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GENERAL STUDIES - II	2
Governance	2
Fiscal Deficit for Fiscal Prudence	2
Food Security Act has revamped the PDS	4
India's Digital Public Infrastructure	6
Five sutras for digital infrastructure	9
Road Safety in India	11
Swachh Bharat Mission	13
International Relations	15
United Nations Day for South-South Cooperation	15
GENERAL STUDIES - III	17
Economy	17
Making India a Startup Nation	17
Environment	19
Loss and Damage Fund	19
Security	21
Responsible use of AI in war	21

GENERAL STUDIES - II

Governance

Fiscal Deficit for Fiscal Prudence

The **management of fiscal deficit and government debt** is a critical aspect of economic policy in any country, and India is no exception.

The **balance between government expenditures and revenues** plays a pivotal role in determining the overall health of the economy.

Therefore, **it is important to explore the complexities of managing fiscal deficit and debt in India**, particularly in the context of recent developments and historical precedents.

The 1980s Fiscal Crisis -

- The **1980s** marked a period of economic difficulty for India, characterised by a rising fiscal deficit and escalating government debt.
- This **situation led to a severe balance of payments crisis** and a high ratio of interest payments to revenue receipts.
- The **government was forced to borrow progressively more to meet its developmental expenditures**, which worsened the debt situation.
- This **period highlighted the dangers of allowing fiscal imbalances to persist, as the government found itself trapped in a cycle of borrowing and debt repayment** that left little room for productive investments or economic growth.

The 2024-25 Union Budget Fiscal Targets and Gaps in the Announcement -

- Fiscal Targets —
- In the final **Union Budget for 2024-25**, the Indian government acknowledged the need to **address fiscal imbalances** and set forth ambitious targets for reducing the fiscal deficit and government debt.
- The **finance minister announced that starting from 2026-27**, the government's goal would be to ensure that **the central government debt is on a declining path** as a percentage of GDP.
- Specifically, **the Budget projected a reduction in the fiscal deficit to 4.5% of GDP by 2025-26**, down from the budgeted level of 4.9% in 2024-25.
- At this level, **the debt-GDP ratio is estimated to be 54% by 2025-26**, assuming a nominal GDP growth rate of 10.5% over the next two years.
- Unclear Roadmap for Achieving Sustainable debt-GDP Ratio —
- Beyond these immediate targets, **the government has not provided a clear roadmap** for achieving a **sustainable debt-GDP ratio in the long term**.
- The **decision to abandon the Fiscal Responsibility and Budget Management (FRBM) Act's 2018 target** of reducing the debt-GDP ratio to 40% for the central government and 60% for the combined government **indicates a shift in fiscal policy**.
- Instead of adhering to a fixed target, **the government now aims to maintain a gradually declining debt-GDP ratio**, which could stretch well into the future.

An Overview of the Combined Fiscal Deficit and Its Economic Implications -

- The Combined Fiscal Deficit —
- India's fiscal responsibility framework is **not limited to the central government; it extends to the states as well**.
- Under their respective Fiscal Responsibility Legislations (FRLs), **state governments are required to maintain a fiscal deficit target of 3% of their Gross State Domestic Product (GSDP)**.
- These **targets are designed to ensure that states maintain fiscal discipline**, control their borrowing, and contribute to the overall economic stability of the country.
- If both the central and state governments maintain fiscal deficits of 4.5% and 3% of GDP respectively, **the combined fiscal deficit could reach 7.5% of GDP for several years**.
- **Such a high combined deficit has profound implications** for the broader economy, particularly in terms of investment and economic growth.
- Crowding Out Private Investment —
- The **concept of crowding out refers to a situation where increased government borrowing leads to higher interest rates**, which in turn reduces private sector investment.
- In **India's current context, where household financial savings have been on the decline**, this crowding-out effect **could be particularly pronounced**.
- For instance, in **2022-23, household financial savings were 5.3% of GDP**, a significant drop from 7.6% in the preceding four years (excluding the COVID-19 year of 2020-21).

- **With only 5.3% of household savings and approximately 2% of net inflow of foreign capital, the available investible surplus of 7.3% would be fully absorbed by the government's combined fiscal deficit of 7.5% of GDP.**
- Fiscal Imbalances and Long-term Economic Stability —
- **The high combined fiscal deficit also raises concerns** about long-term economic stability.
- **Persistent fiscal imbalances can lead to a vicious cycle of increasing debt** and rising interest payments.
- **As the government borrows more to finance its deficit, the debt level increases**, leading to higher interest payments.
- **These interest payments, in turn, consume a larger share of government revenue**, leaving less available for other essential expenditures such as infrastructure development, education, and healthcare.
- Risks of Fiscal Indiscipline at the State Level —
- **One of the risks of the central government's shift in fiscal policy is that it may set a precedent for fiscal indiscipline** at the state level.
- State governments might perceive the central government's abandonment of strict fiscal targets as **a signal that they too can relax their fiscal discipline** without facing serious consequences.
- This **could lead to a situation where states accumulate higher levels of debt without a clear plan for repayment**, ultimately exacerbating the overall fiscal burden on the country.

International Comparisons, Challenges and Policy Recommendations -

- International Comparisons and Challenges Before India —
- International **comparisons reveal that India's interest payments to revenue receipts ratio is much higher** than that of other countries with similar or even higher levels of government debt-GDP ratios.
- For example, **during 2015-19, Japan, the United Kingdom, and the United States had interest payment to revenue receipts ratios of 5.5%, 6.6%, and 8.5%, respectively.**
- **In contrast, India's combined interest payment to revenue receipts ratio averaged 24% during the same period**, with the central government's post-transfer ratio averaging 49%.
- Policy Recommendation: The Need for Coordinated Fiscal Discipline —
- **To prevent such outcomes, it is crucial that both the central and state governments adhere to a coordinated approach** to fiscal discipline.
- **While some flexibility in fiscal policy may be necessary** to respond to economic shocks or development needs, **this should not come at the cost of long-term fiscal sustainability.**
- **The central government should work closely with states to ensure that any relaxation of fiscal targets is temporary** and accompanied by a clear plan for returning to sustainable debt levels.
- Incentives for States —
- Additionally, **the central government could consider providing incentives for states that adhere to fiscal discipline**, such as access to additional grants or favourable borrowing terms.
- **By aligning the interests of the central and state governments, India can achieve a more balanced and sustainable fiscal policy** that supports economic growth without jeopardising financial stability.

Conclusion -

- **While the government's recent fiscal targets are a step in the right direction, the lack of a clear roadmap** for achieving a **sustainable debt-GDP ratio raises concerns.**
- Furthermore, **the high levels of interest payments relative to revenue receipts, coupled with declining household financial savings**, limit the available investible surplus for the private sector, potentially **hindering economic growth.**

- Moving forward, it is crucial for India to adopt a more disciplined fiscal approach, with a focus on reducing the fiscal deficit and debt-GDP ratio to sustainable levels, thereby ensuring long-term economic stability.

Source - [The Hindu](#)

QUESTION - Discuss the challenges and strategies involved in managing India's fiscal deficit and government debt in the context of historical precedents, such as the 1980s fiscal crisis, and recent developments, particularly the 2024-25 Union Budget. How does the combined fiscal deficit impact long-term economic stability, private sector investment, and state-level fiscal discipline? Suggest policy measures to address these challenges and ensure sustainable debt management.

Food Security Act has revamped the PDS

The National Food Security Act (NFSA) of 2013 aimed to guarantee food security through an expanded Public Distribution System (PDS) in India.

However, concerns over inefficiencies in the PDS, particularly high levels of leakages, have persisted.

Therefore, it is important to have an assessment on the evolution of the PDS, its reforms, and the ongoing challenges it faces considering recent data from the Household Consumption Expenditure Survey (HCES) 2022-23.

Concerns surrounding inefficiencies in the PDS -

- Leakages in the PDS refer to the failure of food grains to reach the intended beneficiaries, often due to corruption, theft, or inefficiencies in the supply chain.
- According to the National Sample Survey (NSS) of 2011-12, at the national level, PDS leakages stood at an alarming 41.7%.
- This figure reflected a poorly functioning system, contributing to the nervousness surrounding the NFSA's ambition to guarantee food security through this channel.
- Despite the initial pessimism, there was optimism in some quarters, driven by the experiences of states that had successfully reformed their PDS.
- States like Bihar, Chhattisgarh, and Odisha saw dramatic reductions in leakages between 2004-05 and 2011-12 after implementing key reforms.
- For instance, Bihar reduced leakages from 91% to 24%, Chhattisgarh from 52% to 9%, and Odisha from 76% to 25%.
- Encouraged by these results, the NFSA 2013 mandated the same package of reforms across the country.
- The latest HCES data for 2022-23, the first large-scale survey after the NFSA's full implementation, confirms the hypothesis that PDS reforms would reduce leakages.
- Nationally, PDS leakages have dropped to 22%, a significant improvement over the previous decade.

Estimating and Understanding PDS Leakages -

- Methodology of Estimating PDS Leakages —
- To estimate the extent of PDS leakages, data from the National Sample Survey (NSS) and the Monthly Food Grain Bulletin of the Ministry of Food are cross-referenced.
- Specifically, the survey compares household reports on the quantity of PDS grain they purchased with the total amount of grain off taken from government warehouses, primarily the Food Corporation of India (FCI).
- The gap between what is supplied (offtake) and what households report purchasing is attributed to leakage.

- During the **2022-23 reference period (August 2022 to July 2023)**, PDS ration cardholders were entitled to food grains under the NFSA.
- This included 5 kg of grain per capita per month for Priority households and 35 kg per household for Antyodaya families.
- This was along with additional allocations under the **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) during the COVID-19 pandemic**, which was discontinued in December 2022.
- The data includes grain provided both free and for a nominal cost.
- Sources of Inaccuracy in Leakage Estimates —
- **Time Lag in Data Collection**
- One major source of inaccuracy is the mismatch in timing between the data on offtake and household purchases.
- For instance, if the time-period of the PDS offtake is shifted by just a month, the leakage estimate can change significantly.
- According to estimates, lagging the offtake data by one month reduces the leakage estimate to 17.6%, compared to 18.2% when the periods are matched exactly.
- Such variations highlight the sensitivity of the estimates to the reference period used in calculations.
- Expanded PDS Systems —
- Some states have implemented their own expanded PDS programs beyond the NFSAm mandated coverage, providing additional food grains to non-NFSA beneficiaries using both central government allocations and their own resources (e.g., local procurement).
- For instance, **Chhattisgarh passed its own food security law in 2012**, making the PDS quasi-universal through local procurement and expanded eligibility criteria.
- Diverse Causes of Leakages —
- While the methodology attributes all mismatches between offtake and purchases to leakages, there could be other explanations for these gaps.
- **Transport losses, pilferage during distribution, discrepancies in reporting, and delays in the delivery of food grains to PDS outlets** may all contribute to the observed shortfall.
- Some portion of what is classified as leakage may simply be a result of operational inefficiencies rather than intentional diversion of grain.

PDS Coverage, Impact of NFSA, Reforms and Technological Innovations -

- PDS Coverage, Impact of NFSA —
- The expansion of PDS coverage under the NFSA 2013 has played a crucial role in reducing exclusion errors and leakages.
- Before the NFSA, less than 50% of households held ration cards, and only about 40% accessed PDS benefits.
- However, reforms between 2004-05 and 2011-12 in states like Chhattisgarh and Odisha led to a substantial increase in PDS participation.
- In Chhattisgarh, for example, the proportion of households accessing the PDS tripled during this period.
- **By 2022-23, the proportion of households purchasing PDS grains increased to 70%**, largely due to the NFSA's expansion.
- However, the government is still falling short of the coverage mandated by the NFSA, which stipulates 75% coverage of rural households and 50% of urban households.
- **According to HCES data, only 57%-61% of households have NFSA ration cards**, with around 10% being non-NFSA beneficiaries.
- Reforms and Technological Innovations —
- **Early reforming states** like Chhattisgarh and Odisha introduced several key changes.
- These changes contributed to the success of the PDS, including reducing PDS prices, ensuring doorstep delivery of food grains, digitising records, and handing over management of PDS outlets to local bodies such as panchayats and self-help groups.

- These reforms were subsequently adopted at the national level through the NFSA.

The Future of PDS and Policy Recommendations -

- The PDS remains a vital instrument of social policy in India, ensuring food security for millions.
- Its importance was particularly evident during the COVID-19 pandemic, when it formed a crucial part of the government's relief efforts.
- Despite this, the PDS faces challenges from ongoing policy experiments, including cash transfer initiatives and the imposition of inappropriate technologies like Aadhaar-based authentication.
- Rather than focusing on such innovations, the government should prioritise addressing the root causes of exclusion and inefficiencies.
- One critical area is the delayed Census, which has left over 100 million people without access to PDS benefits.
- Additionally, demands for including more nutritious food items such as pulses and edible oils remain pressing and should be addressed.

Conclusion -

- The NFSA 2013, along with the reforms it mandated, has led to significant improvements in the PDS, particularly in reducing leakages and expanding coverage.
- However, challenges remain, including reaching full coverage and addressing the inefficiencies in states that have historically performed well.
- The government must focus on strengthening the PDS further by continuing state-level reforms, expediting the Census, and incorporating more nutritious food items into the distribution system.

Source - [The Hindu](#)

QUESTION - Critically analyse the evolution of the Public Distribution System (PDS) in India since the implementation of the National Food Security Act (NFSA) of 2013. Highlight the key reforms that have reduced leakages and expanded coverage, based on the latest data from the Household Consumption Expenditure Survey (HCES) 2022-23. What challenges persist, and how can the PDS be further strengthened to ensure food security for all?

India's Digital Public Infrastructure

During its G20 presidency, India has showcased digital public infrastructure (DPI) as a key tool for promoting inclusive and sustainable development.

DPI's significance lies not just in its technological capabilities but also in its ability to enhance public and private service delivery.

While DPI has been a success story in India, its rapid growth raises critical questions about competition, regulation, data privacy, and the balance between innovation and control.

The Structure of DPI and Achievements and Expansions of DPI in India -

- **Structure of DPI —**
- Foundational Structure —
- Digital Public Infrastructures in India can be broadly categorised into **foundational and sectoral types**.
- Foundational DPIs, such as Aadhaar, Unified Payments Interface (UPI), and the Data Empowerment and Protection Architecture (DEPA), establish essential digital rails that facilitate identity verification, payment systems, and data exchange platforms.
- **These infrastructures form the backbone of India's digital ecosystem**, ensuring that various services are accessible to the population at large. • Sectoral DPIs —

- **Sectoral DPIs, on the other hand, cater to specific sectors**, providing specialised services tailored to the needs of those areas.
- The **Ayushman Bharat Digital Mission, for example, focuses on universal health coverage by utilising these digital rails.**
- Another **notable example is the CoWIN platform**, which leveraged Aadhaar-based authentication to administer over 2.2 billion COVID-19 vaccines across the country.
- These **DPIs highlight the transformative impact of digital infrastructure** on public service delivery.
- **Achievements and Expansions of DPI in India —**
- **India's achievements in the DPI space are remarkable and with over 1.3 billion Aadhaar enrolments** and more than 10 billion UPI transactions conducted monthly, the country has made significant strides in digital transformation.
- The **Indian government continues to expand DPIs into new areas such as credit, ecommerce, education, health, law, logistics, MSME services**, and urban governance, as outlined in the Finance Minister's budget speech.
- However, **despite these successes, certain issues merit attention.**
- **DPIs, by their very nature, serve as platforms enabling other entities to build digital applications** and services on top of existing infrastructure.
- This **platform-like role facilitates rapid innovation and value creation** through public-private partnerships.
- However, **it also introduces the risk of market concentration**, where a few players may dominate the ecosystem, leading to monopolistic or oligopolistic outcomes.

Challenges of Market Concentration and Competition -

- **Network Effects and Winner-Takes-All Dynamics —**
- **One of the most significant challenges** posed by DPIs is **their inherent network effects, which can lead to a winner-takes-all dynamic.**
- In the context of DPIs, **network effects occur when the value of the platform increases as more participants use it.**
- This **characteristic is particularly evident in payment systems** like the UPI.
- **As more users and merchants adopt UPI, the platform's value grows, attracting even more users** and reinforcing the position of dominant players.
- This **self-reinforcing cycle can lead to market concentration**, where a few companies gain disproportionate control over the market.
- **Barriers for New Entrants —**
- In India, the UPI system has **already led to the emergence of a virtual duopoly**, where two major service providers dominate the market.
- **These firms have capitalised on the network effects**, capturing significant market share, and creating barriers for new entrants.
- **As these companies continue to grow, they accumulate vast amounts of user data**, which can be leveraged to expand into other sectors, such as retail lending or e-commerce.
- This **cross-sectoral expansion further strengthens their market position**, making it even more challenging for competitors to gain a foothold.
- **Monopolistic Tendencies and the Risk of Oligopolies —**
- The concentration of market power among a few dominant players raises concerns about monopolistic tendencies and the formation of oligopolies.
- In such a scenario, **the dominant firms can exert significant control over the market, potentially stifling competition, and innovation.**
- For example, **in the payments sector, the dominance of a few companies could lead to practices that disadvantage smaller competitors**, such as preferential access to essential data, exclusive partnerships, or anti-competitive pricing strategies.
- **Reduced Consumer Choice —**

- Monopolistic tendencies can result in reduced consumer choice and higher costs for services in the long run.
- While the initial adoption of DPI-driven services like UPI may offer consumers low-cost or even free services, the lack of competition could eventually lead to price increases or a reduction in service quality.
- This could undermine the very goals of inclusivity and accessibility that DPIs were designed to achieve.
- Accumulation of Vast Data by a Dominant DPI Service Provider —
- Data is a crucial asset in the digital economy, and the accumulation of vast amounts of user data by dominant DPI service providers presents another significant challenge.
- Data serves as a modular input that can be used to enhance existing services or develop new ones, giving companies with extensive data access a competitive edge.
- In the absence of strong regulatory oversight, these firms can use their data advantage to entrench their market position, making it difficult for new entrants to compete.
- Regulatory Challenges —
- The emergence of monopolistic or oligopolistic structures in the DPI ecosystem challenges the very purpose of these infrastructures, which is to foster competition and inclusivity.
- Addressing these challenges requires a nuanced regulatory approach that can adapt to the rapidly evolving digital landscape.
- India's G20 Task Force on Digital Public Infrastructure has recognised the importance of creating a level playing field for all participants in the digital ecosystem.
- This includes ensuring that no single entity has undue control or influence over digital infrastructure.

Steps Required to Facilitate a Healthy Competition -

- Regulations to Prevent Anti-Competitive Practices —
- Regulatory frameworks must be designed to prevent anti-competitive practices, such as data hoarding, predatory pricing, and the exclusion of competitors.
- Additionally, these frameworks should promote transparency in how data is collected, shared, and used by DPI service providers.
- Ensuring interoperability between different platforms can also help prevent market concentration by making it easier for new entrants to compete.
- Balancing Innovation with Regulation —
- While addressing the challenges of market concentration and competition is crucial, it is equally important to strike a balance between regulation and innovation.
- Overly stringent regulations could stifle the very innovation that has driven the success of DPIs in India.
- Therefore, a flexible regulatory approach that encourages innovation while safeguarding against the risks of market concentration is essential.
- Adoption of 'Soft-Law' Instruments —
- One potential solution is the adoption of soft law instruments, which provide guidelines and best practices for industry players without imposing rigid rules.
- These instruments can encourage responsible behaviour among DPI service providers while allowing them the flexibility to innovate and adapt to changing market conditions.
- For example, guidelines on data privacy, security, and interoperability can help prevent anti-competitive practices without hindering the growth of the digital economy.

Conclusion -

- The rapid expansion of Digital Public Infrastructure in India represents a significant achievement in the country's digital transformation journey.

- However, **the potential for market concentration, data privacy concerns, and the need for a balanced regulatory approach must be addressed** to ensure that DPIs fulfil their promise of inclusive and sustainable development.
- **A nuanced governance framework that blends statutory regulations with soft law principles can help India navigate the challenges of this new digital era**, ensuring that DPIs remain a force for good while minimising potential risks to society.

Source - [The Indian Express](#)

QUESTION - Digital Public Infrastructure (DPI) has emerged as a transformative tool in India's push towards inclusive and sustainable development. However, its rapid growth has raised concerns related to market concentration, data privacy, and competition. Discuss the challenges and regulatory measures needed to ensure that DPI continues to foster innovation without compromising public interest.

Five sutras for digital infrastructure

India's extraordinary achievement of over 80% financial inclusion within just six years stands as a testament to its innovative approach to digital and financial inclusion.

This achievement has not only earned global admiration but also positioned India as a guiding light for the Global South.

As the world increasingly turns to digital solutions, India's experience and expertise become invaluable assets for other countries aiming to replicate its success.

An Overview of India's Leadership in DPI (Digital Public Infrastructure) -

- **The rapid scale at which India has integrated over a billion people into its digital and financial frameworks is nothing short of remarkable.**
- **As a result, the 2023 G20 summit in New Delhi placed significant emphasis on digital public infrastructure (DPI)**, a sector where India has demonstrated unparalleled leadership.
- **India's leadership in DPI is further highlighted by the G20 task force's recent report**, which outlines a global strategy for developing DPI.
- **This report marks India's commitment to developing digital sovereignty, financial inclusion, and self-reliance on a global scale.**

The Complex Digital Landscape and the Rise of Citizen Stack -

- A Fragmented Ecosystem of Digital Solutions —
- **As nations and organisations across the globe rush to develop their digital infrastructures, the market has become saturated with a wide variety of DPI offerings.**
- **These range from government-backed initiatives to private sector innovations and nonprofit-driven solutions.**
- **While this diversity can drive competition and innovation, it also creates a fragmented ecosystem** where the quality, security, and effectiveness of these digital solutions can vary widely.
- **In such a crowded and dynamic environment, stakeholders including governments, businesses, and citizens are faced with the daunting task of identifying which DPIs are genuinely reliable, secure, and effective.**
- The Need for Standards and Trust —
- **Given the complexity of this digital ecosystem, there is an urgent need for a trusted entity that can set standards and provide assurances** regarding the quality and integrity of DPIs. **This is where Citizen Stack enters the scene** as a critical player.
- **Unlike other entities that may have vested interests in promoting their proprietary solutions, Citizen Stack positions itself as a neutral, regulatory body focused on certifying and authenticating DPIs.**

- **Citizen Stack's role is not to create new DPs but to act as an auditor, ensuring that existing and emerging digital infrastructures meet high standards of security, scalability, and inclusivity.**
- The Rise of Citizen Stack —
- **Citizen Stack draws its credibility from the proven success of the India Stack, a comprehensive digital infrastructure that has already demonstrated its ability to operate at scale, securely serving over a billion citizens.**
- **The India Stack includes components such as Aadhaar (a biometric identity system), Unified Payments Interface (UPI), and DigiLocker (a digital document storage system), which have collectively transformed India's digital economy and set new benchmarks for digital inclusion.**

- Leveraging this success, **Citizen Stack has emerged as a natural evolution**, designed to extend the principles and standards established by the India Stack to a global context.
- By doing so, **Citizen Stack provides a blueprint for other nations** seeking to build or enhance their digital public infrastructures.
- The Strategic Importance of Citizen Stack —
- As the digital landscape continues to evolve, **the importance of Citizen Stack is likely to grow.**
- With more nations and organisations recognising the need for reliable and secure DPIs, **Citizen Stack's role as a certifier and auditor will become increasingly central to the global digital infrastructure ecosystem.**
- Its ability to set and enforce high standards will not only contribute to the security and effectiveness of digital solutions but also help build the trust necessary for their widespread adoption.

The Role of Citizen Stack in Navigating the Challenges of Digital Sovereignty -

- In addition to setting standards, **Citizen Stack plays a crucial role in the broader conversation around digital sovereignty.**
- **Digital sovereignty refers to the idea that nations should have control over their digital infrastructure** and data without undue influence from foreign entities or monopolistic corporations.
- Citizen Stack's **commitment to promoting digital sovereignty aligns with its broader mission of ensuring that DPIs are designed and operated in the public interest.**
- By certifying DPIs that adhere to principles of transparency, interoperability, and citizen empowerment.

The Five Guiding Principles of a Good DPI -

- Upholding Citizen Relationships with the Market and State —
- **A good DPI must ensure that the digital infrastructure it supports does not distort or disrupt this relationship.**
- In practical terms, **this means that the DPI should be designed to empower citizens, allowing them to interact with both the market and state** on fair and transparent terms.
- This principle is critical in preventing the digital divide and ensuring that digital solutions do not disproportionately benefit certain groups or entities at the expense of others.
- Safeguarding Citizen Empowerment and Privacy —
- In a world where data has become a valuable commodity, **it is essential that DPIs prioritise the privacy of individuals and provide them with control over their personal data.**
- This **principle calls for the implementation of a consent-based system for data sharing, where citizens have the power to decide how their information is used**, with whom it is shared, and for what purposes.
- This **focus on privacy and consent is crucial in building trust between citizens and digital systems.**
- It **ensures that individuals are not subjected to surveillance**, data exploitation, or unauthorised access to their personal information.
- Preventing Lock-In by Competing Monopolies —
- **A good DPI must be designed to prevent lock-in by competing monopolies, ensuring that no single entity** — whether a corporation or a government — **can dominate the digital landscape to the detriment of others.**
- This principle highlights the importance of interoperability, which **allows different digital systems and platforms to work together seamlessly**, thereby promoting competition and innovation.
- Techno-Legal Regulation —
- The fourth principle **combines the domains of technology and law to establish a framework for the ethical governance of digital infrastructures.**

- Techno-legal **regulation involves the creation of legal standards and frameworks that govern the use of technology** in a way that ensures innovation while protecting societal rights, security, and ethical considerations.
- This **principle recognises that while technology can drive significant advancements, it must be regulated to prevent misuse**, exploitation, and harm.
- Public-Private Innovation —
- The fifth and final principle **emphasises the importance of collaboration between the public and private sectors in driving innovation**.
- While both sectors have unique strengths and capabilities, **their combined efforts can lead to the development of DPIs that are both innovative and aligned with the public good**.
- This advocates for a model of innovation that is not dominated by corporate interests but is instead driven by the needs and welfare of the public.

Conclusion -

- **Citizen Stack represents a commitment to excellence in digital infrastructure**, mirroring the trust and reliability found in the most respected and time-tested practices.
- In the rapidly evolving landscape of DPI, **it stands out as a beacon of integrity and innovation, ensuring that digital solutions serve the public good** while adhering to the highest standards of security and inclusivity.
- As we advance into an increasingly digital future, **the principles and practices exemplified by Citizen Stack will be crucial in building and maintaining the trust necessary for widespread adoption and success**.

Source - [The Indian Express](#)

QUESTION - Digital Public Infrastructure (DPI) has played a critical role in shaping India's financial inclusion and global leadership. Discuss the role of Citizen Stack in promoting digital sovereignty, enhancing trust in digital solutions, and ensuring equitable access in the digital economy. Highlight the key principles guiding the development of a good DPI and how they can contribute to addressing global digital challenges.

Road Safety in India

Road safety remains a critical public health issue in India, with a high number of fatalities and injuries resulting from road accidents every year. The "**India Status Report on Road Safety 2024**," prepared by the TRIP Centre at **IIT Delhi**, sheds light on the slow progress made in reducing road accident deaths and emphasises the need for focused interventions.

This article delves into the key findings of the report, the current state of road safety in India, and potential strategies for improvement.

The Current State of Road Safety in India -

- **Disparities in Road Accident Death Rates** —
- The report highlights significant disparities in road accident death rates across different states in India.
- Some states, such as Tamil Nadu, Telangana, and Chhattisgarh, report high death rates of over **17 per 100,000 people**.
- On the other hand, states like West Bengal and Bihar have much lower rates, around 5.9 per 100,000 people.
- Despite improvements in other sectors, road traffic injuries continue to be a major cause of death and health loss in India.
- **In 2021, road injuries were the 13th leading cause of death and the 12th leading cause of health loss**, as measured by Disability-Adjusted Life Years (DALYs).

- Alarming, in six states, including Uttar Pradesh and Rajasthan, road injuries ranked among the top ten causes of health loss.
- **Vulnerability of Motorcyclists and Pedestrians —**
- Motorcyclists, pedestrians, and cyclists are particularly vulnerable to road accidents in India.
- The report reveals that two-wheeler riders, in particular, face high risks, with low helmet usage contributing significantly to fatalities.
- Shockingly, in only seven states, more than half of two-wheeler riders wear helmets, despite the fact that helmets can drastically reduce the risk of death and serious injury.
- Trucks are another major cause of accidents. They are often involved in fatal crashes, contributing to the high number of deaths on India's roads.
- **Lack of Road Safety Measures —**
- Most Indian states are struggling to implement basic traffic safety measures. Traffic calming mechanisms, road markings, and signage are often lacking, especially in rural areas.
- Furthermore, only a few states have conducted audits of their highways to assess road safety, leaving many stretches of road without adequate safety infrastructure.
- **Trauma Care and Response —**
- The inadequacy of trauma care facilities is another significant issue. In many parts of India, especially rural areas, access to timely medical care after a road accident is limited.
- This lack of infrastructure contributes to higher fatality rates, as victims do not receive critical care quickly enough.

Importance of Crash Surveillance -

- One of the major challenges in improving road safety is the lack of a robust national crash surveillance system.
- Currently, road safety data in India is compiled from First Information Reports (FIRs) filed at police stations, which are then aggregated at district, state, and national levels.
- However, this system only allows for basic analyses and often contains inaccurate information.
- **The report calls for the establishment of a comprehensive national database for fatal crashes**, which would allow for better analysis of road safety risks and more effective interventions.
- Such a system would provide policymakers with the tools needed to identify specific risk factors and evaluate the success of road safety programs.

India's Global Road Safety Standing -

- When compared to developed countries, India's road safety performance is alarming.
- In 1990, an Indian was 40% more likely to die in a road accident than someone in countries like Sweden. By 2021, this figure had risen to a staggering 600%.
- While Scandinavian countries have excelled in road safety governance, India's progress has been slow, leading to a sharp rise in road fatalities.
- The report also questions whether simply equipping vehicles with advanced safety features is enough to solve India's road safety problem.
- Since two-wheeler riders, pedestrians, and cyclists account for the majority of fatalities, focusing on vulnerable road users is critical.

Way Forward - Strategies to Improve Road Safety -

- **Scale-Up of Road Safety Interventions —**
- The report emphasises the need for both central and state governments to prioritise road safety interventions.
- This includes scaling up efforts to implement road safety measures such as traffic calming, proper signage, and helmet enforcement, especially in rural areas where these measures are often neglected.
- **Establishment of a National Crash Database —**

- Creating a national database for road crashes, with public access, is essential for understanding the specific risks faced by different road users and the effectiveness of the interventions implemented by the states.
- This would allow for more accurate data collection and enable policymakers to tailor interventions based on real-time information.
- **Improving Trauma Care Infrastructure —**
- Strengthening trauma care facilities and ensuring quicker medical responses after accidents is crucial for saving lives.
- Investments in healthcare infrastructure, particularly in rural areas, can make a significant difference in reducing fatalities from road accidents.

Conclusion -

- India's road safety challenge is multifaceted and requires urgent attention.
- The "India Status Report on Road Safety 2024" calls for a differentiated, state-specific approach to tackling these challenges.
- By prioritising road safety interventions, establishing a national crash database, and improving trauma care, India can make meaningful progress toward reducing road fatalities and ensuring safer roads for all.

Source - [The Hindu](#)

QUESTION - The "India Status Report on Road Safety 2024" identifies significant challenges in reducing road accidents and fatalities, especially for vulnerable groups like motorcyclists and pedestrians. Critically examine the key findings of the report and suggest comprehensive strategies that the government could adopt to improve road safety across different states in India. How can the establishment of a national crash database contribute to these efforts?

Swachh Bharat Mission

The **Swachh Bharat Mission (SBM)**, launched in 2014, stands as one of India's most ambitious public health and sanitation initiatives.

As the nation marks the 10-year anniversary of the program, the release of a **scientific report in the Nature journal** offers a timely opportunity to assess the achievements and impact of the SBM.

On this occasion, it is important to examine SBM's progress, its broader impact, and the key lessons it offers to the world.

Significance of Swachh Bharat Mission -

- Ambitious and Bold Announcement —
- When PM Modi announced the mission from the Red Fort on August 15, 2014, **he did so with a conviction that few could have anticipated.**
- The **challenge before him was monumental**: to eliminate the age-old practice of open defecation across a country as vast and diverse as India.
- This was **not merely about constructing millions of toilets; it was about catalysing a behavioural shift** among over half a billion people—a population larger than that of most countries.
- The **ambition of this vision was staggering, not just for its scale but for the deeprooted cultural and logistical challenges** it sought to overcome.
- Transformation of a Hidden Problem into a National Priority —
- Historically, **sanitation has been a taboo topic in India**, rarely discussed openly, let alone addressed at a national level.
- However, **PM Modi broke this silence by bringing the issue to the forefront** of the national discourse.

- His leadership was marked by a refusal to shy away from difficult conversations.
- By addressing open defecation in such a public and determined manner, he elevated the issue from a matter of private discomfort to one of public urgency.
- This bold move was essential in transforming what was once a hidden problem into a national priority.
- A Vision to Change the Mindset Along with Infrastructure —
- The sheer scale of the SBM's goal changing the behaviour of 550 million people in just five years was unprecedented.
- It required not only the construction of over 100 million toilets but also the creation of a social movement that would make the use of these toilets a norm.
- This was where Prime Minister Modi's leadership proved crucial.
- His ability to communicate directly with the people, to inspire them to take ownership of the mission, and to make sanitation a matter of pride and dignity was a masterstroke in public policy.

An Analysis of Health, Economic and Social Impact of Swachh Bharat Mission -

- Health Impact —
- **Reducing Child and Infant Mortality Rate** —
- One of the most significant achievements of the SBM has been its impact on public health, particularly in reducing infant and child mortality rates.
- The recent scientific report published in the Nature journal highlights that the SBM has saved the lives of approximately 60,000 to 70,000 infants and children under the age of five each year.
- This remarkable reduction in mortality is largely attributed to the decrease in waterborne diseases, particularly diarrhoea, which has historically been a leading cause of child deaths in India.
- **Reduction in Infectious Disease** —
- Open defecation has long been associated with the spread of infectious diseases, as human waste left in the open contaminates water sources and the environment.
- This contamination leads to the proliferation of pathogens that cause diseases such as diarrhoea, cholera, and typhoid.
- Children, due to their developing immune systems and frequent contact with contaminated soil and water, are particularly vulnerable to these diseases.
- The widespread construction of toilets under the SBM, coupled with efforts to promote their use, has dramatically reduced the incidence of these diseases, thereby improving child survival rates.
- **Reduction in Overall Disease Burden** —
- The mission's success in eliminating open defecation has not only reduced the immediate risks of contamination but has also developed a culture of cleanliness that extends to other areas of daily life.
- This cultural shift towards better hygiene practices has had a cascading effect on reducing the spread of infectious diseases, contributing to overall improved health outcomes across the population.
- Economic Impact —
- The mission's success in making communities Open Defecation Free (ODF) has translated into significant financial savings for households and the broader economy.
- A study conducted by UNICEF estimated that achieving ODF status in a village could result in each household saving approximately Rs 50,000 annually.
- These savings stem from several factors, including reduced medical expenses, increased productivity, and time savings.
- The reduction in medical expenses is a direct consequence of the improved health outcomes associated with the SBM.
- With fewer people falling ill due to waterborne diseases and other sanitation-related health issues, households have experienced a decrease in spending on medical treatments.

- This has **freed up resources for other essential needs**, thereby improving the economic stability and quality of life for families.
- Social Impact —
- One of the most significant social benefits of the mission has been **the enhancement of dignity and security for women**.
- Before the SBM, **the lack of access to toilets forced many women to defecate in the open**, often under the cover of darkness to maintain their modesty.
- **This not only compromised their dignity but also exposed them to the risk of harassment**, assault, and even sexual violence.
- The **construction of household toilets has provided women with a safe and private space**, thereby significantly reducing their vulnerability.
- This **newfound security has had a profound impact on their daily lives**, enabling them to live with greater dignity and peace of mind.

Global Lessons, Four Ps and the SBM in the Context of Other National Initiatives - •

Global Lessons and Four Ps —

- **In October 2018**, during the Mahatma Gandhi International Sanitation Convention, **PM Modi, alongside the UN Secretary-General, shared the SBM's experiences with Health and Sanitation Ministers from 55 developing countries**.
- The **conference highlighted four key lessons from the SBM, enshrined in the Delhi Declaration, known as the four Ps: political leadership, public financing, partnerships, and people's participation**.
- These **four Ps are now recognised globally as essential components** for the success of large-scale, transformational development programs, particularly in the sanitation sector.
- The **impact of these lessons can be seen in initiatives like the Clean Nigeria Campaign, inspired by the SBM**.
- The SBM in the Context of Other National Initiatives —
- The **SBM is part of a broader set of national programs that have significantly improved the quality of life** for millions of Indians.
- Initiatives such as **Ujjwala (providing cooking gas cylinders), Jan Dhan (bank accounts for the unbanked), the Awas Yojana (affordable housing), Ayushman Bharat (medical insurance), and the Jal Jeevan Mission (providing tap water to every household) have collectively transformed the lives of ordinary citizens**.
- The **bold vision and political leadership of Prime Minister Modi have been the driving forces behind these initiatives**, demonstrating the power of strong leadership in achieving national development goals.

Conclusion -

- **The Swachh Bharat Mission has achieved remarkable success in its first decade**, with profound impacts on public health, economic savings, and social well-being.
- The **program's success is a testament to the power of bold leadership, community participation, and sustained effort**.
- As the world continues to grapple with the challenges of providing universal access to sanitation and clean water, **the lessons from the SBM offer valuable insights for other countries striving to achieve similar goals**.

Source - [The Indian Express](#)

QUESTION - The Swachh Bharat Mission (SBM), launched in 2014, has had a transformative impact on public health, economic savings, and social dignity, particularly for women, over the past decade. Critically analyse the key achievements of the SBM in these areas. Additionally, discuss the global lessons derived from the SBM, with a focus on the Four Ps —political leadership, public financing, partnerships, and people's participation—that have become a model for other developing nations.

International Relations

United Nations Day for South-South Cooperation

September 12 marks the United Nations Day for South-South Cooperation (SSC), a day dedicated to fostering partnerships between developing countries. This article explores the significance of SSC in today's world, highlighting its role in addressing global challenges and promoting equitable development.

The Rise of South-South Cooperation -

- **Historical Roots** — The concept of cooperation among developing countries emerged from the Afro-Asian Conference held in Bandung in 1955, leading to the formation of the Non-Aligned Movement and the Group of 77.
- **G-77's Role** — The G-77 played a pivotal role in promoting SSC during the 1960s and 1970s.
- **Shift in Global Dynamics** — The rise of developing countries as significant players in the global economy and governance landscape has further emphasised the importance of SSC.

The Continuing Relevance of SSC -

- **Addressing Global Challenges** — SSC offers a collaborative framework to address pressing issues such as climate change, conflict, and food insecurity.
- **India's Leadership** — India has emerged as a leading voice in global collaboration, advocating for solutions that adhere to the essential principles of SSC: inclusivity, context-driven approach, unconditional support, and local ownership.
- **WFP's Role** — The United Nations World Food Programme (WFP) has actively facilitated SSC worldwide, promoting food security and social protection mechanisms.

South-South and Triangular Cooperation (SSTC) -

- **Collaborative Development** — SSTC involves developing countries sharing knowledge, skills, and resources to achieve common development goals while partnering with developed countries and multilateral organisations.
- **Benefits of SSTC** — SSTC fosters mutual benefit, respect for national sovereignty, and empowerment among participating nations.
- **Impact on Development** — SSTC has a significant impact on various sectors, including agriculture, health, education, and technology, contributing to more inclusive and equitable global development.

WFP and SSTC -

- **WFP's Initiatives** — The WFP has supported SSTC through various funding mechanisms and initiatives, including the South-South Trust Fund and the India-UN Development Partnership Fund.
- **Increased Engagement** — The WFP has witnessed a significant increase in SSTC engagement, reflecting growing recognition of its potential to strengthen national capacities.
- **Areas of Collaboration** — SSTC initiatives cover a wide range of areas, including social protection, nutrition, agriculture, and disaster risk reduction.
- **Success Stories** — SSTC has led to numerous success stories in various regions, demonstrating its effectiveness in addressing development challenges.

India's Leadership in SSTC -

- **Notable Initiatives** — India has been at the forefront of SSTC, with initiatives such as the PanAfrican e-Network Project and the International Solar Alliance.
- **Sharing Expertise** — India has shared its expertise and resources with other developing countries, leading to tangible improvements in various sectors.
- **Food and Nutrition Security** — India's experience in achieving food and nutrition security through robust policies and implementation mechanisms serves as an inspiration for other countries.

- **Case Study: Nepal and India** — The SSTC exchange on food security between Nepal and India in 2022 demonstrates the practical benefits of collaboration.

Way forward -

- **Innovative Financing** — Strengthening SSTC requires innovative financing mechanisms and diversified funding sources.
- **Demand-Driven Approach** — A demand-driven approach that focuses on the priorities of participating countries is essential.
- **Knowledge Sharing** — Sharing best practices, experiences, and innovations among participating countries is crucial.
- **Sustainability** — Ensuring the sustainability of SSTC initiatives in terms of environmental, social, and economic dimensions is vital.
- **Partnerships and Collaboration** — Fostering partnerships between developing countries and multilateral organisations is essential for the success of SSTC.

Conclusion -

The emergence of countries in the global South as leading voices in global governance and agents of development action signifies a significant shift in international cooperation. SSTC offers a promising framework for addressing global challenges and promoting equitable development. By leveraging the expertise and resources of developing countries, SSTC can contribute to achieving the ambitious goals of the 2030 Agenda.

Source - [The Hindu](#)

QUESTION - Critically analyse the role of South-South Cooperation (SSC) in addressing global challenges. Discuss its significance in the context of the 2030 Agenda for Sustainable Development. What are the key challenges and opportunities for strengthening SSC in the coming years?

GENERAL STUDIES - III

Economy

Making India a Startup Nation

India's economic growth over the last decade has been shaped by pivotal developments like the Unified Payments Interface (UPI), affordable data access, and the COVID-19 pandemic, which accelerated the growth of e-commerce and startups.

Together, these once-in-a-generation events have created a unique opportunity for India to capitalise on its momentum and build a sustainable roadmap for future growth.

However, sustaining this trajectory requires comprehensive integration of key subsystems, including education, entrepreneurship, and employment (the 3E model), which can be the foundation for India's exponential economic rise.

Key Catalysts of Economic Growth -

- Government-Led Digital Revolution: The Rise of UPI —
- One of the most significant government-led initiatives has been the creation and widespread adoption of the UPI.
- Launched in 2016 by the National Payments Corporation of India (NPCI), UPI is a real-time payment system that allows users to instantly transfer money between bank accounts using a mobile device.

- It has **revolutionised the way Indians conduct transactions**, making financial services more accessible to millions of citizens, particularly in rural and underserved areas.
- Industry-Led Telecom Revolution: Affordable Data Access —
- The telecom revolution in India, **primarily driven by the launch of Reliance Jio in 2016, has been another key catalyst for economic growth.**
- **By offering high-speed internet** at some of the world's lowest prices, **the telecom industry has transformed India's digital landscape.**
- Affordable data access has **brought millions of people online**, creating a massive market for digital services and applications.
- Before this revolution, **internet access was restricted to urban areas and was largely unaffordable for most of the population.**
- However, with the advent of low-cost mobile data, India's internet user base has exploded, with over 800 million internet users and more than 1.2 billion mobile phone users today.
- Pandemic-Driven E-commerce and Startup Boom —
- **The COVID-19 pandemic**, while devastating in many respects, **served as an unexpected accelerator for India's e-commerce and startup sectors.**
- The **global health crisis forced a shift toward digital solutions** as lockdowns and social distancing measures made traditional business operations challenging.
- **E-commerce, digital payments, and online services surged in demand** as consumers increasingly turned to the internet to meet their needs.
- Capital Expenditure and Infrastructure Development —
- Another crucial factor behind India's recent economic growth has been the **government's emphasis on capital expenditure, particularly in the infrastructure sector.**
- **Public investment in infrastructure** - such as roads, highways, ports, and railways - has not only **improved connectivity across the country but also created jobs and stimulated economic activity.**
- The **government's focus on infrastructure development has attracted private investment and supported the growth** of sectors like construction, logistics, and manufacturing.

Challenges and Opportunities in Employment and Education -

- The Demographic Advantage: Opportunities for Growth —
- India's youth population offers immense potential for economic growth.
- With an estimated 43 million students enrolled across more than 1,100 universities and 45,000 colleges, **India's higher education system is one of the largest in the world.**
- Each year, **around 10 million graduates enter the workforce**, and this number is expected to grow to 17.5 million by 2035 and 24 million by 2050.
- **These statistics demonstrate the scale of India's human capital**, which, if harnessed effectively, can drive productivity, innovation, and economic expansion.
- The Challenge of Employment: A Mismatch in Job Creation —
- One of the **most pressing challenges facing India is the insufficient growth of employment opportunities** to absorb the increasing number of graduates entering the workforce.
- While India's economy has expanded, and sectors such as services, manufacturing, and technology have seen growth, **the pace of job creation has not kept up with the influx of new workers.**
- A **significant number of graduates struggle to find jobs that match their skills and qualifications**, leading to underemployment or employment in sectors that do not utilise their full potential.
- The Skills Gap: Preparing the Workforce for the Future —
- In addition to the employment mismatch, **India faces a significant skills gap that limits the employability of its graduates.**
- The **traditional education system in India has historically emphasised theoretical knowledge over practical, hands-on learning.**

- As a result, **many graduates lack the skills required by industries** that are increasingly driven by technology and innovation.
- **This disconnect between academic training and industry needs worsens the employment problem**, as companies struggle to find candidates with the right skill sets.

Way forward -

- Entrepreneurship as a Solution: Creating New Opportunities —
- One of the most promising solutions to the employment challenge is **creating a culture of entrepreneurship**.
- With job creation unable to keep pace with the growing number of job seekers, **encouraging graduates to pursue entrepreneurial ventures can generate new employment opportunities** and stimulate economic growth.
- **Startups and small businesses have the potential to create jobs** not only for their founders but also for others, contributing to overall employment generation.
- To encourage more students to pursue entrepreneurship, **India must reframe the way it measures the success of its higher education institutions**.
- Traditionally, **universities and colleges are ranked based on their ability to place students in high-paying jobs**.
- However, **this metric overlooks the value of developing entrepreneurial ventures**, which can have a far-reaching impact on employment and economic development. • Transformation of Higher Education —
- The higher education system in India **must undergo a transformation to meet the evolving needs of the economy and the workforce**.
- Currently, **the primary success metric for higher education institutions (HEIs) is their ability to place graduates** in high-paying jobs.
- While this is important, **it overlooks the role that HEIs can play in fostering entrepreneurship and innovation**.
- To better align higher education with the demands of the modern economy, **institutions should incorporate entrepreneurship, research, and innovation into their curricula**.
- This **would require a shift in focus from purely academic learning to practical, realworld problem-solving**.
- **Universities should encourage students to engage in entrepreneurial activities**, provide access to incubation centres, and offer mentorship from industry experts.
- Harnessing the Power of Digital Education —
- Another key opportunity lies in the rapid expansion of digital education.
- The **telecom revolution has made internet access more affordable and widespread**, even in rural areas.
- **This has opened up new possibilities for online learning**, which can help bridge the skills gap and provide students with access to high-quality education regardless of their geographic location.
- **Digital education platforms can offer courses in emerging technologies, entrepreneurship, and vocational skills, providing students with the tools they need to succeed** in the modern workforce.

Conclusion -

- **India stands at the threshold of unprecedented economic opportunity**, driven by its demographic dividend, expanding digital infrastructure, and burgeoning startup ecosystem.
- However, **sustaining and accelerating this growth requires a strategic focus on integrating education, entrepreneurship, and employment**.
- **By rethinking the success metrics of higher education and fostering a culture of innovation and entrepreneurship, India can create millions of jobs, elevate its global economic standing, and ensure inclusive, long-term prosperity**.

Source - The Indian Express

QUESTION - Critically analyse the factors that have contributed to India's economic growth in the last decade. Discuss the challenges and opportunities posed by the country's demographic dividend, particularly in the context of education and employment. Suggest measures to address the skills gap and promote entrepreneurship as a driver of job creation and economic growth.

Environment

Loss and Damage Fund

Following the devastating landslides that recently hit Kerala's Wayanad district, an important discussion has arisen on the possibility of subnational entities seeking compensation via the UNFCCC's Loss and Damage Fund (LDF).

Although this demand is reasonable, it is not as simple as it seems to obtain climate funding.

What is the Loss and Damage Fund (LDF)?

- Establishment — It was established at the 2022 United Nations Framework Convention on Climate Change (UNFCCC) Conference (**COP27**) in Egypt.
- What is Loss and Damage?
- **It refers to the adverse consequences brought about by climate change**, and resulting in a range of impacts, such as —
 - Loss of human lives,
 - Damage to infrastructure,
 - Loss of property and crops,
 - As well as the deterioration of ecosystems.
- These impacts extend beyond the purely economic realm to **encompass a broader spectrum of both economic and non-economic losses**.
- Objective of the LDF —
- **It provides financial support** to regions suffering both economic and non-economic losses caused by climate change.
- These include extreme weather events and slow-onset processes, such as rising sea levels.
- **Financial support will be provided** in the form of **grants, concessional financing** that can be utilised by any eligible country.
- Administration of the LDF —
- **The World Bank (WB)** will assume the role of overseeing the fund's overall coordination, ensuring the efficient allocation of resources and aiding nations in their endeavours to recover from the aftermath of natural disasters.
- **A Governing Board** determines how the Fund's resources are disbursed, with the WB serving as the interim trustee.
- **The Board is currently developing mechanisms** to facilitate access to the Fund's resources, including direct access, small grants and rapid disbursement options.
- Significance of the LDF — The establishment of the Fund marks the initial phase in the implementation of financial instruments aimed at addressing consequences and fostering recovery from climate-induced disasters.
- Concerns related to LDF —
- Despite its stated goals, concerns persist that climate funds are **often too slow to be accessible immediately after a disaster**, particularly for local communities at the subnational level.
- It is expected that the LDF would face similar issues.

How can India take advantage from the LDF?

- In damages caused by weather-related disasters, **India has lost more than \$56 billion** between 2019 and 2023.
- In spite of this, India's National Climate Action Policy and budgets **give mitigation efforts precedence over adaptation**. This led to a **subdued participation of India** in Loss and Damage dialogues at COP meetings.
- Given that some parts of India are extremely vulnerable to climate change, India should push for **more decentralised ways of allocating funds from the LDF**, in international climate change negotiations.

Need for the More Decentralised Funding from the LDF -

- Adaptation and loss and damage needs are more strongly felt at the ground level by State governments.
- **For example**, in Kerala, the majority of the financial burden for disaster recovery fell on the State government.
- A notable example is the **Rebuild Kerala Development Programme**, launched in the aftermath of the (August) 2018 floods in the state.
- The fact that the WB provided loans to fund this program shows how important international climate finance is to the post-disaster recovery process.

Challenges and Way Forward -

- **Absence of a systematic method for conducting thorough evaluations of losses resulting from disasters —**
- This means that significant loss and damage needs that could qualify for assistance from the LDF **may go unassessed** and could impede India's ability to access the LDF **in the future**.
- **Way ahead —** A clear legal and policy framework is desperately needed in India that prioritises locally led adaptation and provides a more precise method for assessing loss and damage.

Source - [The Hindu](#)

QUESTION - Discuss the significance of the UNFCCC Loss and Damage Fund (LDF) for climate-vulnerable regions like India. In light of the increasing frequency of climate-induced disasters, critically examine the need for decentralised access to LDF funds at the subnational level. What challenges does India face in fully leveraging this fund, and what policy measures can be adopted to address these issues?

Security

Responsible use of AI in war

As military use of **artificial intelligence (AI)** expands, efforts to regulate its application in warfare are also intensifying. Conflicts like those in **Ukraine and Gaza** are becoming testing grounds for AI in combat.

India, despite its active role in promoting the development and safe use of AI in the civilian sector, has been largely absent from the global discussion on restricting its military applications. As international frameworks for **AI arms control** begin to take shape, it is crucial for India to engage and influence these discussions rather than remain on the sidelines.

Responsible Use of Artificial Intelligence in the Military Domain (REAIM) -

- **About the summit —**
- The Summit on Responsible Use of Artificial Intelligence in the Military Domain (REAIM) is part of a growing global effort to establish norms for AI's military applications.
- This is the **second iteration of the summit**. It begins on September 9 in Seoul, co-hosted by Kenya, the Netherlands, Singapore, and the United Kingdom.

- **Objectives of the Korea Summit —**
- The second REAIM summit in South Korea aims to build on the progress from the first summit and achieve a three-fold objective —
- Understand the implications of military AI on global peace and security.
- Implement new norms for using AI systems in military affairs.
- Develop ideas for long-term global governance of AI in the military domain.
- **Outcome of the first summit —**
- The first summit, held in February 2023 in The Hague, broadened the debate on military AI, focusing on issues like autonomous weapons or "killer robots."
- A key concern is keeping humans in the decision-making loop on the use of force.
- Discussions on lethal autonomous weapon systems (LAWS) have been ongoing at the United Nations since 2019.

The AI Debate in Warfare -

- **Increased use of AI in warfare —**
- The **REAIM process** has broadened the discussion on military AI beyond just "killer robots" to recognise the increasing role of AI in various aspects of warfare.
- While AI has long been used for tasks like inventory management and logistical planning, its application in **intelligence, surveillance, and reconnaissance (ISR)** on the battlefield has significantly grown in recent years.
- Leading militaries are now leveraging AI to process vast amounts of data, enhance **situational awareness**, speed up **decision-making** on the use of force, improve **precision in targeting**, limit civilian casualties, and increase the overall tempo of warfare.
- **Concerns Over AI in Warfare —**
- Despite these perceived benefits, many critics caution that the allure of AI in warfare could be illusory and dangerous.
- The rise of AI decision-making support systems (AI-DSS) is a critical area of debate under the REAIM process, with concerns over the risks and ethical implications of relying on AI for battlefield decisions.
- **Promoting responsible use of AI in military affairs —**
- The REAIM process has shifted its focus from trying to reverse the AI revolution in military affairs to advocating for the responsible use of AI in warfare.
- It is part of several global efforts—national, bilateral, plurilateral, and multilateral—aimed at promoting responsible AI.
- At the end of the Hague summit, the United States issued a draft political declaration on responsible AI use, formalising it in November 2023.
- In 2020, the US had already released national guidelines for the military use of AI and has encouraged NATO allies to adopt similar standards.
- NATO's 2021 strategy identified six principles for responsible AI use in military settings and released corresponding guidelines in July 2023, aiming to accelerate AI deployment in warfare while ensuring safety and responsibility.
- As part of this effort, **the US is also conducting a bilateral dialogue with China to discuss limiting AI's impact on nuclear deterrence.**

Stand of India, China, US and UN on AI use in weapons -

- **US introduced resolution at the UNGA —**
- The **United States** introduced a resolution on the **responsible use of AI** at the **UN General Assembly (UNGA)**, co-sponsored by 123 countries and adopted by consensus.
- While the UN's focus is broad, the REAIM process fosters more detailed discussions on military AI and aims to build a wide international coalition to establish new global norms.
- Over 50 countries have endorsed the US's **political declaration** on responsible AI use in the military, and the US is reaching out to **Global South** countries for support.
- **India's stand —**

- India has taken a 'watch-and-wait' approach to this debate, carefully evaluating the longterm significance of these developments without fully committing to the new AI initiatives.
- It did not endorse the “call to action” at The Hague summit and may or may not support the global AI blueprint expected at the Korea summit.
- However, India risks being left behind if it remains passive in shaping these crucial norms.
- India’s negative experience with nuclear arms control, where hesitation cost it the opportunity to shape global rules, serves as a reminder that it’s easier to influence **global norms** during the **design phase** rather than trying to change them after they are established.
- **Stand of China —**
- **China** has been proactive, engaging in both strategic and regulatory discussions on military AI.
- China talks about "**intelligised warfare**" and released a White Paper on military AI regulation in 2021. It also supported the **Hague summit’s call to action**.

Source - [The Indian Express](#)

QUESTION - India's cautious approach towards the global regulation of Artificial Intelligence (AI) in military applications reflects its strategic concerns. However, with international frameworks for AI arms control rapidly evolving, India risks being sidelined in shaping crucial global norms. Analyse the potential risks and benefits of India's 'watch-andwait' stance on AI regulation in the military domain, in the context of its past experiences with nuclear arms control.