

9 PM Current Affairs Weekly Compilation

For UPSC CSE mains examination



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Features :

Arranged as per syllabus Topics
Most complete coverage of major
News Papers editorials

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GS Paper 1

Subject: Geography

Topic: Distribution of key natural resources across the world

On the Critical Minerals Sector – Charging growth

News: The article discusses the critical minerals sector. It highlights recent developments concerning India's critical minerals sector. It also points to the challenges of this sector.

What are critical minerals?

Critical minerals are those minerals that are at risk of supply shortage, and which may have a large impact on the economy and national security. They have complex global supply chains with a high concentration in the extracting and processing countries, resulting in high supply risks.

These include minerals such as lithium, graphite, potash, silicon, titanium and rare earths (REE).

What are the recent developments in India's critical minerals sector?

Policy Initiatives:

1. India issued its first critical minerals policy listing 30 minerals important for India's net-zero transition.
2. 100% foreign direct investment (FDI) is allowed in the mining and exploration sector under the automatic route.

Exploration and Mining Auction: Government recently initiated the auctioning of 20 blocks of critical minerals, including J&K's lithium reserves. Also, 125 projects are underway to explore critical minerals.

Geopolitical Initiatives: Recently, India became the first developing country to be inducted into the US-led **Mineral Security Partnership (MSP)**.

More about MSP [here](#).

What are the concerns with the sector?

1. **Scarce supply of minerals.**
2. **China's sole dominance:** China is a central player in the global critical mineral supply chains, particularly in processing and refining. It accounts for ~ 60% of worldwide production and 85% of processing capacity.
3. **Geopolitical Risks:** Their spread is geographically concentrated, making it vulnerable to geopolitical risks. Geopolitical tensions, conflicts, trade disputes, or sudden policy changes in those regions can impact their supply.
For instance, approximately 70% of the world's reserves of cobalt are in the Democratic Republic of the Congo.
4. **Dominance of a few major companies:** This leads to oligopolistic (domination by a few large firms) markets.
5. **Not Traded on Exchanges:** Unlike oil, most critical materials are not widely traded on exchanges, and this limits opportunities to hedge against price volatility. Exchanges provide a way to hedge against price fluctuations by locking in prices through futures contracts or by buying/selling on the spot market.
6. **Insufficient data:** Insufficient data on the consumption, production, and trade of minerals causes uncertainty, price volatility and delays in investments.
7. **Rising Import Bill:** Between FY22 and FY23, there has been a 34% rise in imports of critical minerals, totaling nearly Rs. 91,000 crore.

What should India do?

Push for Expansion of MSP: Along with India, more countries in the Global South can be part of the alliance, especially critical mineral-rich African countries.

The MSP can become an international platform that reports on the status and future of critical mineral markets.

Encourage FDI in Domestic Mining: Rising foreign direct investment (FDI) will not just support businesses like battery and EV manufacturing; it will also bring the expertise of international mining firms to aid in exploring critical minerals for the country's benefit.

Topic: Changes in critical geographical features (including water-bodies and ice-caps)

Risks of glacier melting - An icy warning

News: The article discusses the findings of the World Meteorological Organization's report titled "The Global Climate 2011-2020: A Decade of Accelerating Climate Change." It primarily highlights the state of glacier health.

What are the key highlights of the WMO report "The Global Climate 2011-2020"?

1. The significant thinning of the world's glaciers, averaging about a meter per year from 2011 to 2020.
2. The volume of glaciers is forecast to decline anywhere from 55% to 75% by the end of the century.
3. Greenland and Antarctica lost 38% more ice from 2011 to 2020 compared to the 2001-2010 period.
4. During the summer melt season, Arctic Sea ice decreased, reaching a mean minimum extent 30% lower than the 1981-2010 average.
5. The rapid glacier melting will lead to their disappearance. For instance, glaciers on the Rwenzori Mountains and Mount Kenya in Africa are projected to vanish by 2030, and those on Kilimanjaro by 2040.

For more information on **Key highlights of WMO report**, [read here](#).

For information on **WMO**, [read here](#).

What are the risks of glaciers melting?

- a) **Glacier lake outburst floods (GLOFs)** are a major risk, as seen in the Uttarakhand floods in 2013, which were caused by glacial melt.
- b) The **destruction of infrastructure** due to flooding from melting glaciers, like the collapse of the Chungthang dam in Sikkim.
- c) The **rapid decline in glacier volume** may lead to a **decrease in freshwater supply in the future**, impacting regions by 2050.
- d) Additionally, the **disappearance of glaciers** in the Hindu Kush Himalayas was reported to be 65% faster in the 2010s than in the previous decade, emphasizing the **accelerating pace of glacier melt**.

What should be done?

- a) **Enhance the monitoring of glacier health**, as the rapid thinning of glaciers globally indicates a critical need for detailed observation.
- b) **Develop and implement early warning systems** specifically for glacier lake outburst floods (GLOFs), to prevent disasters.
- c) Conduct **comprehensive risk assessments** in regions affected by glacier melting to understand and

mitigate risks better.

d) Prioritize the **development of resilient infrastructure in vulnerable areas**, keeping in mind the potential for increased flooding and other glacier-related hazards.

e) **Raise the threat level of glacier-related risks to that of other significant natural disasters** such as cyclones and earthquakes. This action will guarantee the implementation of sufficient response and preparedness measures.

Subject: History

Topic: Indian culture will cover the salient aspects of Art Forms, literature and Architecture from ancient to modern times

UNESCO tag for garba dance: A dance for all

News: The article discusses the inclusion of Garba in the list of UNESCO's Intangible Cultural Heritage List. It also highlights its distinct features.

Read in detail about **Garba** [here](#).

Read about **UNESCO Intangible Heritage Sites** [here](#).

Recently, Garba joined other Indian dances, such as the **Kalbelia folk dance of Rajasthan, Chhau from eastern India, Sankirtana from Manipur** and **Mudiyettu from Kerala**, on the UNESCO's list of Intangible Cultural Heritage of Humanity. With this, it has become a representative of the richness of India's performing art traditions.

It is an important part of every Gujarati celebration, from wedding to birth, and, most notably, the annual 9-day festival of Navratri. The worship of goddess Amba (a form of Durga) is a key part of this tradition.

What are Intangible Cultural Heritages?

These are the traditions or living expressions inherited from our ancestors and passed through generations as a way of life. These include oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe and the knowledge and skills to produce traditional crafts.

What are the distinct features of Garba?

1. **Symbolises the Cycle of Life:** It is performed around a centrally lit clay lantern, which symbolizes both the metaphorical universal womb from which humanity emerged and the earth's fertility. The ring formed by dancers and their revolutions around the lantern represent the cycle of time from birth to death and rebirth.
2. **Participation of all ages and genders:** It thrives due to its deep ties to community, where people of all ages, genders, skill levels, and faiths come together to dance.
3. **Adaptability to Changing Times:** Every new generation adapts dancing to its preferences. Garba has embraced both old songs and techniques alongside modern ones, shaping the dance to suit every generation.

Reports, in recent years, of performances being open to only Hindus, and assault for attending events, must be taken seriously. It is important to retain the inclusive character of Garba if this intangible heritage is to continue to thrive.

GS Paper 2

Subject: Indian Polity

Topic: Statutory, regulatory and various quasi-judicial bodies

7-Judge ruling on Arbitration – India has a superior chance now to emerge as an arbitration hub

News: The article discusses a recent decision by India's Supreme Court. It allows arbitration agreements, even if they have stamp duty issues, to be enforced. This ruling is expected to make India a more attractive place for arbitration, speeding up and simplifying dispute resolution.

What is Arbitration?

Arbitration is a form of alternative dispute resolution (ADR) in which a neutral third party resolves a dispute outside of court. The parties to the dispute agree to submit their case to an arbitrator, who will make a binding decision on the matter. Arbitration in India is governed by the **Arbitration and Conciliation Act, 1996**. For more information on ADR [read here](#)

What are the important judgments related to arbitration?

5-Judge SC Bench in N Global Mercantile (P) Ltd vs IndonUnique Flame Ltd:

Ruling: Arbitration agreements without proper stamp duty were unenforceable.

Impact: Created complications, as courts couldn't appoint arbitrators until the correct stamp duty was paid.

The Supreme Court's (SC) Recent 7-Judge Ruling:

Overtaken Prior Decision- Allowed unstamped or insufficiently stamped agreements to be enforceable.

Parties can appoint technical experts as arbitrators in complex matters, aiding in cross-border transactions.

Role of Courts as per The Arbitration and Conciliation Act, 1996: a) *Minimized Court Supervision*- The Act emphasizes reducing the courts' supervisory role in arbitration, b) *Selective Court Involvement* - Courts aren't excluded but their involvement is limited to specific situations, like enforcing arbitration decisions or preventing fraud and policy violations.

What are the implications of recent Supreme Court rulings on arbitration?

1. **Increased Enforceability:** The recent SC ruling ensures that arbitration agreements are enforceable, even if they are unstamped or insufficiently stamped. This change prevents delays, thereby expediting the arbitration process.
2. **Reduced Judicial Intervention:** Courts will no longer assess stamp duty before arbitration, adhering to the principles of minimal court involvement.

3. **Enhanced Arbitration Appeal:** This ruling makes India more attractive for arbitration, potentially reducing the preference for international arbitration centers like Singapore or Dubai.
4. **Maintained Revenue Interests:** Stamp duty and penalties are still applicable, ensuring revenue department concerns are addressed, but without disrupting the arbitration process.
5. **Long-term Legal Stability:** A rare 7-judge bench decision provides lasting predictability in arbitration proceedings.

Way forward:

To enhance India's position as a global arbitration hub, continued support for minimal judicial intervention and respect for arbitral autonomy is crucial. Ensuring efficient arbitration processes that appeal to both domestic and international parties will be vital. Regular updates to legal frameworks to uphold these principles will further strengthen India's role in global arbitration.

Terminology used:

GIFT city: GIFT City, short for Gujarat International Finance Tec-City, is a business district in Gujarat, India. It's designed as a financial and technology hub with advanced infrastructure. GIFT City aims to attract businesses and financial services, competing with leading global financial centers. It offers a favorable environment for finance and tech firms.

For more information [read here](#).

Topic: Structure, organization and functioning of the Judiciary

On Listing of Cases in the Supreme Court

News: The article discusses the issues with the listing of cases in the Supreme Court.

Recently, concerns were raised by two senior lawyers on the “irregularities” in the listing of cases in the Supreme Court.

What is the role of the CJI in the allocation of cases?

The Chief Justice of India, as master of roster, has administrative control over the allocation of cases. The **Handbook on Practice and Procedure of the Court and Office Procedure** says that the Supreme Court Registry functions on the instructions and orders of the Chief Justice of India as regards allocation of work to a Bench and assignment of cases from one Bench to another Bench (on account of non-availability).

What were the concerns raised by the senior lawyers?

Firstly, the movement of cases which were already listed and in which notices were issued by one Bench, to another Bench.

It was claimed that some cases had been suddenly taken away from Benches hearing them and listed before other Benches.

Secondly, whether a case, instead of remaining with the presiding judge of the Bench before which the matter was listed, can be transferred to the puisne judge (a judge part of the Bench, but lower in seniority than the Presiding judge) when he/she (the puisne judge) starts heading a new Bench.

This was being done even when the senior judge was still available, which is against rules, procedure and established conventions.

Terminology Used:

Puisne Judge: A puisne judge is a judge who is ranked lower in seniority than the Chief Justice of that court.

Topic: Indian Constitution- historical underpinnings, evolution, features, amendments, significant provisions and basic structure

Basic Structure Doctrine-Protecting Basic Structure from judicial arbitrariness

News: This article discusses the Basic Structure Doctrine of India's Constitution, introduced 50 years ago. It talks about its origins, debates around it, and the need for limits on government powers. The doctrine's future and ways to avoid judicial bias are also explored.

What is the Basic Structure Doctrine?

The Basic Structure Doctrine, **established by India's Supreme Court in 1973**, states that Parliament cannot alter key elements of the Constitution.

Inspired by German jurist Dietrich Conrad's ideas, it limits government power, ensuring fundamental features of the Constitution are protected. For example, it played a crucial role during the Emergency of 1975, preventing the Prime Minister from drastically changing the Constitution. This doctrine maintains a balance between different government branches.

For more information on the **Basic Structure Doctrine**, [read here](#).

What are the arguments supporting the doctrine?

1. **Limitation of Powers:** It imposes necessary restrictions on all government bodies, including the judiciary. The doctrine ensures that Parliament cannot unilaterally alter the Constitution's core aspects.
2. **Safeguarding Fundamental Features:** The doctrine protects the Constitution's most fundamental features from amendment, thus preserving the democratic framework and fundamental rights.
3. **Upholding Constitutional Supremacy:** It emphasizes the Constitution's supremacy over all government organs. The judiciary, tasked with interpreting the Constitution, uses this doctrine to maintain a balance of power and prevent any one branch from becoming too dominant.

What are the arguments against the doctrine?

1. **Excessive Power to the Supreme Court:** Critics argue that the doctrine gives the Supreme Court too much authority to decide what constitutes the 'Basic Structure', potentially undermining other institutions. **For instance**, Former Union Finance Minister Arun Jaitley criticized the Supreme Court's NJAC judgment. He pointed out that it prioritized judicial independence in basic structure, while overlooking five key constitutional elements: parliamentary democracy, elected government, council of ministers, Prime Minister, and leader of the opposition.
2. **Risk of Judicial Arbitrariness:** There's a concern that the open-ended nature of the doctrine might lead to subjective interpretations, reducing its legitimacy as a constitutional safeguard.

What should be done?

1. **Enhancing Judicial Legitimacy through Public Trust:** Justice Nambiar's thesis ("The Judicial Role in Constitutional Protection: Examining the Legitimacy of Basic Structure Review in India") emphasizes the

need for the judiciary to earn public trust. It can be done through the efficacy of its judgments and through demonstrating the legitimacy of its decisions, especially in the context of the Basic Structure Doctrine.

2. **Addressing Concerns of Constitutional Validity:** While the doctrine has been consistently upheld, there are ongoing doubts about its constitutional validity and application scope. Addressing these concerns is crucial to maintain a healthy balance between the judiciary's power and the roles of other institutions.
3. **Inclusive Debates and Discussions:** Encourage broader debates and discussions about the interpretations and applications of judicial doctrines, including the Basic Structure Doctrine. This promotes a comprehensive understanding and allows for more inclusive perspectives in shaping its future.

For more information on 50 years of Basic Structure Doctrine, [read here](#).

Subject: Governance

Topic: E-governance - applications, models, successes, limitations, and potential

Digitization of land Records

News: The article discusses India's project to digitize land records for better infrastructure planning and reduced corruption. It highlights the importance of clear land ownership, the impact on real estate, and the need to modernize land registration from physical to digital formats.

What are the benefits of digital land records?

1. **Ownership and Fewer Disputes:** Digital records establish clear land ownership, reducing legal issues and disputes over land.
2. **Efficient Real Estate Market:** With clear records, property deals become more transparent, reducing corruption and improving efficiency.
3. **Increased Tax Revenue:** Proper land records could lead to higher property tax collections for state governments.
4. **Facilitates Infrastructure Development:** Easy access to land data aids in faster planning and execution of infrastructure projects under the PM Gati Shakti National Master Plan.
5. **Support for the Poor:** Digital records enable the poor to prove land ownership, safeguarding them against exploitation.

What are the challenges related to digital land records?

1. **Partial Success and Ongoing Effort:** While land records from 13 major states and four Union territories have been digitized, integration is still pending for states like Himachal Pradesh, West Bengal, Uttarakhand, Sikkim, Nagaland, Meghalaya, and the UT of Lakshadweep.
2. **Outdated Registration Laws:** The process is still bound by the 1908 Registration Act, which depends on physical documents, making modernization challenging.
3. **Transition and Technology Challenges:** Moving to a digital system involves overcoming both bureaucratic and technological hurdles, such as implementing unique land parcel ID numbers and adapting to new digital processes.

What government initiatives are in place for the improvement of digital land records?

PM Gati Shakti National Master Plan: This initiative aims to coordinate infrastructure development using digital land records from states and Union territories.

For more information [read here](#).

Digital India Land Records Modernization Programme: A government project focusing on updating and digitizing land records across the country. Once this has been done, every plot/parcel of land can get the **14-digit alpha-numeric ULPIN (Unique Land Parcel Identification Number) or Bhu-Aadhaar**.

For more information [read here](#).

What should be done?

1. **Implement Unique IDs:** Assign a 14-digit unique land parcel ID to every land parcel for better tracking and transparency.
2. **Adopt Efficient Digital Systems:** Shift from physical to digital registration, leveraging technologies like Aadhaar for improved efficiency.

Topic: Role of civil services in a democracy

Widespread use of consulting firms in government departments - Work of consultancy firms

News: The article discusses the widespread use of consulting firms by government ministries in India. These firms help with policy making and program execution. However, there are concerns about government dependence on these consultants and potential negative impacts on public policy and government skills.

Why do governments hire consulting firms?

1. **Expertise in Diverse Fields:** Governments hire consultants for their specialized knowledge in various sectors like agriculture, transport, and digital services.
2. **Complex Challenges:** The increasing complexity of projects, such as the Jal Jeevan Mission and the cleaning of the Ganga River, requires skills beyond the government's traditional scope.
3. **Technological Advancement:** Rapid digital transformation in public services, like the Direct Benefit Transfer programme, demands technical expertise that consultants provide.
4. **Limited Internal Skills:** Traditional methods of recruiting government officials often lead to a narrow range of internal capabilities, making consultants optimal for specific challenges.

What is the role of consulting firms in Indian government projects?

1. **Policy Formulation and Major Project Support:** Consulting firms, including McKinsey, BCG, and the Big 4 (EY, PwC, KPMG, Deloitte), are heavily involved in shaping government policies and executing key projects. Their involvement is evident in key projects like the Swachh Bharat and Jal Jeevan Missions, as well as in efforts to clean the Ganga River.
2. **Economic Growth Strategies:** They assist in significant economic endeavors, such as supporting Uttar Pradesh's aim to grow its economy to \$1 trillion, showcasing their strategic role in regional development.
3. **Strategic Vision Development:** Consultants are tasked with creating foundational documents like the Vision 2047, indicating their deep involvement in long-term national planning and priority setting.

What are the concerns about the government's dependence on consulting firms?

1. **Weakening of Government Capabilities:** Over-reliance on consultants for both routine and complex tasks risks eroding essential government skills, leading to a concerning level of dependency. This situation

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can result in "mission creep," where consultants gain excessive influence over policy and decision-making processes.

2. **Manipulation of Policy:** Concerns exist that consulting firms might use their influence to tweak policy directions for their own benefit, as seen in some international corruption scandals.
3. **'Consultocracy' and Reduced Public Servant Role:** The term "consultocracy" highlights how deep consultant integration can diminish the traditional functions and capabilities of public servants, altering the fundamental dynamics of governance.

What should be done?

1. **Regulate Consultant Engagement:** Implement transparent and fair regulations for hiring consultants. This is crucial, considering the Indian government spent about Rs 5,000 million on these firms in the past five years.
2. **Build Government Capabilities:** Strengthen internal skills to reduce reliance on consultants, addressing concerns like the overdependence noted in routine tasks like file note preparation.
3. **Ensure Accountability:** Regularly review and assess consulting engagements for effectiveness, mirroring the finance ministry's recent initiative in auditing consultancy fees and engagements.
4. **Promote Knowledge Transfer:** Establish clear protocols for consultants to transfer skills to government staff, mitigating the risk of 'consultocracy' and enhancing government self-sufficiency.

Subject: Social Justice

Topic: Mechanisms, laws, institutions and bodies constituted for the protection and betterment of these vulnerable sections

Bihar reservation act – Can Bihar increase its reservation pool?

News: The article discusses how the Bihar government approved laws increasing reservations in jobs and education to 75%. This exceeds the Supreme Court's 50% (60% after EWS) limit set for such reservations. The laws may face legal challenges, and there's anticipation that the Supreme Court might reconsider this 50% limit.

Background:

The Bihar State Legislature recently passed two significant bills unanimously, which have also received the state governor's approval. These bills propose the same increase in reservations for educational institutions and government jobs and are based on a caste survey conducted by the state government.

The key provisions of these bills are as follows:

The reservation quota for the Extremely Backward Class (EBC) will increase from 18% to 25%. For the Backward Class (BC), it will rise from 12% to 18%. The Scheduled Caste (SC) quota will go up from 16% to 20%, and the Scheduled Tribe (ST) quota will be doubled from 1% to 2%. Additionally, the existing 3% reservation for BC women has been eliminated.

What is the judicial view on Reservations in India?

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1. **50% Cap on Reservations:** The Supreme Court set a 50% limit on reservations in jobs and education, treating it as an exception under the constitutional framework.
2. **Exceptions to the Rule:** In exceptional cases, such as for communities from remote areas, this cap can be exceeded.
3. **10% EWS Reservation:** The Court approved an additional 10% reservation for economically weaker sections (EWS), effectively raising the cap to 60%.

For more information on the **Judicial view on Reservations in India** read: [article1](#), [article2](#).

What Challenges Does the Bihar Government Face with Its Reservation Act?

1. **Breaching the Ceiling:** The Bihar government must prove that the communities benefiting from the excess reservation are from remote areas or socially marginalized, as per the Supreme Court's criteria.
2. **Defending the Motive:** Bihar's Chief Minister rationale, based on caste census results, challenges the Court's view that reservations should aim for "adequate" representation, not proportionate to population.
3. **Precedent of Legal Challenges:** Similar attempts by other states, like Maharashtra and Rajasthan, to exceed reservation limits have been struck down by the courts.

Note: Several states have gone beyond the 50% reservation limit, not including EWS: Chhattisgarh at 72%, Tamil Nadu at 69% (protected by a 1994 Act), and northeastern states like Arunachal Pradesh, Meghalaya, Mizoram, and Nagaland at 80%. Lakshadweep reserves 100% for Scheduled Tribes.

Way forward:

The Bihar government's reservation act, surpassing the 50% limit, will likely face legal scrutiny. The Supreme Court may be urged to reevaluate this cap, considering Bihar and other states' precedents. A balance between constitutional guidelines and regional socio-economic realities needs to be found.

Topic: Issues relating to Health

India's alarming 'Fixed Dose Combination (FDC)' problem

News: The article discusses the growing concerns regarding Fixed Dose Combinations (FDCs).

A recent study shows that a large volume of unapproved and even banned fixed dose combination (FDC) of antibiotics are sold in India. According to the findings, in 2020, ~60% FDCs of antibiotics being sold were unapproved and ~10% were banned.

What are FDCs and why are they useful?

FDCs are combinations of one or more known drugs. For example, 3 medications are combined into one tablet or one syrup. FDCs reduce the number of pills to be taken and hence can improve patient compliance (i.e. the patient taking all the medicines at the correct time). This eventually leads to enhanced treatment outcomes.

What are the issues with FDCs?

1. **Reduces Efficacy of Drugs:** When formulated together, the active or inactive ingredients may interact to affect the functioning of drugs. It may reduce the therapeutic efficacy of drugs or form toxic elements (metabolites).

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2. **Tool to Escape Legal Liabilities:** Since FDCs are not covered under the Drugs (Prices Control) Order (DPCO) (which enables the government to fix the prices of individual drugs), manufacturing FDCs is a way to escape the ambit of the DPCO.
3. **Unproductive Combinations Produced:** A large variety of produced FDCs lack any medical rationale. For example, anti-inflammatory drugs combined with vitamins, vitamins combined with analgesics, etc.
4. **Lack of Quality Standards:** There are no standards set by regulatory bodies for testing the quality of these drugs. As a result, it is difficult to hold manufacturers accountable for producing poor-quality FDCs.
5. **Higher Costs of Drugs:** A new FDC may be claimed as a unique new product catering to a specific need. This allows them to charge a higher price until their competitors introduce similar products and the prices go down.
6. **Failure of States to Implement Strict Licensing Norms:** State drug controllers continue to ignore legal provisions and issue manufacturing licences for FDCs not approved by the Drugs Controller General of India (DCGI).
7. **Prohibitory Orders Stuck in Complex Litigation:** The prohibition on the manufacture of specific FDCs by the Ministry of Health has been caught in complex litigation and inconsistent decisions by Courts.
8. **Contributes to AMR:** Unregulated FDCs contribute to the Anti-Microbial Resistance problem in India.

For more on **AMR**, [read here](#).

It is crucial that all FDCs go through a scientifically designed approval process to make them safe for consumption. A strong regulatory framework is the need of the hour.

Subject: International Relations

Topic: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests

Global reaction to the change in J&K's Status

News: The article discusses the global reaction to both India's Parliament revoking Jammu and Kashmir's special status under Article 370 and the Supreme Court's decision to uphold this constitutional amendment.

Background:

In 2019, India's Parliament annulled the special status of Jammu and Kashmir under Article 370 and enacted the Jammu and Kashmir (Reorganisation) Bill. This legislation divided the region into two Union Territories: Jammu and Kashmir, which retained its legislature, and Ladakh, which did not. Recently the Supreme Court upheld the abrogation of Article 370, which had previously granted special status to the former state of Jammu and Kashmir.

Read about [SC Judgement on abrogation of Article 370](#).

What were the international reactions after India's Parliament revoked J&K's special status under Article 370?

1. **Pakistan:** Strongly opposed India's move.

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2. **China:** Criticized the creation of Ladakh as a Union Territory, claiming it affected its sovereignty; expressed concern over regional stability.
3. **Islamic Countries:** Mixed reactions; UAE and Saudi Arabia saw it as India's internal matter, while Turkey and Malaysia criticized the decision.
4. **Western Nations & EU:** Expressed concerns over potential instability and human rights issues; emphasized dialogue between India and Pakistan.
5. **Russia:** Supported India, viewing the changes as within India's constitutional framework and a bilateral issue.

What is the Supreme Court's verdict on this matter?

[Read here.](#)

What were the international reactions following the Supreme Court's verdict?

1. **Limited International Reaction:** Apart from Pakistan, China, and the OIC, there were no major global reactions to the Supreme Court's verdict on 370.
2. **Pakistan:** Refused to recognize the Indian Constitution's supremacy over Jammu and Kashmir.
3. **China:** Did not acknowledge Ladakh as a Union Territory, asserting a claim on the western section of the China-India border.
4. **Organisation of Islamic Cooperation (OIC):** Urged reversal of abrogation of 370.
5. **India's Response:** Dismissed OIC's statements, attributing them to Pakistan's influence and labeling Pakistan as a promoter of cross-border terrorism.

What diplomatic efforts were made in relation to this change?

1. **UN Security Council Engagement:** After India's outreach to UNSC members, the US, France, and Germany, as part of the UNSC, preferred not to internationalize the issue, supporting a bilateral resolution instead. Poland, holding the UNSC Presidency at the time, also supported this approach.
2. **High-Level Diplomatic Talks:** Government approached France, China, Europe and US to gather support in favor of abrogation. Majority of these countries backed India.
3. **J&K Tours:** The Indian government conducted tours of J&K for the international diplomatic community.

What should be done?

1. **Organize free and fair elections** in Jammu and Kashmir as directed by the Supreme Court.
2. Ensuring the **protection of human rights** in the region is crucial to maintain international credibility.
3. India should **seek to reduce tensions and explore engagement opportunities** with Pakistan.
4. India must **continue its diplomatic efforts to communicate its stance** and developments in J&K to the international community.

India's evolving foreign policy, a new pointer to India's changed world view

News: The article discusses India's evolving foreign policy, particularly regarding the Israel-Palestine conflict. Historically non-aligned and supportive of Palestine, India is now closer to Israel, influenced by security concerns and relations with the US. This change also reflects India's strategic response to China's rise.

What was India's historical stance on Israel-Palestine conflict?

[Read here](#)

What changed in India's policy towards Israel-Palestine conflict?

1. **Shift Due to Security and Terrorism Concerns:** The rise of Pakistan-supported Islamic militancy against India led to a strategic shift towards Israel for enhanced security and intelligence cooperation.
2. **Upgrading Diplomatic Relations:** In 1992, India upgraded its relations with Israel to ambassadorial level, a significant move from its earlier policy of keeping relations at a consular level.
3. **Recent Pro-Israeli Tendencies:** India's rapid support for Israel during conflicts and abstaining from certain UN resolutions indicate a more pro-Israeli stance compared to the past.
4. **Balanced Approach with Palestine:** Even with closer ties to Israel, India continued supporting Palestine. For instance, India's External Affairs Ministry voiced support for direct negotiations towards a sovereign Palestinian state, showing a balance in its stance.

What is the concern related to change in India policy towards Israel-Palestine?

1. **Erosion of Non-Alignment Principle:** The shift towards Israel marks a departure from India's historical stance of non-alignment and balanced foreign policy.
2. **Impact on India's Muslim Population:** India's growing proximity to Israel raises concerns among its substantial Muslim population, who traditionally sympathize with the Palestinian cause.
3. **Isolation from Global South:** India's abstention from the UN vote calling for a ceasefire in the Israel-Palestine conflict contrasts with its role as a voice of the Global South.
4. **Gandhian Principles at Stake:** India's reluctance to vote for peace in the UN General Assembly is seen as contrary to its Gandhian legacy of non-violence and peace advocacy.

How have global dynamics influenced India's foreign policy?

1. **China's Rise and US Alignment:** The increasing influence and territorial disputes with China have led India to strengthen its ties with the United States, especially after the Galwan clash in June 2020.
2. **Engagement in Middle Eastern Affairs and Economic Strategies:** India's active involvement in Middle Eastern politics, evidenced by its participation in the **I2U2 group** and the **Abraham Accords**, demonstrates a strategic interest in the region. Additionally, **economic initiatives like the IMEC** (India-Middle East-Europe Economic Corridor), announced at the G-20 summit, further highlight India's expanding economic engagement in the Middle East.
3. **Reorientation from Traditional Allies:** With Russia's diminishing influence in global politics and China's assertiveness, India is visibly shifting its foreign policy, moving away from its traditional reliance on Russia.

Topic: India and its neighborhood - relations

Maldives not allowing India to survey its waters – Patience and vigilance

News: The Maldives government chose not to renew a 2019 agreement that allowed India to conduct hydrographic surveys (Mapping of water bodies to promote secure and effective maritime transportation). This decision seems influenced by local politics. The Maldives is shifting away from India, influenced by China's growing role in the region. India needs to respond carefully.

What are the reasons behind Maldives government's steps against India?

1. **Domestic Politics:** The decision aligns with President Muizzu's "India Out" campaign, reflecting a shift in domestic political sentiment.

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2. **Influence of China:** The Maldives is increasingly engaging with China, evident from Vice President Latheef attending a China-organized Indian Ocean Forum (which excluded India) and skipping an India-related event (Colombo Security Dialogue).
3. **Regional Power Dynamics:** India's dominant role in the region is being challenged by China's growing influence. The Maldives, like Sri Lanka, is using its strategic location to navigate between these major powers.
4. **Short-term Political Gains:** The Muizzu government's move appears to prioritize immediate political benefits over long-term mutual interests with India.

For more information on **Shift in Maldives' foreign policy**, [read here](#)

What is the implication for India?

The non-renewal of the hydrographic survey agreement **reduces India's strategic reach in the Indian Ocean**, impacting its ability to monitor regional waters.

With the Maldives showing a preference for China, as evident in their participation in China-organized forums, **India faces a challenge to its regional dominance**.

What should India do?

1. **Maintain Patience and Vigilance:** India needs to be patient, understanding the long-term implications of its actions in response to the Maldives' decision.
2. **Balance Engagement and Non-Interference:** India should engage positively with the Maldives without appearing intrusive, respecting its sovereignty.
3. **Adapt to China's Growing Presence:** Acknowledge and strategically respond to China's increasing influence in the region. There is need to draw specific lines concerning China's activities, especially regarding military presence in the Maldives.
4. **Offer Support for Environmental Challenges:** Given the threat of rising sea levels to the Maldives, India should be ready to provide assistance and cooperation in environmental protection and disaster management.

For more information on **India-Maldives Relations**, [read here](#)

On India-Oman Bilateral Relations – A time-honoured connect that will help bridge the Gulf

News: The article discusses the importance and the key highlights of the India-Oman bilateral relations. The Sultan of Oman, Sultan Haitham bin Tarik, is visiting India on a state visit. This will be his first visit to India after taking over.

What is the importance of Oman for India?

1. **Historic Cooperation:** During and after the Cold War era, Oman was friendlier to India compared to the Arab World (which was supportive of Pakistan).
2. **Geostrategic Aspect:** Omani ports along the Arabian Sea, Gulf of Oman being the entry point to the Persian Gulf and to the Gulf of Aden make Oman's location of strategic importance to India.



Figure 1. Source: World Atlas.

mutual trust and shared interests.

b. India's Prime Minister had visited Oman in 2018 where key agreements on trade, defence and security were agreed upon.

2. **Defence and Security:**

a. Both countries have cooperated in ensuring maritime security in the Indian Ocean region.

For instance, an Indian naval ship has remained on duty in the Gulf of Oman for anti-piracy operations.

b. Oman's **Duqm Port** provides base facilities, Operational Turn Round and other logistics facilities to Indian naval ships in the region.

3. **Trade and Commerce:**

a. Bilateral trade during FY2022-23 reached \$12.4 billion.

b. Over 6,000 India-Oman joint ventures are present in Oman.

c. India was the 2nd largest market for Oman's crude oil exports for the year 2022.

4. **Space Cooperation:** An MoU on space sector cooperation was signed in 2018.

5. **Connectivity Projects:** The proposed India-Middle-East-Europe Connectivity Corridor (IMEEC) project will see Oman playing an important role in India's connectivity ambitions.

Way Forward:

Gateway to West Asia: India is seeking deeper engagement and collaboration in West Asia, in which Oman can play an important role. This is because Oman is an integral part of important groupings in the region: the GCC, the Organization of Islamic Cooperation (OIC), and the Arab League.

3. **Economic Relations:** In the past, Indian companies and professionals have undertaken projects in Oman.

4. **Large Indian Diaspora:** Oman has a large Indian community of 7 lakh people.

5. **Oman's Neutral Foreign Policy:** It has pursued a foreign policy of neutrality in dealing with regional issues and conflicts. For instance, it has carefully balanced its close relations with the western powers and the Gulf Cooperation Council (GCC) countries, and even neighbouring Iran.

6. **Crucial Pillar of India's West Asia policy.**

7. **Shared Values:** The two countries consider themselves as ambassadors of peace and enjoy goodwill in the world.

What are the highlights of India-Oman bilateral relations?

1. **Strategic Relations:**

a. The **India-Oman strategic partnership** was signed in 2008 based on twin pillars of

Economic Relations between India and Sri Lanka – Bridge this deficit

News: The article discusses Sri Lanka's efforts to strengthen economic ties with India. It covers projects like a land bridge, connecting electricity grids, and trade agreements. Progress in these areas has been slow, but recent developments in tourism, energy, and dairy cooperation show improvement. The goal is to enhance mutual economic benefits and move beyond past challenges.

About India-Sri Lanka economic relations:

1. India is a key export destination for Sri Lanka, ranking third after the US and UK.
2. Indian FDI in Sri Lanka reached USD 1.7 billion (2005-2019), showing strong investment ties.
3. In 2022, Indian tourists topped Sri Lanka's visitor list, emphasizing cultural and economic connections.
4. The countries are developing a multi-product petroleum pipeline, enhancing energy cooperation.
5. During Sri Lanka's unprecedented economic crisis, India provided approximately USD 4 billion in aid.
6. India has also been actively involved in supporting Sri Lanka in restructuring its debt, collaborating with the International Monetary Fund (IMF) and other creditors.

What efforts have been made to strengthen economic relations between India and Sri Lanka?

1. **Land Connectivity Proposal:** Sri Lanka proposed a bridge linking Rameswaram, India, and Talaimanar, Sri Lanka, an idea first suggested 20 years ago.
2. **Energy Cooperation:** there are attempts since the 1970s to link electricity networks, though progress is slow compared to India's successful power exports to Bangladesh.
3. **Recent Collaborative Initiatives:** Resumption of air services between Chennai and Jaffna, new ferry services, and a dairy sector joint venture, all aiming to bolster economic relations.

Note: Apart from these, both nations also signed several MoUs, including a collaboration in renewable energy, Network to Network Agreement between NPCI International Payments Limited and Lanka Pay to promote the Unified Payments Interface application in Sri Lanka. Additionally, an energy permit was granted for the Sampur Solar Power Project, which aims to produce 100 MW of power for Sri Lanka.

What are the challenges in the India-Sri Lanka relationship?

1. **Opposition to Land Connectivity:** Proposed bridge linking Rameswaram, India, and Talaimanar, Sri Lanka, faced opposition from Sinhalese-Buddhist groups, leading to stalling of the project.
2. **Energy Project Delays:** Despite a MoU signed over 13 years ago for an electricity grid connection, there's been no progress, unlike India's successful power exports to Bangladesh.
3. **Delayed Trade Agreements:** The India-Sri Lanka Free Trade Agreement, signed in 1998, hasn't progressed significantly, with protracted negotiations on an upgraded economic and technology cooperation agreement.
4. **Lagging Trade Performance:** Despite India being the largest source of imports for Sri Lanka, accounting for 26% of total imports, the trade performance is underwhelming compared to trade with other regional countries.

What should be done?

1. **Prioritize Energy Grid Connection:** Emulate India's success in exporting 7,000 million units of electricity to Bangladesh to expedite the India-Sri Lanka electricity grid project.
2. **Enhance Trade Agreements:** Renew efforts on the India-Sri Lanka Free Trade Agreement, taking lessons from India's \$18.14 billion trade with Bangladesh, compared to the \$5.45 billion with Sri Lanka.

3. **Utilize Tourism Potential:** Build on the fact that 17% of Sri Lanka's tourists are from India to strengthen economic relations further.

For more information on **India-Sri Lanka relations**, [read here](#)

GS Paper 3

Subject: Indian Economy

Topic: Infrastructure: Energy

On Nuclear Energy – Climate-friendly power strategy

News: The article discusses the utility of Nuclear Energy as a viable alternative to non-renewable as well as renewable energy sources. It highlights the flaws in the arguments put forward against the adoption of nuclear energy in India.

A detailed article on **UNFCCC COP28** can be [read here](#).

With a call to phase down coal power sooner than later, along with the issues of intermittency and low power supply from renewable energy sources like Wind and Solar, there is a need to explore an alternative carbon-free power supply. According to the author, the inclusion of nuclear power development can be an important part of the carbon mitigation strategy.

For information on the **Challenges of reducing emissions**, [read here](#).

Recent Developments:

In the UNFCCC COP28, a commitment by 21 countries for a 3-fold increase in nuclear power by 2050 was announced under the leadership of USA.

India had already announced its plan to nearly triple its nuclear capacity by 2030.

With power demand in India expected to rise to around 6 trillion units (from the current 1.5 trillion units) by 2050, India should explore the nuclear energy option.

What are the changes that could fasten the creation of nuclear capacity in India?

1. **Nuclear accord negotiated by India** (for instance, the Indo-US Civil Nuclear Deal) has opened opportunities for greater engagement with foreign nuclear technology suppliers.
2. **Partnership between the Nuclear Power Corporation of India Limited (NPCIL) and the National Thermal Power Corporation (NTPC)**, which can bring in the better capacity of NTPC for timely project implementation.
3. **Growing interest in small modular reactors (SMR)**, which are small reactors (30-300 megawatt), pre-made in factories and assembled on site. NTPC has plans of retro-fitting SMRS into decommissioned coal plants. It has set a target of 20 to 30 gigawatts of nuclear capacity by 2040.

What are the arguments given against the viability of nuclear power?

1. High cost of nuclear energy.
2. Challenge of nuclear power waste disposal.
3. High safety risks of nuclear power plants.

What are the flaws in these arguments?

1. **Cost issue:** One of the cheapest sources of energy being produced in India today is by the 1964 commissioned Tarapur nuclear power plant (Rs. 0.92/unit). The prices from the recently established Kudankulam unit is also competitive (~3-4 per unit).
2. **Waste issue:** The quantity of waste from nuclear power plants is much smaller in India due to the adoption of the closed fuel cycle where the plutonium from the first-stage reactor waste is used in the second-stage fast breeder reactors, and the waste from this will fuel a third stage based on thorium.
Read about **India's 3-Stage Nuclear Programme** [here](#).
3. **Safety issue:** In India, the heavy-water reactors that are part of the three-stage strategy are safer. Moreover, the design of the plants includes redundancies which reduce the safety risks.
A detailed article on **Nuclear Energy** can be [read here](#) and [here](#).

India ought to prioritize the advancement of nuclear power within its climate change agenda to the same extent as its focus on renewable energy.

On Ethanol Blending - Food versus Fuel

News: The Indian government directed mills not to use sugarcane juice/syrup for ethanol production. This is to increase domestic sugar availability.

Why has the government directed not to use sugar cane juice for making ethanol?

1. **Reduced Sugar Stocks:** The decision comes in the context of low sugar stocks at the end of the 2022-23 sugar year, which stood at just over 57 lakh tonnes. This is the lowest since 2016-17 and significantly below the record 143.3 lakh tonnes in 2018-19.
2. **Uncertainty Over production:** This year's sugar production is estimated by the National Federation of Cooperative Sugar Factories at 291.50 lakh tonnes. This marks a decrease from 330.9 lakh tonnes in 2022-23 and 359.25 lakh tonnes in 2021-22.
3. **Food Over Fuel Policy:** The government is prioritizing sugar for consumption over its use for producing ethanol, a fuel additive.

What is the impact of this decision?

1. **Challenges for Ethanol Producers:** Companies set up for producing ethanol from cane juice/syrup, like Balrampur Chini Mills and Shree Renuka Sugars, could face issues due to this change. For example, it could affect the supply of around 135 crore litres of ethanol, previously expected from sugarcane juice/syrup for 2023-24.
2. **Potential Shift to Other Feedstocks:** There could be a shift toward using alternative feedstocks such as rice, broken/damaged food grains, and maize, which yield higher ethanol quantities (380-480 liters per tonne), potentially impacting industry dynamics.
3. **Stabilize rising Sugar Prices:** This decision is expected to bring about 15 lakh tonnes more sugar into the market. The influx of this additional sugar will not only increase its physical availability but also help stabilize rising sugar prices.

What is ethanol? [Read here](#).

Terminology used:

EBP programme: The Ethanol Blending Programme (EBP) in India, launched in 2003 by the Ministry of Petroleum & Natural Gas, aims to blend ethanol with petrol. This initiative is designed to reduce pollution, conserve foreign exchange, and provide benefits to farmers by enhancing the value in the sugar industry. The implementation of this programme is being carried out through Oil Marketing Companies (OMCs).

Topic: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment

India's informal sector

News: The article discusses the procedure for calculating the contribution of the informal sector to the GDP. It cites the PLFS Data to argue that the contribution of the informal sector in the economy is not declining.

Some experts have highlighted that since a GDP base revision (updating the reference year used for calculating and comparing the country's economic output) is long overdue, the recently released second-quarter GDP estimates are unreliable. It is argued that as they do not adequately capture the informal sector, the GDP estimates are also consequently over-estimated.

Why do experts think it is?

The argument being given for the above is that the country's informal sector, after both demonetization and COVID, has seen a large decline in its ability to contribute to economic value addition. But since GDP calculation estimates the contribution of the informal sector **indirectly** (by measurements drawn from the formal sector), the size and contribution of the sector is overstated.

What are the flaws in the argument?

1. Informal Sector assessment not completely indirect: The assessment of the informal sector's contribution to the GDP is not entirely indirect.

For instance, agriculture (which is almost 40% of informal sector GVA) is assessed through direct estimates of production. The construction sector, which is the second major component of this sector, is also assessed through the production of key inputs like cement, steel, etc.

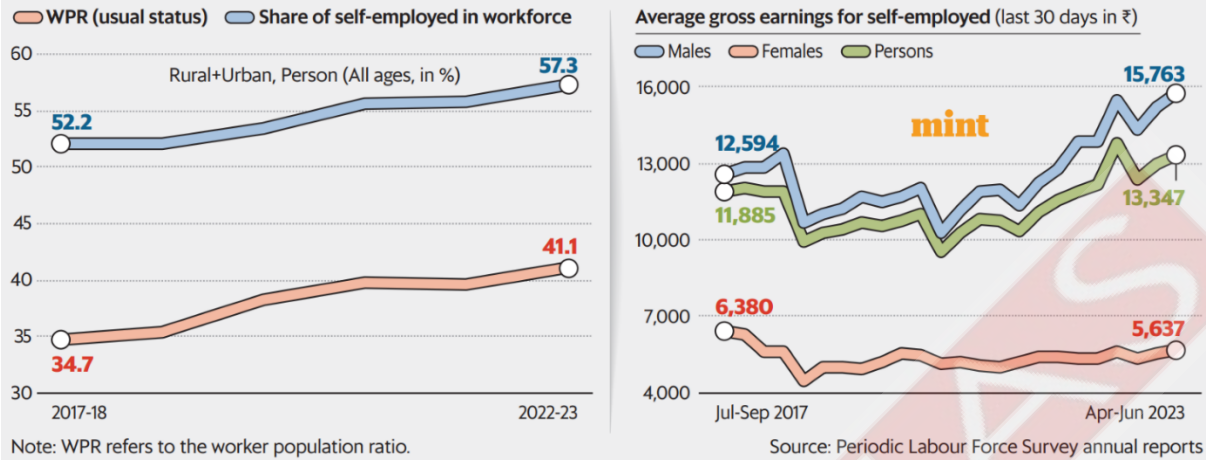
2. Growth in value-added due to trade is inferred from **data on tax collections**.

Thus, these significant components of informal sector activity are calculated from data elements that are performing well.

What does the PLFS data reveal about the status of the informal sector?

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Millions more have joined the Indian workforce since 2017-18, according to PLFS data, even as the self-employed have not only expanded their share of it, but also seen their earnings grow.



Source: LiveMint.

- Rise in Worker Population Ratio (WPR):** Between 2017-18 and 2022-23, the Worker Population Ratio (WPR) for all ages (rural+urban) rose significantly from 34.7% to 41.1%. This rise, combined with the rise in India's population over the same period implies a substantial increase in the number of informal enterprises. Thus, in size terms, the informal sector has not declined.
- Rise in the Share of Self-Employed:** It has also increased from 52.2% to 57.3%.
- Rise in Gross Earnings:** PLFS data also reveals that average gross earnings for self-employed people shows that the growth in earnings post July 2020 is almost 6.5% per year.

Initially we witness a stagnation in earnings as a consequence of GST implementation and COVID-lockdowns. Subsequently, there has been a revival which can be explained by the momentum gained in financial inclusion and credit outreach aimed at the informal sector.

Thus, there does not appear to be a case that the contribution of the informal sector has declined.

India's Economic Growth – Calibrating a strategy for India's future growth

News: The article discusses India's economic growth. It mentions different growth predictions from the RBI, IMF, and World Bank. It talks about challenges like global conflicts, supply chain issues, and the need for India to focus on domestic growth and savings. It also covers employment trends, climate commitments, and fiscal responsibility.

What are India's Growth Projections?

The Reserve Bank of India predicts a 7% growth rate for 2023-24.

The International Monetary Fund and World Bank estimate it at 6.3% for 2023-24.

Working age population growth in India will decrease from 1.2% in 2023-24 to 0% by 2048-49.

According to United Nations population projections, the peak of India's working age population is projected at 68.9% in 2030, with a low dependency ratio of 31.2%.

What are the factors affecting India's Growth?

Positive Factors Affecting India's Growth:

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1. **Robust Early Growth:** In 2023-24, India experienced strong growth rates of 7.8% and 7.6% in the first two quarters.
2. **High Investment Rate with Potential for Increase:** The nominal investment rate was 29.2% of GDP in 2022-23. Adjusting for the deflator of capital goods, the real investment rate stands at about 33%. To reach a 7% growth target, this rate needs to increase to 35% of GDP.
3. **Improving Employment:** according to a preorder labor force survey, the worker population ratio increased to 51.8% in 2022-23 from 44.1% in 2017-18.

Note: Worker Population Ratio: The number of employed persons in the population above 15 years of age

Negative Factors Affecting India's Growth:

1. **Global Tensions and Supply Chain Disruptions:** Conflicts like the Russia-Ukraine and Israel-Hamas wars have led to sanctions, supply chain disruptions, and settlement issues due to restrictions on systems like SWIFT.
Decline in Household Savings: The decrease in household savings to 5.1% of GDP in 2022-23, from 7.8% pre-COVID, limits the availability of domestic funds for investment, which is crucial for economic growth.
2. **Fiscal Responsibility Challenges:** Struggling to meet fiscal deficit targets of 6% of GDP affects India's economic stability and investor confidence. This could potentially lead to higher borrowing costs and reduced public investment.
3. **Climate Change Initiatives Impacting Growth:** India has commitments to reduce carbon emissions, like achieving net zero emissions by 2070 and reducing total carbon emissions by one billion tons between 2021 to 2030. It needs a shift to climate-friendly technologies. These changes may slow growth rates initially.

What should be done?

1. **Adjust Export Strategies:** With exports peaking at 25% of GDP in 2013-14 and dropping to 22.8% in 2022-23, India must evolve from its previous export-led growth strategy to a more diversified approach.
2. **Boost Employment through Skill Development:** With a working-age population peak projected at 68.9% in 2030, prioritizing training and skill development is essential for harnessing this demographic advantage.
3. **Emphasizing Service Sector and Climate-Friendly Technologies:** To offset the potential reduction in growth from climate-promoting technologies, focusing on the service sector. Which is more climate-friendly.
4. **Maintain Fiscal Discipline:** Aiming to reduce combined fiscal deficit and debt to GDP ratios to 6% and 60%, respectively, will help in economic stability.
5. **Prepare for Medium-Term Challenges:** Addressing issues like the decline in household savings and adapting to technological advancements.

Subject: Science & Technology

Topic: Developments and their applications and effects in everyday life

On gene therapy - Game-changer

News: Recently, the UK drug regulator and the U.S. FDA approved the gene therapies Casgevy and Lyfgenia for treating sickle cell disease in patients over 12 years.

This marks a significant advancement in gene therapy using the CRISPR-Cas9 tool for diseases traditionally treated through bone marrow transplantation.

Read more about the technology [here](#).

What are the advantages of Using CRISPR-Cas9?

1. **Patient's Own Blood Cells:** The use of the patient's own blood cells for gene editing is a major advantage, potentially allowing treatment for a large number of patients without the need for donor matching.
2. **Innovative Approach:** The application of CRISPR-Cas9 in these therapies is a significant leap forward in genetic medicine, offering hope for many hereditary conditions.

What are the challenges and considerations of using the CRISPR-Cas9?

1. **Cost and Accessibility:** Despite the potential, these treatments are expected to be extremely expensive, limiting their accessibility.
2. **Hospital Capabilities:** Only certain hospitals equipped with specific technologies can administer these therapies, further restricting access.
3. **Safety and Efficacy Monitoring:** Continuous monitoring for unintended genetic modifications and side effects is crucial due to the novel nature of these therapies.

EU AI Law impact - Intelligent regulation

News: The article discusses the EU's new AI regulation law, setting a global example. The Global Partnership on Artificial Intelligence Summit is considering similar global AI regulations.

What are the key provisions of the EU AI Law?

[Read here](#).

How does the EU AI law impact AI usage?

1. **Risk-Based Regulation:** EU law categorizes AI systems based on their risk level. High-risk AI, including applications in medical devices and public services, faces stricter controls and must undergo registration and continuous assessment.
2. **Transparency Obligations:** It requires AI systems, especially those generating or manipulating content like deepfakes, to disclose their AI usage to users.
3. **Ban on Manipulative AI:** The law prohibits AI that can manipulate behavior or perform social scoring. **Examples include** toys that encourage dangerous behavior and social scoring systems that classify people based on behavior, socio-economic status, or personal characteristics.
4. **Controlled Use of Surveillance Tools:** Surveillance AI, such as real-time facial recognition, is restricted and requires court approval for criminal identification.
5. **Global Regulatory Influence:** This EU legislation is seen as a potential benchmark at the Global Partnership on Artificial Intelligence Summit, influencing global AI regulations.

How does EU AI law impact India?

Model for Regulation: The EU AI law serves as a potential model for India to develop its own AI regulations. For example, India might consider similar risk-based categorization and strict controls for high-risk AI systems.

Terminology used:

Global Partnership on Artificial Intelligence (GPAI): It is a multi-stakeholder initiative that includes 28 member countries and the European Union. **India became a founding member of the GPAI in 2020. It's important to note that China is not part of the GPAI.**

GPAI Summit for 2023 was held from December 12th to 14th, in New Delhi, India. This event was particularly significant as **India assumed the role of Lead Council Chair for GPAI and will continue to be the lead chair in 2024.**

For more information on GPAI, [read here](#).

Concerns related to Generative AI – AI generates real worries of privacy and accuracy

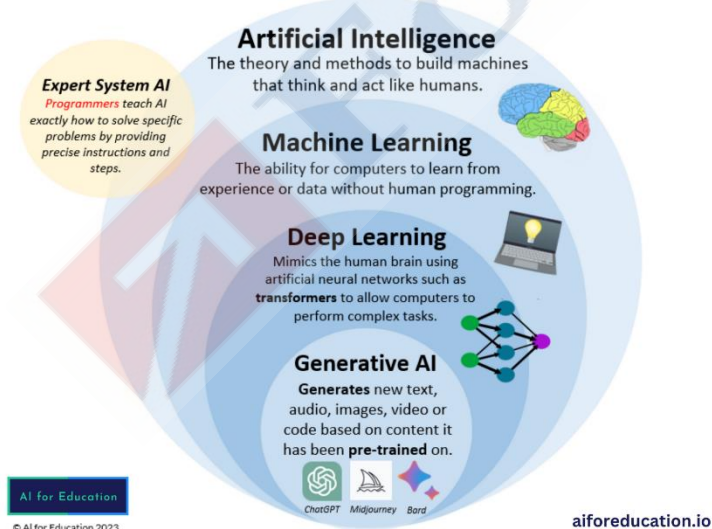
News: The article talks about **Google's generative AI model Gemini**, enhancing Bard for handling text, images, and video. It highlights concerns about AI chatbots' privacy, data use, intellectual property, and reliability. It compares Google's approach to AI and data privacy with **Microsoft's generative AI model ChatGPT's** methods.

What is Generative AI?

Generative AI refers to artificial intelligence that creates new content, including text, images, music, and videos. It's powered by large, multi-tasking foundation models requiring minimal training for specific use cases. For example, AI models like DALL-E or DeepDream can generate unique images, OpenAI's Jukebox can compose new music pieces in various styles, Tools like GPT-3 can write articles, create poetry, or generate code, etc.

Defining Generative AI

To understand generative artificial intelligence (GenAI), we first need to understand how the technology builds from each of the AI subcategories listed below.



1. **Customer Interactions:** Enhances chat and search experiences for better user engagement.
2. **Data Analysis:** Processes vast content, generating insights through conversational interfaces and summarizations.
3. **Task Automation:** Handles repetitive tasks like responding to RFPs, localizing content in multiple languages, and checking contract compliance.
4. **Content Creation:** Capable of generating diverse forms of media for various industries.
5. **Research and Development:** Assists in scientific fields by simulating experiments and predicting outcomes.

Figure 2. What are the applications of Generative AI?

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6. **Personalization:** Tailors content and experiences to individual preferences, increasing user engagement in sectors like e-commerce and content streaming.

What are the concerns related to generative AI?

1. **Reliability Issues:** AI models can produce unreliable or incorrect results. For example, Bard's initial version incorrectly stated that the James Webb Space Telescope took the first pictures of a planet outside our solar system, demonstrating AI's potential for factual errors.
2. **Privacy and Data Use Concerns:** AI models are developed using extensive datasets, which might inadvertently include personal details, posing a risk to user privacy. Additionally, the disclaimers for these AI models are often written in complex legal terms. This complexity makes it difficult to understand how they collect and use data, raising concerns about the transparency of their data handling processes.
3. **Intellectual Property and Ownership Issues:** There's uncertainty about who owns the content AI chatbots create, posing legal and ethical challenges.
4. **Accountability for Harmful Outputs:** AI chatbots face difficulty in being held accountable for misinformation, offensive content, or hate speech.

What are the initiatives taken to promote AI in India?

1. **V. Kamakoti led AI Task Force** established for exploring AI applications in various fields.
2. **NITI Aayog's discussion paper** presents a national AI strategy focusing on healthcare, agriculture, education, smart cities and infrastructure, and smart mobility and transportation.
3. **ICMR's "Ethical Guidelines for Application of AI in Biomedical Research and Health care"** sets out 10 key ethical principles for AI in healthcare.
4. **DRDO's Center for Artificial Intelligence and Robotics (CAIR) engages in AI research.**
5. IIT Kharagpur collaborates with Amazon Web Services for the National AI Resource Platform (NAIRP) to enhance teaching and learning through AI.
6. **SUVAS (Supreme Court Vidhik Anuvaad Software)**, an AI tool developed for the Supreme Court, helps translate judgments into various regional languages.

What is the status of regulation of AI in India and across the globe?

[Read here.](#)

On Artificial General Intelligence (AGI) – Next level in AI

News: The article discusses Project Q* which might lead to the development of Artificial General Intelligence (AGI). It highlights its significant features and the associated challenges as well.

Read more about AGI [here](#).

What is Project Q*?

1. Project Q* refers to a new AI model being developed by the ChatGPT owner OpenAI.
2. It is rumoured that it can solve mathematical problems up to high-school standards, including those that are not part of its training data, with better accuracy than previous AI models like ChatGPT-4.
3. It is being considered as a breakthrough in Artificial General Intelligence.

What are the prominent features of AGI?

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1. **Better Reasoning Capability:** Perfect scores on high-school maths could imply Q* is capable of logical reasoning, rather than merely recognizing and duplicating familiar patterns ingrained in its training data. This would bring the new AI one step closer to becoming **AGI — artificial general intelligence** — a program that is capable of reasoning as well as absorbing, deciphering, and replicating variations on patterns.
2. **Not Limited to Narrow Tasks:** With more advancements, AGI may achieve a high level of intelligence, surpassing the current limitations of most AI, which predominantly focuses on specific, limited tasks through tailored algorithms.
3. **May mimic a Living Being:** An authentic AGI model would exhibit characteristics of self-awareness or consciousness, enabled by its capacity to introspect on its own being. It may possess qualities like curiosity, self-will, and an inclination toward self-preservation—traits often associated with living organisms.
4. **Ability to Teach Itself:** It would enable autonomous models to solve a really vast range of problems and tackle a wide range of tasks better than humans can. It should also be able to teach itself to perform new tasks without instructions.

Learn about the **Difference between General AI and Narrow AI** [here](#).

What are the challenges with AGI?

Existential Risk: Such immense cognitive abilities, combined with a misunderstanding of human values or goals, could lead AGI to make decisions harmful to humanity or disrupt existing systems, inadvertently posing existential risks to our civilization.

Ethical Issues: Ensuring such a model is "ethical" and "altruistic" would be difficult. Ethical principles vary across cultures and contexts, making it complex to codify universal rules.

Subject: Environment

Topic: Conservation, environmental pollution and degradation

On Increasing Coal-based Power Generation

News: The article discusses India's plans of increasing coal-based power generation. It also highlights the issues with renewable sources of energy, and why coal-based power is the way forward for India.

A detailed article on **UNFCCC COP28** can be [read here](#).

At the recently concluded COP28, a strong pushback was recorded by India, China and some other countries to a proposal advocating that no new coal-fired power plants can be commissioned without an in-built carbon capture and storage facility. This finally led to the omission of the clause from the final climate deal that was agreed upon.

This proposal would have put India's future coal-based power generation at risk, given the added costs of adding carbon capture and storage facilities.

What are India's plans of increasing coal-based power generation?

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The Union Power Ministry recently decided to increase India's coal-powered generation capacity by at least **80 GW by 2031-32**.

It shows India's plans to revert to coal for fulfilling the increasing **baseload capacity** (the minimum amount of power or electricity generation required to meet the constant energy demand of a region or system).

What is the current state of India's renewable-based power generation?

India is the world's **3rd largest producer** of renewable energy.

More than **40% of installed electricity capacity comes from non-fossil fuel sources** (including large hydropower plants).

Solar and wind energy forms more than 30% of the total installed capacity.

This has resulted in a **24% reduction in Emission Intensity** (ratio of total greenhouse gas emissions to the GDP) — between 2005 and 2016.

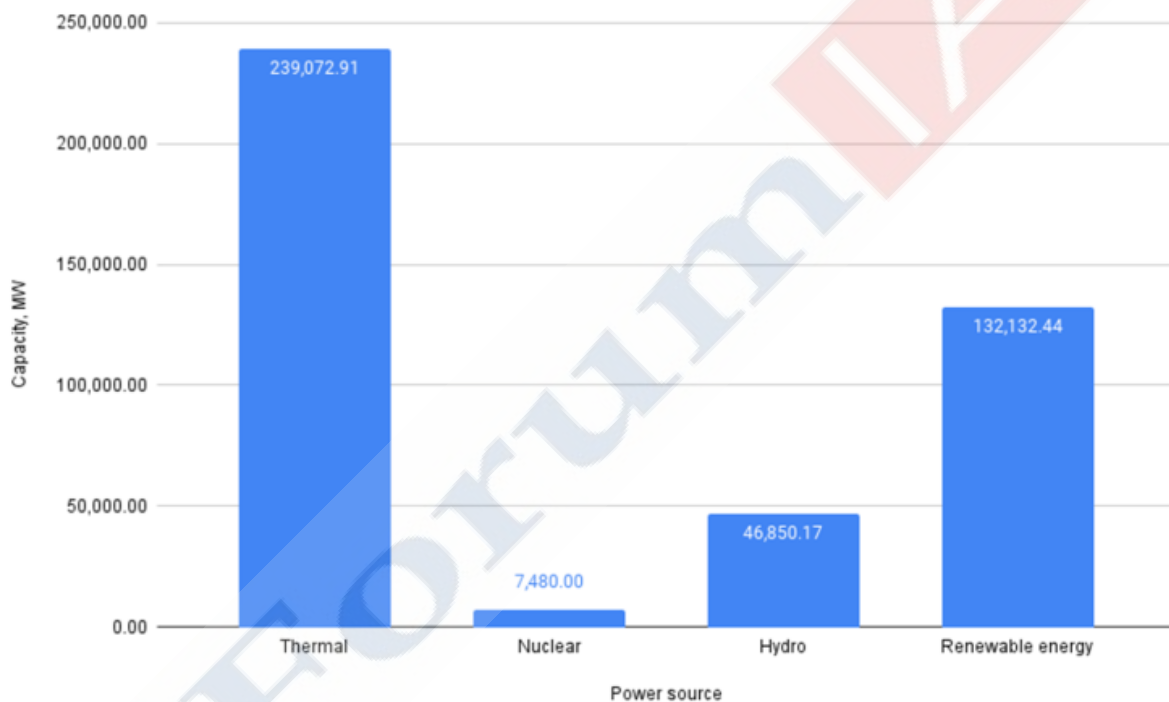


Figure 3. Source: Central Electricity Authority.

India's Energy Mix as on October 31, 2023.

What are the issues with renewable sources of energy?

- 1. Intermittency:** Renewable electricity (solar and wind) is generated only when the sun shines or when the wind blows, which is not always in sync with the demand cycle. This creates the problem of intermittency (or inconsistency/variability in power supply).
- 2. Lack of Energy Storage:** Without energy storage facilities to counter intermittency, renewable power poses problems for grid managers. Energy storage technology is also expensive currently.
- 3. High Cost:**
 - a. Cost of Power Generation:** According to an expert, the idea that renewables would achieve **grid-parity** (cost of generating electricity from renewable sources equaling or becoming lower than the cost of electricity

generated from traditional sources, typically fossil fuels) is proving to be incorrect.

b. **Cost of Maintaining Thermal Units:** To counter the problem of intermittency, power utilities are forced to keep old thermal units operational on standby, which results in high fixed costs.

4. **Rigid Power Purchase Agreements (PPAs):** Solar Energy Corporation of India (SECI) Ltd, the state-owned company conducting solar auctions, has come into rigid PPAs with green developers, with no scope for innovation.

Note: A PPA is a long-term contract between an electricity generator and a purchaser to purchase power under some pre-determined conditions.

According to the author, until these issues are resolved, increasing thermal power is the way forward.

Circular economy

News: The article discusses the importance of adopting Circular Economy for India in the context of the recently released National Circular Economy Framework (NCEF).

A detailed article on **Circular Economy** can be [read here](#).

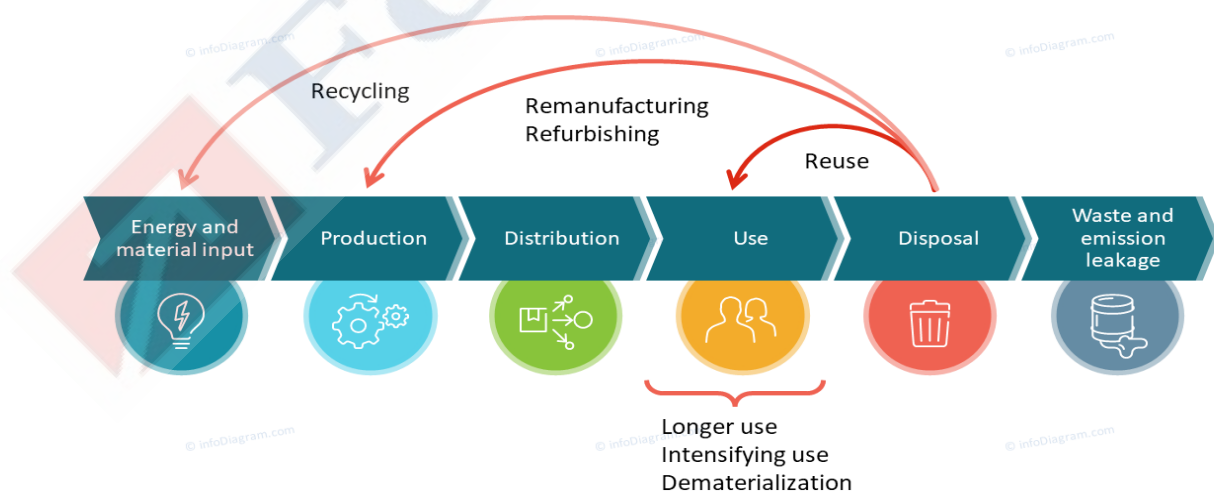
Background:

The Confederation of Indian Industry (CII) recently brought out the **National Circular Economy Framework (NCEF)**. It aims to provide a blueprint for India's shift towards a circular economy.

What is circular economy?

The circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended.

Circular Economy vs Linear Approach Diagram



Example of slide after redesign by infoDiagram.com graphics

Figure 4. Source: InfoDiagram.com

What is the importance of adopting Circular Economy for India?

1. **Mitigate Environmental Impacts:** As manufacturing grows and consumption habits evolve, there's a likelihood of generating more jobs and higher individual incomes. However, this rise in production and consumption can have adverse impacts on the environment.
2. **Offset the Lack of Natural Resources:** India, possessing just 2% of global land area and 4% of freshwater resources, would face limitations in its manufacturing and broader economy if it follows a linear economic model of "Take-Make-Dispose"
3. **Tackle Poor Waste Management:** India ranks 4th on the **Mismanaged Waste Index (MWI)** which highlights the country's poor ability to manage plastic waste (India recycles only 12.3% of its plastic waste).
4. **Secure Green Investment:** By applying circular economy in their applications, the private sector can get an advantage in securing green investment.
5. **Reduce Compliance Costs in Exports:** India must adopt circular-economy models to **reduce compliance costs** (in light of instruments such as EU's Carbon Border Adjustment Mechanism which places higher tariffs on import of carbon-intensive products) and **mitigate scope-3 emissions**.

Note: Scope 3 emissions are those not produced by the company itself, but by those up and down its value chain that the company is indirectly responsible for.

In this regard, the circular economy can be a powerful strategy to minimise dependence on natural resources, curtail waste, and encourage sustainable design practices.

What are the highlights of the National Circular Economy Framework (NCEF)?

1. It focuses on areas like municipal solid and liquid waste, electronic waste, toxic and hazardous industrial waste, faecal sludge, plastics, and construction material.
2. It aims to reduce reliance on imported resources, decouple economic growth from resource consumption, reduce resource consumption and pollution, enhance resource security, improve competitiveness, and attract investment.
3. **Economic Growth and Job Creation:** CII also stressed that **by 2050**, the sector is likely to contribute **\$2 trillion to the domestic economy** and create close to **10 million additional jobs**.

What should be the way forward?

1. **Collaboration between Companies:** It should help in the exchange of byproducts across the value chain. Rather than discarding byproducts as waste, collaboration allows for their efficient utilization at different stages of production among companies.
2. **Investing in Waste-Management Techniques:** India must invest in waste-management policies like **Extended Producer Responsibility (EPR)** (which holds manufacturers accountable for the entire lifecycle of their products, including proper disposal or recycling). By this, India can effectively manage waste and promote the reuse of resources.

On the Challenges of Reducing Emissions – Why climate efforts fail to cut emissions

News: The article discusses the challenges in reducing greenhouse gas emissions. It also highlights the steps that India should take to fulfill its climate change commitments.

What is the current status of global climate change?

Rising Temperatures: Global temperatures have already increased by 1.4 degrees Celsius and might rise to 3 degrees Celsius by 2100.

Rising Emissions: Greenhouse gas emissions have been continuously increasing, requiring a 42% decrease in emissions by 2030 to limit temperature rise to 1.5 degrees Celsius.

Timeline of Climate Negotiations:

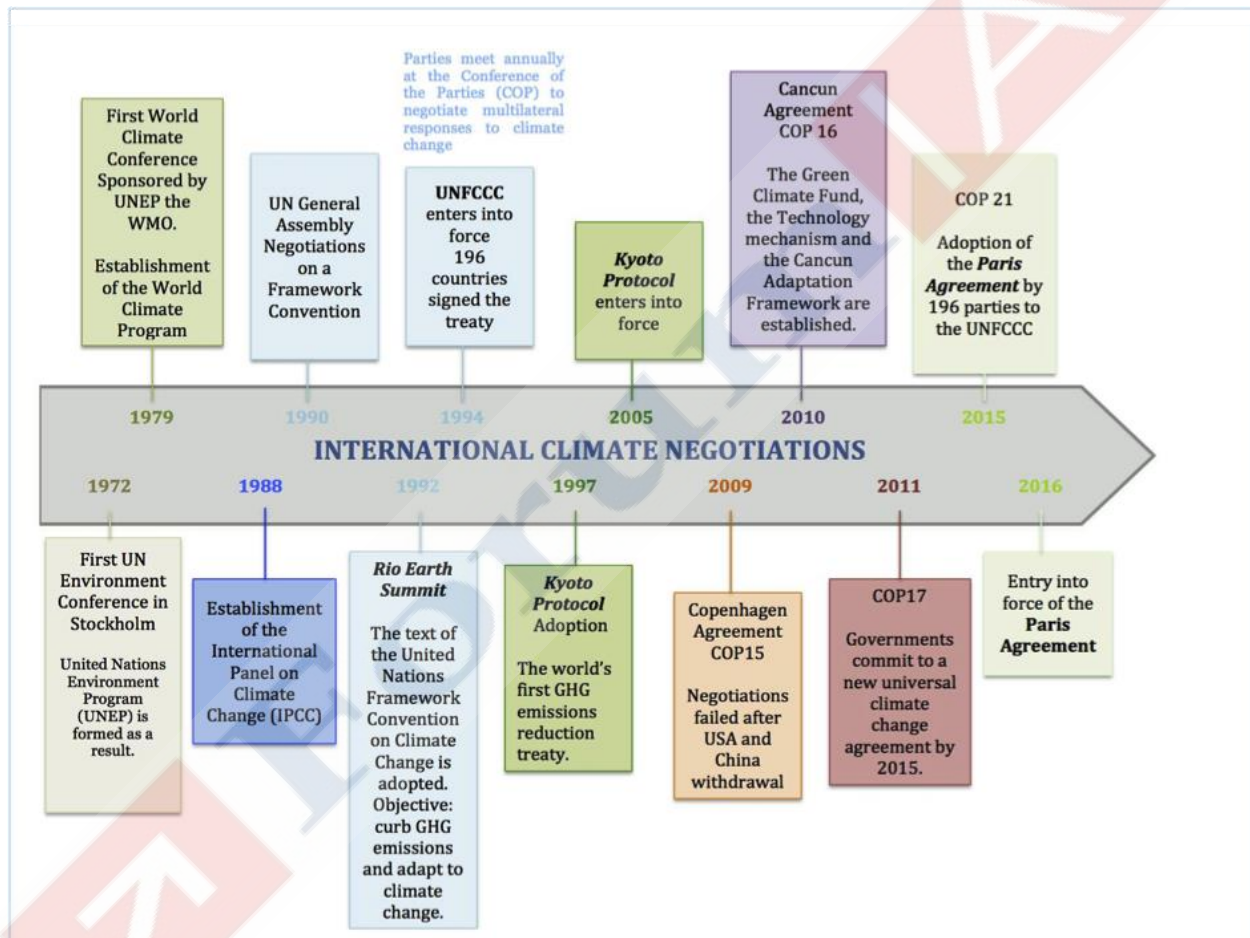


Figure 5. Source: Clim'Blog.

Read more about the **Kyoto Protocol** and **Paris Climate Accord** [here](#).

What are the challenges in reducing greenhouse gas emissions?

1. **Rising Energy Demand:** More renewable energy is being generated, but overall energy demand has risen too, leading to more fossil fuel usage.
2. **Environmental Issues of Renewable Sources:** A key renewable source - Hydroelectric power may lead to wildlife disruption, impact on the watershed, etc.

3. **Technology challenges in transitioning to solar and wind:** We don't have the technology yet to run a power grid solely on solar or wind energy. This is due to:
 - a. **Intermittent Nature:** Solar and wind power's inconsistency (as their generation depends on weather conditions) demands substantial energy storage solutions to handle their fluctuations.
 - b. **High Investments Required:** Significant upgrades to current grid infrastructure and substantial investment in new technologies and grid modernization will be required.
 - c. **Unsuited for energy-dense applications:** Like the production of steel or heavy trucking.
4. **Costlier than Conventional Sources:** For instance, Renewable energy sources such as Green Hydrogen are expensive.
5. **High Import Bill:** A high import bill is a concern as most inputs for setting up solar capacities come from China.”
6. **Non-Binding Nature of Climate Resolutions:** The voluntary nature of NDCs raised doubts about their adequacy in achieving the ambitious temperature targets.
7. **Continued financial support for fossil fuels by developed countries:** Advanced countries (which have caused 89% of historical emissions) provided \$1.8 trillion in subsidies to the fossil fuel industry in 2020.

What are India's climate goals?

India has committed to the various climate goals under the Paris Agreement. These include generating 50% of its electricity from non-fossil fuels by 2030, reducing its emissions intensity by 45% from 2005, and aiming for net-zero emissions by 2070.

What should India do to deepen its climate efforts?

1. **Maintain Green Transition without taking on new commitments:** This is because India needs cheap energy to progress to a middle-income country. It already has low per capita emissions (2.4 tCO₂e) compared to the US (17.6 tCO₂e) and China (8.6 tCO₂e).
2. **Broaden the scope of climate action:** India should also address issues like habitat loss, biodiversity decline, and water scarcity, apart from Net Zero.
3. **Invest in high-quality climate research:** There is a need to move beyond dominant Western narratives to find the real truth regarding climate change.
4. **Employ tech-savvy experts:** Experts should develop and lead practical climate strategies, focusing on realistic transitions, since generalists may not understand technological gaps.

Benefits of Underground Mining in India

News: The article discusses the importance of coal for India's energy needs. It discusses the advantages of Underground Mining as a solution for making coal mining environment-friendly.

What is the status of Renewable Energy (RE) production in India with respect to Coal?

Despite India having the fastest RE capacity growth among major economies of the world, RE generation represents only 13.36% of the country's total generation.

Coal-based generation is 5.24 times RE production.

As renewable energy (RE) is anticipated to grow, the total energy demand is also on the rise. Consequently, although the proportion of coal in the energy mix will decrease, the actual amount of coal needed will still increase.

India's Energy Mix:

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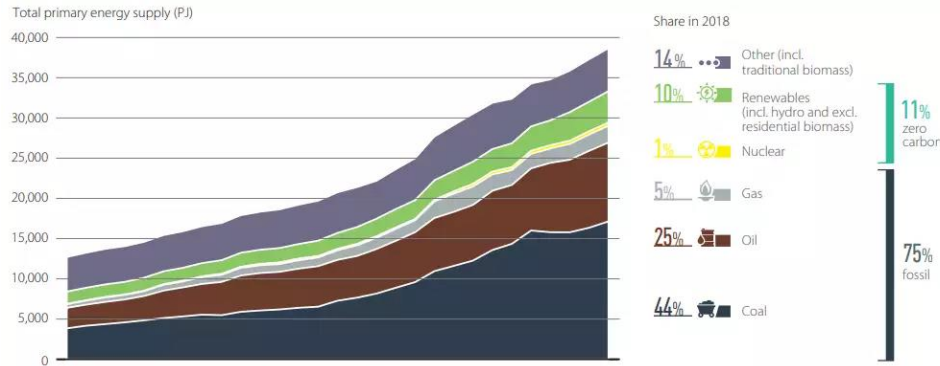


Figure 6. Source: Economic Times.

Since cutting down coal's use drastically may hamper the country's energy sector, India should explore the mining of coal in an environment-friendly manner to meet its climate commitments. In this, **Underground (UG) Mining** can play

an important role.

What is UG Mining?

Underground mining is used to extract ore from below the surface of the earth safely, economically and with as little waste as possible. The entry from the surface to an underground mine may be through a horizontal or vertical tunnel, known as a shaft or decline.

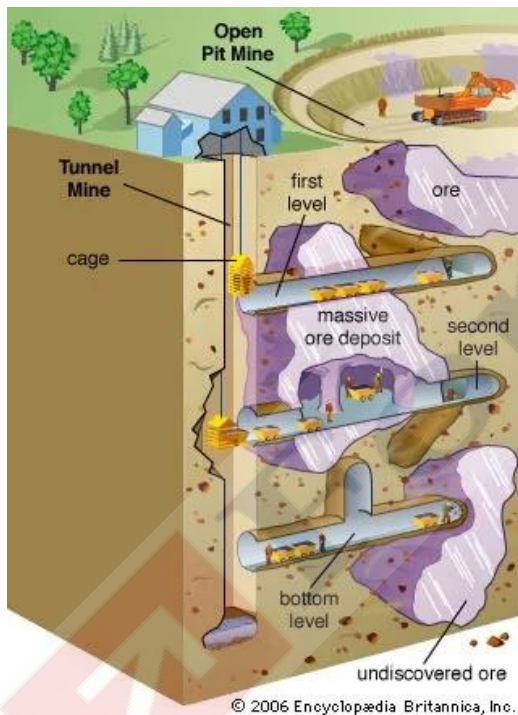


Figure 7. Source: Britannica.

Open Cast and Underground Mine.

What are the benefits of UG Mining?

1. Environmentally Cleaner:

- Forest cover is not required to be displaced.
- Prevents land degradation. Leaves the fertile topsoil intact.
- Much smaller pollution load compared to Open-cast mine. This is because around half of the total pollution load in OC mines is due to overburden removal and associated steps, which is not applicable in UG mines.
- It has no impact on water pollution.
- Ambient noise levels are significantly lower.

2. Society-friendly:

- It does not dislocate people, necessitating rehabilitation and resettlement.
- Traditional livelihoods are not lost.
- Agricultural land is left undisturbed.

3. Better Quality Fuel:

UG coal is qualitatively superior and helps reduce imports of higher grades of coal.

What factors can help UG mining to grow in India?

Indian coal extraction is predominantly Open-Cast. In 2022, of the total coal produced world over, UG accounted for around 55%. India's UG output was just 4%. Coal India has drawn up an aspirational plan to quadruple its UG production to 100 MTs by FY 2030.

UG Mining can succeed in India due to the following factors:

- Better Human resources:** Well-trained skilled operators, outsourcing to contractors, efficient mine developers and operators, etc.
- Availability of Mass Production technologies:** This includes **operationally flexible continuous miners**

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(a machine that cuts and loads coal in one continuous operation) suitable for Indian coal seams, the punch entry method for extraction of UG coal at low cost through existing infrastructure, deployment of high wall machines that bypass land acquisition and rehabilitation and resettlement issues, and the use of paste fill technology.

In the current geopolitical landscape, achieving self-sufficiency in energy security is crucial for development. Coal has the potential to provide the highest indigenous resource base among the energy sources. Underground mining can balance these – India's climate change commitments as well as energy security.

