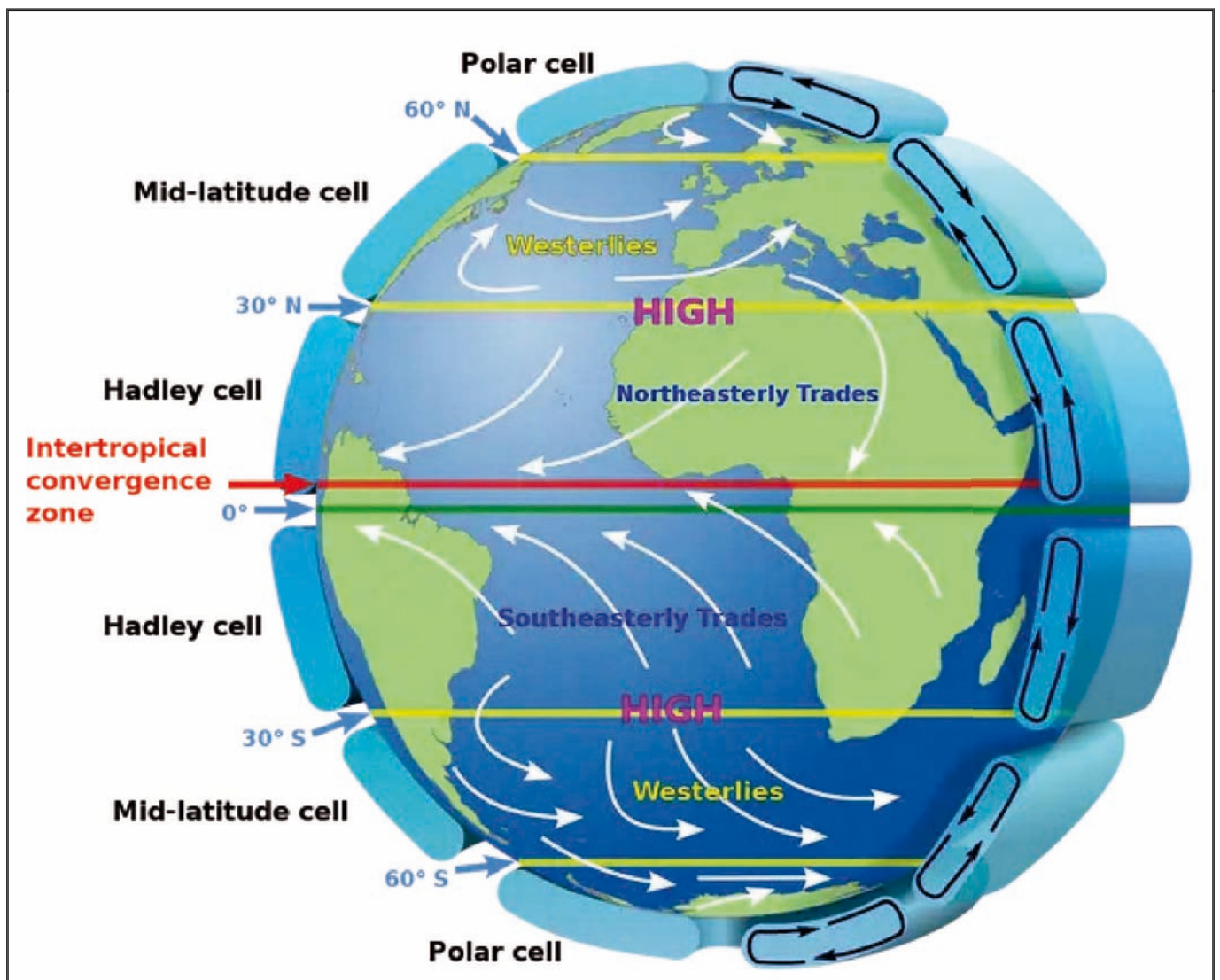


Figure No. 07

equator where trade winds meet, shifts northward during this period. This movement is crucial as it brings moist air from the oceans toward the land.

- ▶ **Moisture and Rainfall:** As the ITCZ moves north and the southeast and northeast trade winds converge, they bring moisture-laden air over the Indian subcontinent. When this air rises due to the low pressure, it cools and condenses, resulting in heavy rainfall characteristic of the monsoon season.
- **Impact of the Coriolis Effect:** As the southeast trade winds cross the Equator, they are influenced by the Coriolis effect, which causes them to deflect towards the east. This deflection alters their path, resulting in the winds blowing from the southwest toward India. As these winds travel over the warm waters of the Arabian Sea, they pick up significant moisture, making them a vital source of precipitation for the region.
- **Arms of Southwest Monsoon:** When the moist southwest trade winds reach the Indian peninsula, they trigger the onset of the southwest or Indian summer monsoon. The winds split into two distinct arms:
 - ▶ **Arabian Sea Arm:** This arm travels over the Arabian Sea and brings heavy rainfall to India's western coast, affecting states like Gujarat, Maharashtra, and Kerala.
 - ▶ **Bay of Bengal Arm:** The other arm moves over the Bay of Bengal, striking the eastern coast of India and delivering rain to regions such as West Bengal and the southern slopes of the Shillong Plateau.
- Factors such as **ocean temperatures, land-sea contrasts**, and even global phenomena like **El Niño** can influence the monsoon's strength and duration.

PARBATI-KALISINDH-CHAMBAL RIVER LINKING PROJECT

CONTEXT

A recent meeting between Rajasthan and Madhya Pradesh Chief Ministers addressed the implementation of the **Parbati-Kalisindh-Chambal river linking project**, which aims to resolve a long-standing dispute between Madhya Pradesh and Rajasthan.

What is the PKC link project?

- The Parbati-Kalisindh-Chambal (PKC) link project is one of the 30 links included in the National Perspectives Plan formulated by the erstwhile **Union Ministry of Irrigation** (now **Ministry of Water Resources**) and the **Central Water Commission** in the year 1980.
- As per the National Water Development Agency (NWDA), the preliminary feasibility report of the Kalisindh-Chambal link canal project was prepared and circulated to the states concerned in September 1991.

- ▶ The report proposed diversion of water from river **Newaj** (a tributary of Kalisindh) and Kalisindh to the river Chambal at either the **Rana Pratap Sagar dam** or the **Gandhi Sagar dam**.
- Rajasthan came up with the proposal of the ERCP in 2019, and to utilise water resources optimally, the **Task Force for Interlinking of Rivers (TFILR)** discussed its merger with the PKC link project.
- This integration was approved by the Special Committee for Interlinking of Rivers in December 2022.
- **Modified PKC-ERCP:** The **Modified Parbati-Kalisindh-Chambal-ERCP (Modified PKC-ERCP) Link Project** is an inter-state river linking project.
 - ▶ Preparations for a Detailed Project Report (DPR) on this are on.

Based on the outcome of the DPR, a Memorandum of Agreement (MoA) will be finalised among Rajasthan, Madhya Pradesh, and the Centre, covering the sharing of water, exchange of water, sharing of costs and benefits, implementation mechanisms, arrangements for management and control of water in the Chambal basin, etc.

Eastern Rajasthan Canal Project (ERCP)

- ERCP is aimed at **intra-basin transfer of water** within the **Chambal basin**, by utilising surplus monsoon water available in **Kalisindh, Parvati, Mej and Chakan subbasins** and diverting it into water deficit sub-basins of **Banas, Gambhiri, Banganga and Parbati**.
- This will provide drinking and industrial water to 13 districts of eastern Rajasthan, namely **Alwar, Bharatpur, Dholpur, Karauli, Sawai-Madhopur, Dausa, Jaipur, Ajmer, Tonk, Bundi, Kota, Baran, and Jhalawar**.



FACT BOX

About Chambal River

- **Origin:** Janapav, south of Mhowtown, near Manpur Indore, on the south slope of the Vindhya Range in Madhya Pradesh.
- It flows through three states: **Madhya Pradesh, Rajasthan and Uttar Pradesh**
- The **river flows north-northeast** through Madhya Pradesh, running for a time through Rajasthan, then forming the boundary between Rajasthan and Madhya Pradesh before turning southeast to join the Yamuna in Uttar Pradesh state.
- **Tributaries:** KShipra, Choti Kalisindh, Sivanna, Retam, Ansar, Kalisindh, Banas, Parbati, Seep, Kuwari, Kuno, Alnia, Mej, Chakan, Parwati, Chamla, Gambhir, Lakhunder, Khan, Bangeri, Kedel and Teelar.
- The Chambal river valley is part of the **Vindhyan system**.

BALTIMORE BRIDGE

CONTEXT

The United States Justice Department filed USD 100 million claim over **Baltimore Bridge collapse**.

About the Bridge

- Baltimore's Francis Scott Key Bridge collapsed after a container ship smashed into a pylon.
- The Francis Scott Key Bridge was one of three ways to cross the Baltimore Harbor and handled 31,000 cars per day or 11.3 million vehicles a year.
- The steel structure is four lanes wide and sits 185 feet (56 meters) above the river.
- It opened in 1977 and crosses the Patapsco River.
- The bridge leads to the **Port of Baltimore**, the **deepest harbor in Maryland's Chesapeake Bay**.
- **Reason behind the collapse:** The metal truss-style bridge has a suspended deck, a design that contributed to its collapse. The ship appeared to hit a main concrete pier, which rests on soil underwater and is part of the foundation.

INDIA ELECTED TO GLOBE NETWORK STEERING COMMITTEE

CONTEXT

India has been elected to the fifteen-member steering committee of the **Globe Network** following a multi-stage voting process during a plenary session in Beijing.

What is GlobE Network?

- The **Global Operational Network of Anti-Corruption Law Enforcement Authorities (GlobE Network)** is an initiative launched under the **G20 framework** to address international corruption and financial crime.
- India's election to the steering committee will allow it to actively contribute to global efforts in combating corruption and facilitating asset recovery.
- The GlobE Network provides a platform for international cooperation, enhancing the ability of member countries to address cross-border corruption and financial crime.
 - ▶ India has been a supporter of this initiative since 2020, with the network officially launched on June 3, 2021, during a UN General Assembly Special Session against Corruption (UNGASS).
- The network enables global agencies to exchange best practices, share criminal intelligence, and devise strategies to combat corruption.
- It is led by a **chair, vice-chair, and thirteen committee members** who provide guidance to the organization.
- Today, the GlobE Network includes 121 member countries and 219 member authorities.

- The **Ministry of Home Affairs (MHA)** serves as the **Central Authority for GlobE Network in India**, while the **CBI and Enforcement Directorate (ED)** represent India as member authorities.
- During India's G20 Presidency in 2023, two key principles for combating corruption were adopted, focusing on the use of the GlobE Network to further global anti-corruption efforts.



FACT BOX

Key measures taken by Government to combat corruption:

- **Direct Benefit Transfer:** Welfare benefits are disbursed directly to citizens through a transparent mechanism to minimize corruption.
- **E-Tendering:** Public procurement processes have been digitized to enhance transparency and competition.
- **E-Governance:** Simplification of procedures and systems to make government services more accessible and transparent.
- **Discontinuation of Interviews:** Interviews for Group 'B' and 'C' posts have been eliminated to reduce bias and corruption in recruitment.
- **Prevention of Corruption Act 1988:** The Act was amended in 2018 to criminalize bribery and impose vicarious liability on senior management in organizations, targeting high-level corruption.
- **Central Vigilance Commission:** The CVC has recommended adopting Integrity Pacts in major procurement to ensure integrity and prompt investigations of misconduct.
- **Lokpal:** The Lokpal has been established to directly handle complaints against public servants, enhancing accountability under the Prevention of Corruption Act, 1988.

SWACHH BHARAT MISSION- URBAN 2.0

CONTEXT

Under the Swachh Bharat Mission-Urban 2.0 (SBM Urban 2.0), several cities across India are transforming cleared legacy landfill sites into valuable community spaces.

Current state

- Launched in 2021, the mission aims to remediate all legacy landfills in the country by 2025-2026.
- With 2,421 legacy landfills identified, significant progress has already been made: 474 sites have been remediated, reclaiming approximately 2,617.38 acres of land.

- Cities that have successfully cleared these sites are now creatively repurposing the land, paving the way for new parks, transportation hubs, and other community facilities.
- **Noteworthy examples of how different cities are utilizing reclaimed land:**
 - ▶ **Ahmedabad:** In Ahmedabad, 4.3 acres of land previously occupied by 230,000 tonnes of waste at the Bopal Ghuma dumpsite have been successfully remediated.
 - ◆ The project cost Rs. 4.17 crore, and an additional Rs. 8 crore has been allocated for the redevelopment of this area into an ecological park.
 - ◆ The Ahmedabad Municipal Corporation now maintains this green space. Work is ongoing at the larger Pirana landfill, which spans 84 acres, with 54% of the land already cleared.
 - ▶ **Nagpur:** Nagpur has also made significant strides, completely clearing its 35-acre legacy landfill, which held 1 million metric tonnes of waste.
 - ◆ The cleared site will serve as an integrated waste management project.
 - ◆ The bioremediation process not only removed the waste but also generated refuse-derived fuel and manure, which are being sold, contributing to the city's sustainability efforts.
 - ▶ **Pune:** In Pune, the Vanaz landfill has been repurposed as a depot for the city's Metro Rail project. Approximately 3.7 million tonnes of waste have been remediated, clearing 75 acres of land. The site, now known as the **Hill View Park Car Depot**, is integral to the Pune Metro initiative.
 - ▶ **Lucknow:** Lucknow's Ghaila landfill, which spanned 72 acres and contained 800,000 tonnes of waste, has also been transformed.
 - ◆ The site is being developed into the **Rashtriya Prerna Sthal park**, featuring statues of notable leaders such as former **Prime Minister Atal Bihari Vajpayee and Syama Prasad Mookerjee**.
 - ◆ In addition to the statues, the park will include facilities like a 3,000-capacity open-air theatre and exhibition spaces, enhancing community engagement and recreation.



FACT BOX

Swachh Bharat Mission (SBM-U) 2.0

- Swachh Bharat Mission (SBM-U) 2.0 has been launched on October 1, 2021 for a period of five years with a vision of achieving **Garbage Free Status** for all cities through 100% source segregation, door to door collection and scientific management of all fractions of waste including safe disposal in scientific landfills.
- The goal of the 'Swachh Bharat Mission Urban 2.0' is to make a garbage - free city, a city completely free of garbage.

CLAUSE 6 OF THE ASSAM ACCORD

CONTEXT

The Assam government has recently recognized 1951 as the cut-off year for implementing key recommendations from the **Justice (Retd) Biplab Sharma Committee** concerning **Clause 6 of the Assam Accord**. This decision follows discussions aimed at enhancing protections for the indigenous people of Assam and marks a significant step in addressing long-standing demands for safeguarding cultural and linguistic rights.

What is the Assam Accord?

- The Assam Accord, signed in 1985, seeks to protect the political, cultural, and economic rights of the Assamese people.
- **Clause 6** specifically mandates constitutional safeguards to promote and preserve the identity and heritage of Assam's indigenous populations.
- **Justice Biplab Sharma Committee:** Established in 2019, the committee aimed to explore effective ways to implement Clause 6. It emphasized identifying "Assamese People" based on roots established before January 1, 1951, a reference linked to historical census data used for the **National Register of Citizens (NRC)**.
- **Significance of the 1951 Cut-Off Year:** The selection of 1951 as a cut-off year aligns with the definition of indigenous populations identified in the 1951 census.
 - ▶ This approach is intended to establish clear criteria for recognizing who qualifies as an "Assamese" for various protections, although it is specified that this criterion will not impact areas such as voting or employment.

Key Recommendations and Implementation

The government has begun implementing 52 recommendations from the committee, including:

- **Land Rights:** Designation of restricted land ownership for "Assamese people" and a program for granting land titles to long-time occupants.
- **Language Policy:** Assamese will be maintained as the official language, with compulsory teaching in schools, alongside provisions for regional languages.
- **Cultural Heritage:** Establishment of an authority for the development of cultural sites and support for preserving indigenous cultural practices.

However, some proposals, such as introducing an **Inner Line Permit (ILP)** and significant **reservations for Assamese people** in political and employment spheres, have not been adopted

PM SURYA GHAR: MUFT BIJLI YOJANA (PMSY)

CONTEXT

The Indian government has recently launched the **PM Surya Ghar: Muft Bijli Yojana (PMSY)**, a significant initiative aimed at promoting rooftop solar energy across the country. With a budget of Rs 75,000 crore, the scheme seeks to address rising electricity costs, reduce reliance on financially struggling electricity distribution companies, and enhance the adoption of clean energy solutions among households.

Key Highlights

- As of August 2024, Gujarat leads the rooftop solar race with 4,195 MW installed capacity, followed by Maharashtra (2,487 MW) and Rajasthan (1,269 MW), contributing to India's total RTS capacity of 13,889 MW.
- Despite Gujarat's dominance, Assam surprised analysts by leading PMSY applications with 2.23 lakh, followed by Gujarat (2.1 lakh) and Maharashtra (1.9 lakh).
- However, the promise of **"zero electricity bills"** isn't guaranteed for everyone.
 - About 90 per cent of applicants are availing loans for installations, with many opting for systems larger than the subsidised 3 kW, which incurs charges for usage above 300 units.

About the Scheme

- PM Surya Ghar: Muft Bijli Yojana is a Rs 75,000 crore initiative designed to install one crore rooftop solar systems nationwide.
- Subsidy Structure:** The scheme offers substantial subsidies—60% for solar units up to 2 kW and 40% for systems between 2-3 kW, capped at a maximum capacity of 3 kW.
 - 60% subsidy** for systems up to **2 kW**.
 - 40% subsidy** for systems between **2-3 kW**.
 - Maximum capacity for subsidies is capped at **3 kW**.
 - Financial support translates to up to **Rs 78,000** for larger installations.
- PMSY aims to transform household energy consumption by promoting the installation of rooftop solar systems. The key features of the scheme include:
 - Household Empowerment:** The PMSY envisions households becoming independent power producers, potentially generating their own electricity while remaining connected to the grid.
 - Regional Insights:** Gujarat's prior initiatives, like the Surya Gujarat scheme, have significantly influenced current success in rooftop solar capacity, while states like Assam are showing unexpected leadership in applications.
 - Financial Implications:** Despite expectations for reduced electricity bills, consumers face fixed grid charges and may incur costs for excess usage beyond the subsidised limits. The scheme encourages long-term savings and sustainability through clean energy.

DHARTI AABA JANJATIYA GRAM UTKARSH ABHIYAN

CONTEXT

Prime Minister Shri Narendra Modi launched the Dharti Aaba Janjatiya Gram Utkarsh Abhiyan (DAJGUA).

What is Dharti Aaba Janjatiya Gram Utkarsh Abhiyan (DAJGUA)?

- Dharti Aaba Janjatiya Gram Utkarsh Abhiyan, named after tribal icon **Birsa Munda**, aims to attain saturation of critical gaps in social infrastructure, health, education, livelihood, through 25 interventions implemented by various 17 Ministries and Departments of Government of India.
- Coverage:** The Abhiyan will cover around 63,843 villages benefitting more than 5 crore tribal people in 549 districts and 2,911 blocks spread across all tribal majority villages and aspirational blocks in 30 States/UTs.
- It has been planned based on the learning and success of **PM-JANMAN**, which was launched by the **Prime Minister on Janjatiya Gaurav Divas** on 15th November, 2023.
- With a budget outlay of Rs. 24,104 crores, the scheme focuses on the Particularly Vulnerable Tribal Groups (PVTG) population.

About PM-JANMAN

- PM-JANMAN is aimed at addressing the needs of Particularly Vulnerable Tribal Groups (PVTGs) across India, making it the largest Central scheme targeted at tribal communities in terms of financial outlay.
- The scheme will focus on various essential facilities including:
 - Housing:** Approximately 4.9 lakh pucca houses will be constructed at a cost of Rs 2.39 lakh per house.
 - Education:** Establishment of 500 hostels costing Rs 2.75 crore per unit, and setting up 2,500 Anganwadi centres.
 - Connectivity:** Installation of mobile towers in 3,000 villages and development of 8,000 km of road connectivity.
 - Health and Nutrition:** Ensuring access to healthcare through mobile medical units and wellness centres set up by the Ministry of Ayush.
 - Livelihood Opportunities:** Skill and vocational training initiatives by the Ministry of Skill Development and Entrepreneurship to promote sustainable livelihoods.
- Financial Allocation and Implementation:** The scheme is funded with Rs 15,336 crore from the Centre and Rs 8,768 crore from the states. It involves coordination among nine ministries to ensure effective implementation of various interventions aimed at uplifting PVTGs.

Government's welfare outreach to ST communities

- **Eklavya Model Residential Schools (EMRS)**, established to provide quality education to ST students in residential schools, were allocated Rs 6,399 crore.
- **The post-matric scholarship for ST students** also saw a rise in its allocation.
- **PM DAKSH scheme**, which is aimed at skilling people from the SC and ST communities, saw its allocation increase from Rs 92.47 crore to Rs 130 crore.
- **National Action for Mechanised Sanitation Ecosystem (NAMASTE) scheme**, aimed at eliminating manual scavenging by replacing it with mechanised cleaning of sewers, was allocated Rs 116.94 crore

Other schemes:

- PM JanjatiyaVikas Mission (PMJVM)
- National Overseas Scholarship Scheme for SCs



FACT BOX

Birsa Munda

- Birsa Munda is revered by **Adivasis as Dharti Aaba** (Father of the Land).
- Birsa Munda was born in 1875. He belonged to the **Munda tribe** in the **Chota Nagpur Plateau**
- He converted to Christianity to join the German Mission school. However, he later decided to renounce Christianity and drop out of the School.
- **Birsait Faith:** He created a new religion called 'Birsait', which worshipped only one god.
 - Given his growing influence in the tribal community, Birsait soon became the popular religion among the Mundas and Oraons. He was also given the nickname 'Father of the Earth.'
- **Munda Rebellion** was led by **Birsa Munda**.
- It was a revolt against the colonial masters and exploitative dikus (outsiders) and was aimed at establishing MundaRaj or Munda rule in this region.
- The revolt later came to be known as **The Ulgulan** or "**the Great Tumult**".

Reason for Munda Revolt:

- In 1874, the British replaced the Khuntkari system of Munda tribals with the Zamindari
- It created the classes of zamindars (landlords) and ryots (tenants).
- It also intensified the forced labor (vethbigari) in the forested tribal areas and made tribals depend on money lenders for money.

Impact of the Munda Revolt:

- The movement compelled the British to take cognizance of the plight and exploitation of tribals and bring in the **Chhota Nagpur Tenancy Act of 1908** for their protection.
- This Act restricted the transfer of tribal land to non-tribals giving Adivasis a huge relief and becoming landmark legislation for the protection of tribal rights.

10 YEARS OF THE SWACHH BHARAT MISSION

CONTEXT

Swachh Bharat Mission has successfully completed 10 years on October 2.

What is Swachh Bharat Mission?

- The Swachh Bharat Mission (SBM) was launched on October 2, 2014, to eliminate open defecation, improve solid waste management and to create Open Defecation Free (ODF) villages.
- The Central government launched the second edition or the SBM 2.0 in 2021.
- The mission was divided into:
 - **SBM-Gramin for villages** (executed by the **Ministry of Drinking Water and Sanitation**)
 - **SBM-Urban for cities** (executed by **Ministry of Housing and Urban Affairs** respectively)
- SBM's main goal was to make India "Open defecation-free" (ODF), for which crores of household and community toilets had to be constructed.
 - **ODF:** A city/ ward can be notified/ declared as an ODF city/ ODF ward if, at any point of the day, not a single person is found defecating in the open.

Key-Achievements of SBM

As SBM completes a decade, here are some key accomplishments:

- **Open Defecation Free (ODF) Status for Villages:** One of the most notable achievements of the SBM is the dramatic reduction in open defecation in rural India. The mission aimed for an ODF India by 2019, prompting a massive toilet construction drive. The number of people practicing open defecation has decreased from 550 million to 320 million. Five states and over 200,000 villages have been declared ODF, marking a significant cultural shift in sanitation practices.
- **Improved Toilet Coverage:** SBM's focus on toilet construction has led to a substantial increase in sanitation access, particularly in rural areas. Toilet coverage rose from 45% in 2004-05 to 82.5% by 2019-21, improving public health, especially for women and children, and enhancing safety and dignity.

- **Reduction in Infant Mortality:** Studies have shown a correlation between improved sanitation and declining infant mortality rates. Research indicates that the SBM has likely prevented 60,000-70,000 infant deaths annually, as areas with higher toilet coverage report lower child mortality rates.
- **Rise of ODF Plus Villages:** Building on the success of **ODF status**, the SBM is now focusing on ODF Plus villages, which implement solid and liquid waste management systems. As of September 2023, over 4.4 lakh villages have achieved this status, promoting comprehensive sanitation and environmental sustainability.
- **Waste Management Initiatives:** SBM has introduced initiatives to enhance waste management through the principles of **Reduce, Reuse, and Recycle**. The **GOBARdhan scheme** promotes the conversion of biodegradable waste into resources like biogas. Additionally, numerous units for plastic waste management have been established, showcasing innovative waste utilization methods.
- **Swachh Survekshan:** To promote urban sanitation, the **Ministry of Urban Development** launched the annual Swachh Survekshan, which ranks cities based on cleanliness and waste management. This initiative has fostered competition among cities to improve their sanitation efforts, significantly enhancing urban cleanliness.
- **Behavioural Change:** Perhaps the most profound achievement of the SBM is its success in changing public attitudes towards sanitation. Through extensive outreach campaigns and community mobilization, sanitation has become a national priority, instilling a sense of responsibility among citizens.
- **India's manufacturing PMI** had slumped to a three-month low of 57.5 in August compared with 58.1 in the previous month, as demand had softened.
- **The eight core sectors** contribute 40.27 percent to the **Index of Industrial Production (IIP)** which measures overall industrial growth.
- **Reason:** The drop in output is primarily skewed due to last year's elevated growth figures. As a result, the average growth for the first five months of the year has now reduced to 4.6 percent, compared to 8 percent during the same period last year.
- **Impact:** This contraction will significantly impact industrial production, particularly as manufacturing activity has also seen a decline.

INDIA'S CORE SECTOR OUTPUT CONTRACTS FOR THE FIRST TIME IN FOUR YEARS

CONTEXT

India's core sector output experienced a significant contraction of 1.8 percent in August 2024, marking the first decline in nearly four years. This follows a robust growth of 6.1 percent in July and a remarkable 13.4 percent expansion in August 2023. The slowdown is largely attributed to the **high base effect** from the previous year's performance.

Key-highlights:

- In August, steel output slowed to 4.5 percent against 10.9 percent in the same month last year.
- **Natural gas production** contracted by 3.6 percent during the month under review compared to an expansion of 10 percent in August 2023.
- **India's coal production** decreased by 8.1 percent in August, 2024 against an expansion of 17.9 percent in August 2023.
- **Crude Oil production** dipped by 3.4 per cent in August YoY in the month under review.



FACT BOX

Core Sector

- The main or the key industries constitute the core sectors of an economy.
- In India, there are eight sectors that are considered the core sectors. The eight-core sectors of the Indian economy are **electricity, steel, refinery products, crude oil, coal, cement, natural gas and fertilizers**.
- These sectors have a major impact on the Indian economy and significantly affect most other industries as well.
- The eight industries have a combined share of 40.27 per cent in the Index of Industrial Production (IIP), which gives the growth rates of different industry groups in a specified period.
- Before the IIP is released, the **Index of Eight Core Industries (ICI)** is prepared every month and released by the **Office of the Economic Adviser (OEA), Department for Promotion of Industry and Internal Trade (DPIIT), and Ministry of Commerce & Industry**.
- **Components to calculate the ICI:**
 - ▶ **Coal** – Coal production, excluding Coking coal.
 - ▶ **Electricity** – Electricity generation of thermal, nuclear, hydro, imports from Bhutan.
 - ▶ **Crude Oil** – Total crude oil production.
 - ▶ **Cement** – Production in large plants and mini plants.
 - ▶ **Natural Gas** – Total production of natural gas.
 - ▶ **Steel** – Production of alloy and non-alloy steel only.
 - ▶ **Refinery Products** – Total refinery production.
 - ▶ **Fertilizer** – Urea, ammonium sulfate, calcium ammonium nitrate, complex grade fertilizer, and single superphosphate, among others.

INDIA'S CAD WIDENS TO 1.1% OF GDP

CONTEXT

India's current account deficit (CAD) has slightly increased to 1.1% of GDP, amounting to \$9.8 billion in the first quarter (Q1) of FY25, up from \$8.9 billion (1% of GDP) in the same period last year. This rise is primarily due to an increase in the merchandise trade deficit.

Key-highlights:

- CAD occurs when a country's imports of goods and services exceed its exports. In Q1 FY25, India recorded a merchandise trade deficit of USD 65.1 billion, compared to USD 56.7 billion in the same quarter last year.
- The country had a surplus of USD 4.6 billion (0.5% of GDP) in the previous quarter (Q4 FY24).

Factors Influencing the CAD

- ▶ **Net Service Receipts:** Increased to \$39.7 billion in Q1 FY25 from USD 35.1 billion a year ago, boosted by growth in service exports like computer, business, travel, and transportation services.
- ▶ **Private Transfers:** Remittances from Indians working abroad rose to USD 29.5 billion from USD 27.1 billion in the same quarter last year.
- ▶ **Primary Income Outgo:** Payments for investment income went up to USD 10.7 billion from \$10.2 billion.

Foreign Investments

- ▶ **Foreign Direct Investment (FDI):** Net inflows increased to USD 6.3 billion from USD 4.7 billion a year ago.
- ▶ **Foreign Portfolio Investment (FPI):** Moderated significantly to USD 3.9 billion from \$15.7 billion.

Other Financial Indicators

- ▶ **External Commercial Borrowings (ECBs):** Net inflows fell to USD 1.8 billion from USD 5.6 billion a year ago.
- ▶ **Non-Resident Indian (NRI) Deposits:** Increased to USD 4 billion, up from USD 2.2 billion.
- **Foreign Exchange Reserves:** India's foreign exchange reserves grew by USD 5.2 billion in Q1 FY25, compared to a larger increase of USD 24.4 billion in the same quarter last year.



FACT BOX

What is Current Account Deficit (CAD)?

- Current Account Deficit (CAD) is the **shortfall between the money received by selling products to other countries and the money spent to buy goods and services from other nations.**

- ▶ **Current account** maintains a record of the country's transactions with other nations.
- If the value of goods and services (import) exceeds the value of those export, the country is said to be in a deficit, and the difference in the two values is **CAD**.
- The current account includes **net income, including interest and dividends, and transfers, like foreign aid.**
- **India's current account** position is largely on the deficit side because of the country's dependence on oil imports.

SHINKANSEN BULLET TRAIN TECHNOLOGY

CONTEXT

The **Mumbai-Ahmedabad Bullet Train corridor** aims to bring the efficiency and speed of Japan's Shinkansen network to India. However, the National High Speed Rail Corporation Limited (NHSRCL) highlights unique environmental challenges that India must address, particularly extreme weather conditions in Gujarat and Maharashtra, including temperatures soaring to 50 degrees Celsius and high levels of dust and humidity.

About Shinkansen Bullet Train Technology

- Shinkansen (lit. new trunk line) is Japan's high-speed rail. It was opened for service between Tokyo and Osaka in 1964.
- The high-speed train service is known for its cleanliness, punctuality, and safety. Shinkansen has record of zero fatal passenger accidents.

Key-features:

- ▶ **Speed:** up to 320 km/h (200 mph)
- ▶ They feature highly advanced technologies such as aerodynamic design and air suspension.
- ▶ They are electric multiple-unit trains that derive their power from an overhead wire system.

Japan has successfully exported its "high quality" rail infrastructure to Taiwan, India, Europe and the UK in the past.

- **Concern:** Japan's Shinkansen operates in a **mild climate**, while India's harsher conditions pose significant risks for high-speed rail (HSR) technology.
 - ▶ Taiwan is the only other nation to successfully implement Shinkansen technology, benefiting from similar weather patterns.
 - ▶ This raises the question of whether India can adapt this advanced technology to its unique environment.



FACT BOX

Mumbai-Ahmedabad Bullet Train Project

- Mumbai-Ahmedabad High-Speed Rail Corridor (MAHSRC) is famously known as the **bullet train project**.
- India's first-ever shinkansen project, currently under construction, will link Mumbai, the country's financial capital, with Ahmedabad, the largest city in Gujarat.
- The 508-km Mumbai-Ahmedabad bullet train corridor will feature 12 stations, with eight in Gujarat and four in Maharashtra.
 - ▶ **The stations in Gujarat** will be located at Sabarmati, Ahmedabad, Anand, Vadodara, Bharuch, Surat, Bilimora, and Vapi.
 - ▶ **Maharashtra** will host stations at Boisar, Virar, Thane, and Mumbai.
- Construction began in April 2020, with the 352 km section through Gujarat expected to be fully operational by 2027.

(Figure No. 08 given below)

EARTH'S MINI-MOON

CONTEXT

Earth has got a rare second moon. The 2024 PT5 asteroid, which zipped past Earth recently, is set to orbit the planet for nearly two months.

What is Earth's mini-moon?

- The term 'mini-moon' refers to asteroid 2024 PT5, which was first detected by **Asteroid Terrestrial-impact Last Alert System (ATLAS)**.
 - ▶ ATLAS is an **automated system** funded by NASA. ATLAS is designed to monitor near-Earth asteroids that could pose a threat or offer scientific insights.
 - ▶ The Indian Space Research Organisation (ISRO) is also involved in monitoring this mini moon through its **Network for Space Objects Tracking and Analysis (NETRA)**.
- In general, asteroids that fail to escape **Earth's gravity**, momentarily alter their trajectory and end up orbiting the planet for a time. These asteroids are referred to as **mini-moons**.
- These small, fast-moving asteroids are difficult to detect and identify.
- The 2024 PT5 asteroid, though small has a diameter of about 10 metres (33 feet).

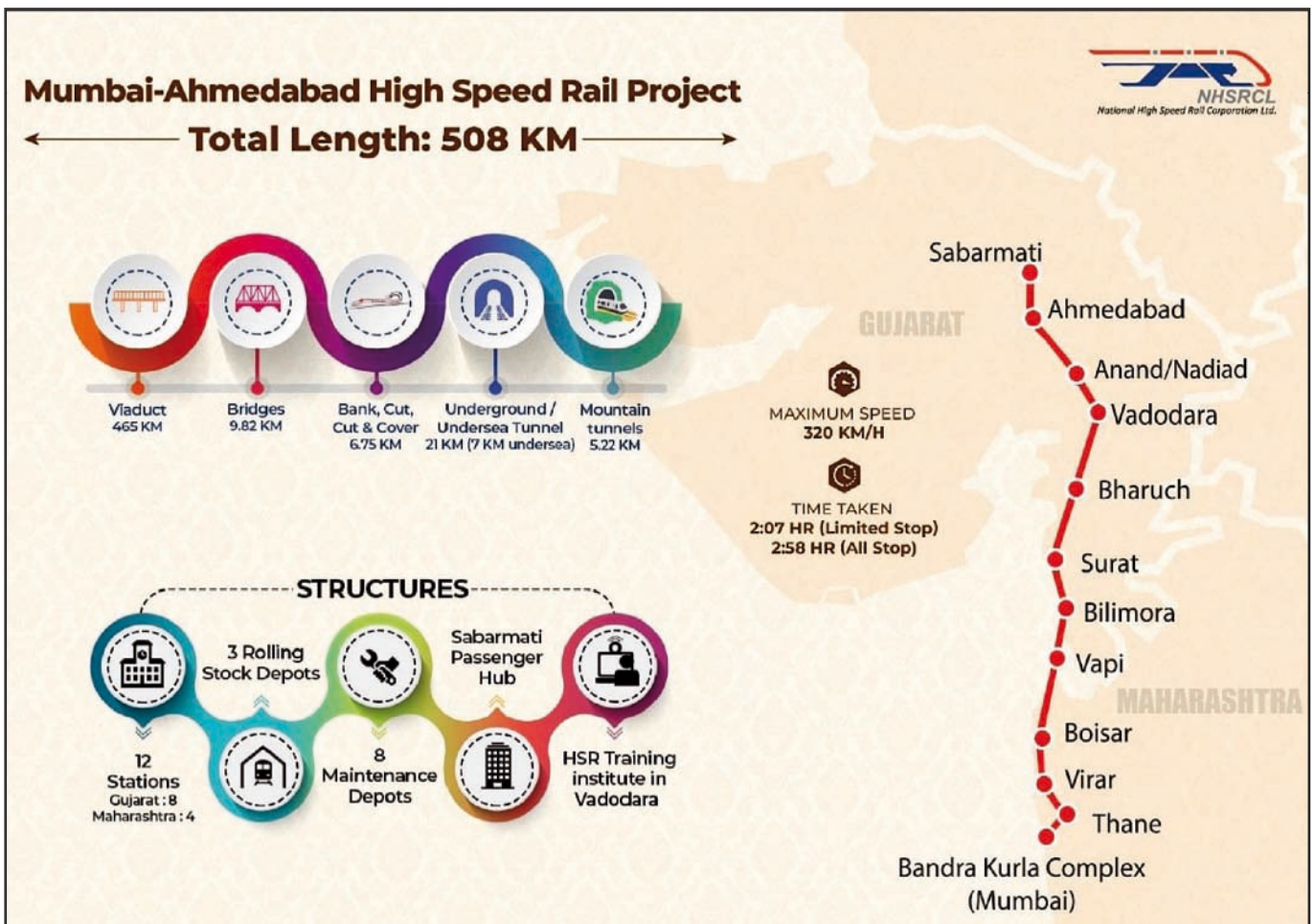


Figure No. 08

- During its 53-day orbit around Earth, the asteroid will not complete a full revolution but instead perform a horseshoe loop before drifting away from Earth's gravitational influence.
- The 'mini-moon' belongs to a group of asteroids named after the warrior, **Arjuna**.



FACT BOX

Mini-moon

- The word is used for asteroids or comets that become bound to our gravity and so become a satellite, just like the real Moon that we see every night is.
- They are "mini" because they are small but also because they are not like the more celebrated moons that surround us and other planets in our solar system, since they usually leave quickly after arriving.
- Mini moons are not a new phenomenon.** These earlier examples include:
 - 1991 VG:** The first confirmed mini moon that orbits Earth for about a year.
 - 2006 RH120:** Caught in orbit for nearly a year.

Arjuna asteroid group

- Arjuna asteroid group is a set of asteroids that are just under 100 million miles from the Sun and have similar orbits.

MARS ATMOSPHERIC LOSS

CONTEXT:

Recent research has unveiled intriguing findings about **Mars' atmospheric history**, suggesting that the planet's original atmosphere may have been absorbed by **minerals in its clay-rich surface**. This revelation is significant as it provides insights into how Mars transformed from a once habitable world, with abundant water, into the dry, inhospitable environment we see today.

Background

- Over 3.5 billion years ago, Mars had a dense, carbon dioxide-rich atmosphere that enabled the existence of liquid water.
- However, this atmosphere eventually thinned dramatically, leading to the drying up of surface water.
- Scientists have long sought to understand the processes that caused this atmospheric loss.
- The recent research provides insights into how water and rock interactions may have contributed to this phenomenon.

Key Findings from the Research on Mars' Atmosphere

- Absorption of Atmosphere by Clays:** Researchers suggest that Mars' original atmosphere may have been absorbed by **clay minerals**, particularly **smectites**, which efficiently trap carbon dioxide.
- Water Interaction with Rocks:** The study posits that water, which was present in Mars' early history, could have seeped through the planet's crust, interacting with ultramafic rocks. This process would have led to a series of chemical reactions that transformed carbon dioxide into methane, sequestering it in clay.
- Historical Geological Processes:** The findings draw parallels between Earth's geological processes and those on Mars, particularly in how smectites are formed. On Earth, tectonic activity creates conditions for these clays, while Mars lacks such activity, prompting researchers to investigate alternative formation mechanisms.
- Significant Carbon Sequestration:** The research indicates that a substantial amount of Mars' carbon dioxide could have been stored in clay-rich layers, potentially covering the planet with over 1,100 meters of smectite.
- Impact on Mars' Habitability:** The loss of the atmosphere could explain why Mars became uninhabitable, as the lack of a protective atmosphere would have allowed liquid water to freeze and contributed to the planet's current desolate state.



FACT BOX

About Mars

- Mars – the **fourth planet** from the Sun – is a **dusty, cold, desert world** with a **very thin** atmosphere.
- It has a distinct rusty red appearance and two unusual moons.
- Phenomenal dust storms** can grow so large they **engulf the entire planet**, temperatures can get so cold that **carbon dioxide** in the atmosphere condenses directly into snow or frost, and marsquakes — a Mars version of an earthquake — regularly shake things up.
- The bright rust color Mars is known for is due to **iron-rich minerals in its regolith** — the loose dust and rock covering its surface.
- Earth's soil is a kind of regolith, too**, albeit one loaded with organic content.
- The iron minerals oxidize, or rust, causing the soil to look red.
- Important Mars Mission**
 - Mars Reconnaissance Orbiter
 - Mariner 9 (1971)
 - Mars Orbiter Mission (MOM) or Mangalyaan (India's first Mars Mission)

WORLD RABIES DAY

CONTEXT

28 September is observed as the World Rabies Day. This year's "Breaking Rabies Boundaries" highlights that One Health is not for a selected few but for everyone.

About Rabies

- Rabies is a vaccine-preventable, zoonotic, viral disease affecting the central nervous system.
- **Transmission:** In up to 99% of the human rabies cases, dogs are responsible for virus transmission.
- It is an **RNA virus** of the **rhabdovirus family** that can affect the body in one of two ways.
 - ▶ It can enter the peripheral nervous system directly and migrate to the brain.
 - ▶ It can also replicate within muscle tissue. From here, it enters the nervous system through the neuromuscular junctions.

Once inside the nervous system, the virus produces acute inflammation of the brain

Types:

- ▶ **Furious or encephalitic rabies:** A person with it is more likely to experience hyperactivity and hydrophobia.
- ▶ **Paralytic or "dumb" rabies:** It causes paralysis as a dominant symptom.
- **Vaccines: Newer rabies immunoglobulin (Rabies Ig)** and the rabies vaccine are essential for **post-exposure prophylaxis (PEP)** against rabies.
 - ▶ Rabies Ig is specifically used for **category 3 bites**, which involve severe exposure such as transdermal bites or scratches, and provides immediate protection by supplying ready-made antibodies.
- **Situation in India:** Rabies in India, as of 2021, caused 59,000 deaths, representing 33% of the global total.
 - ▶ Notably, 96% of these fatalities resulted from dog bites.
 - ▶ The overall economic cost of dog-mediated Rabies was estimated to be \$8.6 billion.

PERMAFROST COLLAPSE IN THE HIMALAYAS

CONTEXT

Possible collapse of permafrost, which are permanently frozen rock or soil formations, is an emerging climate-change induced issue in the upper reaches of the Himalayas. As Earth's climate warms, the permafrost is thawing. That means the ice inside the permafrost melts, leaving behind water and soil.

What is Permafrost?

- Permafrost is a **permanently frozen layer** on or under Earth's surface.
- It consists of **soil, gravel, and sand**, usually bound together by ice. Permafrost usually remains at or below 0°C (32°F) for at least two years.
- It can be found on land and below the ocean floor. It is found in areas where temperatures rarely rise above freezing.
- **Types:** A typical classification recognizes:
 - ▶ **Continuous permafrost** (underlying 90-100% of the landscape)
 - ▶ **Discontinuous permafrost** (50-90%)
 - ▶ **Sporadic permafrost** (0-50%)
- **Challenges:** There is limited understanding of permafrost dynamics in the Indian Himalayas. Recent disasters, such as the **South Lhonak glacial lake bursting**, may be linked to permafrost issues, highlighting the need for more research.

INDIA SIGNS TREATY OF THE HIGH SEAS

CONTEXT

India has made a significant commitment to ocean conservation by signing the **Biodiversity Beyond National Jurisdiction (BBNJ) Agreement**, also known as the "**Treaty of the High Seas.**"

About BBNJ

- The BBNJ Agreement is designed to safeguard marine life in areas of the ocean that fall outside the jurisdiction of any single country, which begins 370 kilometers from the coastline and constitutes approximately two-thirds of the world's oceans.
- It is an international legally binding treaty, comes under the **Law of the Seas Treaty**.

Key points about the agreement:

- ▶ **Sustainable Resource Use:** The treaty aims to ensure that countries use ocean resources sustainably and equitably, preventing any nation from claiming these resources as their own.
- ▶ **Inclusive Approach:** The BBNJ promotes a blend of traditional knowledge and modern scientific methods to enhance ocean protection efforts.
- ▶ **Regulatory Framework:** It establishes rules for conducting activities in the high seas, including mandatory environmental impact assessments to minimize harm to marine ecosystems.
- ▶ **Alignment with Sustainable Development Goals:** The agreement supports the achievement of Sustainable Development Goal 14, which focuses on conserving and sustainably using oceans, seas, and marine resources.

- ▶ **Long-term Negotiations:** After two decades of discussions, the BBNJ was finally adopted in 2023, banning harmful practices such as destructive fishing and pollution in high-seas areas.
- ▶ **India's Participation:** By joining the BBNJ, India aims to enhance its marine conservation strategies, allowing for the establishment of marine protected areas in the high seas and fostering international cooperation on technology and resource management.
- **Global Support:** The BBNJ Agreement has garnered support from 91 countries, including notable signatories like **Australia, Canada, and many EU nations**, reflecting a growing global consensus on the need to protect high-seas biodiversity.
- Currently, about 100 countries have signed it, and eight of them have ratified it.
- It would also contribute to achieving several SDGs, particularly SDG14 (Life Below Water).
- The BBNJ Agreement is the third implementation agreement under UNCLOS, alongside its sister implementation agreements:
 - ▶ **1994 Part XI Implementation Agreement** (which addresses the exploration and extraction of mineral resources in the international seabed area)
 - ▶ **1995 UN Fish Stocks Agreement** (which addresses the conservation and management of straddling and highly migratory fish stocks)



FACT BOX

What are High Seas?

- High seas are beyond nations' territorial waters and the exclusive economic zone that could extend up to 370 km from the shores.

About United Nations Convention on the Law of the Sea (UNCLOS)

- UNCLOS was adopted on December 10, 1982, and came into force on November 16, 1994.
- It is crucial for the environmental protection of the seas and addressing maritime boundaries, rights to marine resources, and dispute resolution.
- It establishes the **International Seabed Authority** to regulate mining and related activities on the ocean floor beyond national jurisdiction.

KARNATAKA REJECTS KASTURIRANGAN REPORT

CONTEXT

Karnataka has rejected the sixth draft notification of the **Kasturirangan report** that proposes the demarcation of eco-sensitive areas (ESA) in the ecologically fragile Western Ghats. The sixth draft notification issued by the Centre sought to declare over 56,800 sq km of the Western Ghats spread across six states of **Kerala, Karnataka, Tamil Nadu, Goa, Maharashtra and Gujarat**, as ESA.

Key-points made by the state government

- **Impact on Local Communities:** The proposed ESAs would negatively impact the **livelihoods of people** residing in 1,499 villages across 33 taluks. There is a strong belief that the designation could restrict access to land and resources critical for these communities.
- The Karnataka government has already notified and protected 16,632 sq km of forest land in the form of sanctuaries, national parks, and eco-sensitive zones. The remaining area has about 1,533 homes, villages, and other human dwelling units and we need to protect the rights and livelihood of people living here.
- The state has formally requested that the MoEF&CC withdraw the notification to avoid exacerbating tensions and hardships for local populations.

What is Eco-Sensitive Zones (ESZ)?

- Eco-Sensitive Zones (ESZs) are areas designated around protected wildlife sanctuaries and national parks to create a buffer that reduces human impact on these sensitive ecosystems.
- They aim to conserve biodiversity and provide a sustainable habitat for flora and fauna.
- They are notified by the **Ministry of Environment, Forests and Climate Change** around Protected Areas, National Parks and Wildlife Sanctuaries.
 - ▶ Protected areas cover 5.26% of India's land area as 108 national parks and 564 wildlife sanctuaries. They are notified under the **Wildlife (Protection) Act 1972**.
- **Purpose:** The establishment of ESZs is intended to protect the environment while allowing for regulated human activities, balancing ecological conservation with development.
- **ESZ Guidelines classify activities under three categories:**
 - ▶ **Prohibited:** Commercial Mining, Setting of Saw Mills, Setting of industries causing pollution, the establishment of major hydroelectric projects etc.
 - ▶ **Regulated:** Felling of Trees, Establishment of hotels and resorts, erection of electrical cables, drastic change of agricultural systems etc.
 - ▶ **Permitted:** Ongoing agriculture and horticulture practices by local communities, rainwater harvesting, organic farming etc.

Important Committee Recommendations

- **Gadgil committee Report:** In 2011, the Madhav Gadgil committee recommended that 64 per cent of the Western Ghats be designated as eco-sensitive areas. The committee report suggested that the entire region be declared as eco-sensitive areas, with very limited development allowed in certain areas.
- **Kasturirangan Committee Report:** In 2013, the government formed the Dr K Kasturirangan committee to provide recommendations on protecting the eco-sensitive Western Ghats. Dr. Kasturirangan committee recommended that 37 per cent of the Western Ghats be designated as eco-sensitive areas.

SEA ROBINS

CONTEXT

A recent study published in *Current Biology* has shed light on the evolutionary adaptations of **Sea Robins**, a unique species of fish known for their **unusual "walking" abilities**. This research is significant as it offers insights into the evolutionary pathways that led to the development of limbs in terrestrial animals, including humans.

About the Species: Sea Robins

- Sea Robins belong to the family *Callionymidae*, which includes several species of bottom-dwelling fish.
- Habitat:** These fish are primarily found in tropical and subtropical oceans, residing at the seafloor where they feed on a diet of worms and crustaceans.

- Physical Characteristics:** Sea robins are notable for their six leg-like appendages, which are actually extensions of their fins.
 - These adaptations allow them to "walk" across the ocean floor, providing a unique method of locomotion compared to other fish.
- Feeding Mechanism:** In addition to movement, some species of sea robins use their legs to taste prey hidden in the substrate, showcasing a fascinating evolutionary repurposing of their appendages.
- Genetic Connection to Humans:** The study highlights that the genes responsible for the development of these appendages in sea robins are similar to those involved in the formation of human limbs. This connection provides insights into how ancient fish adapted to life on land and evolved into **tetrapods—four-limbed animals, including humans**.

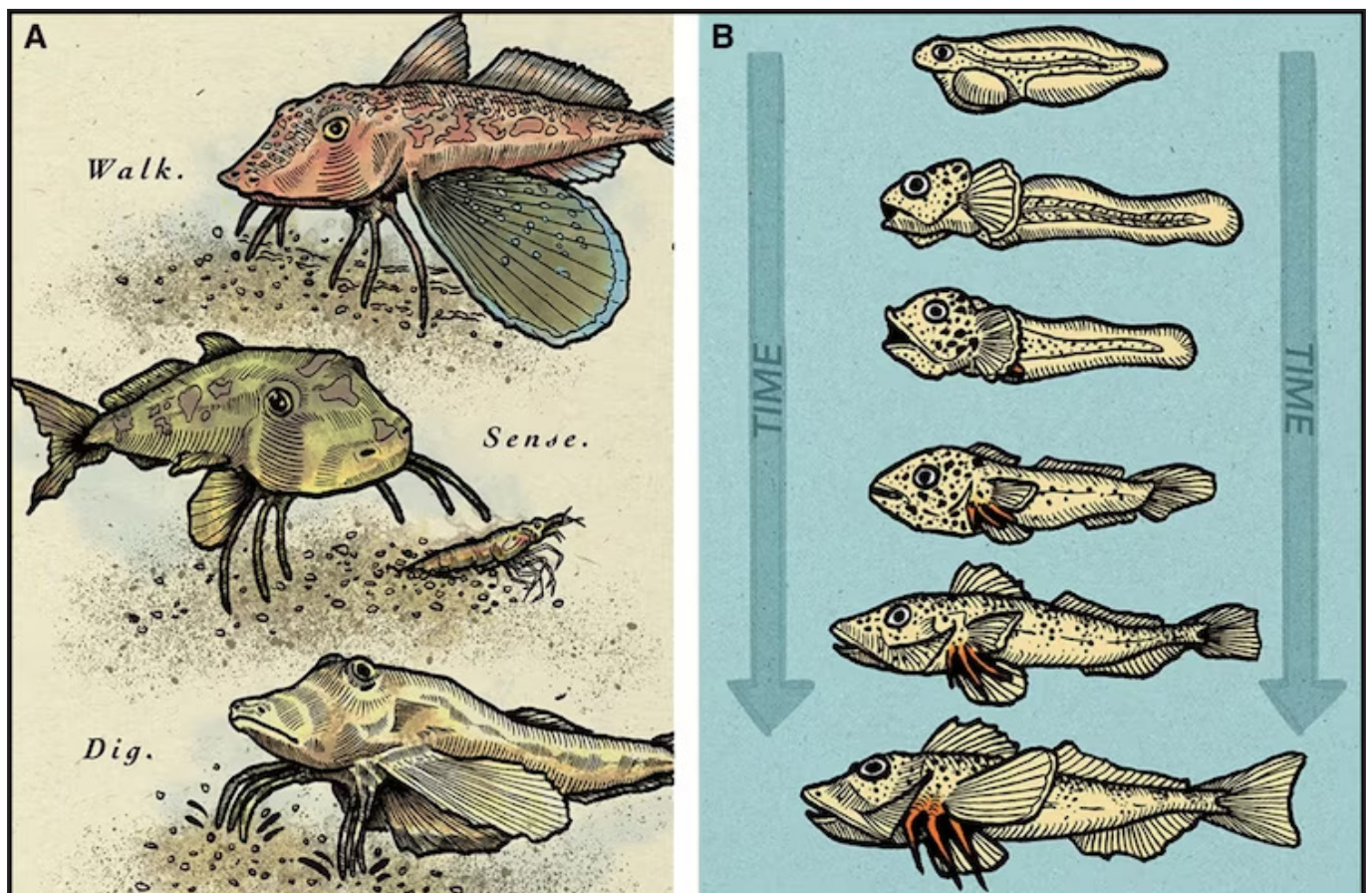


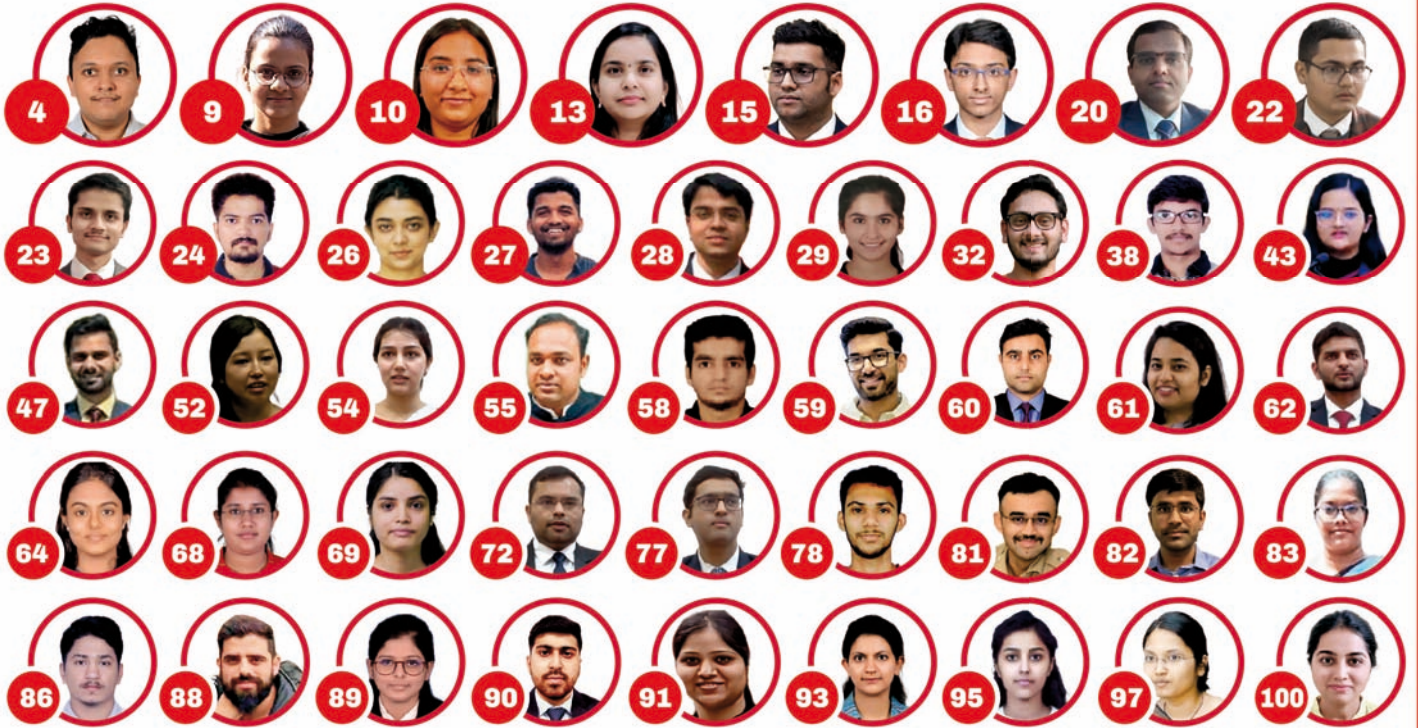
Figure No. 09





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