

ECONOMIC SURVEY 2023-24

ECONOMIC SURVEY SUMMARY 2023-24

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MAINS 365 – SUMMARY OF ECONOMIC SURVEY

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NOTE

Dear Students,

To further improve the understanding of the Economic Survey, following additions have been made with the goal of providing a more comprehensive and accessible understanding of the Economic Survey:



Know Your Economic Survey: It provides an overview of what the Economic Survey is and its importance. It provides strong foundation for further exploration of the Economic Survey.



Precap: It provides a snapshot at the start of every chapter highlighting the the ideas and content discussed in the chapter.



What does the Budget Say?: This section analyses and explains the relationship between the Economic Survey and the Union Budget. This will help the student understand how the Survey provides a broader economic context for the Budget.



Glossary: The collection of key terms used in the chapter (at the end of every chapter).



Quiz and Mains Questions: To enhance the learnings and understanding from each chapter, a Quiz & Mains Questions have been added at the end of the chapters. The answers to the MCQs are given at the end of the document.

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Know your Economic Survey 2023-24

KNOW YOUR ECONOMIC SURVEY



Who Prepares It?

- ◉ Economic Division of the **Department of Economic Affairs (DEA), Ministry of Finance**
- ◉ Under the guidance of **Chief Economic Advisor (CEA)**

WHAT IS ECONOMIC SURVEY?



It presents a **comprehensive analysis of India's growth trajectory** including the global optimism towards nation, focus on infrastructure, growth in agriculture, industries and emphasis on futuristic sectors.



PRESENTATION & PREPARATION

- ◉ Released **a day before Budget** presentation.
- ◉ It **summarizes the annual economic development** in the country and sketches out **short- and medium-term prospects** of the economy.
- ◉ It is **presented** to the Parliament **ahead of the Budget for the ensuing year**.



POLICY PERSPECTIVE TO BUDGET

- ◉ As a **flagship document** of the Ministry of Finance, the Economic Survey provides detailed **statistical data covering all aspects of the economy**.
- ◉ It is the **authoritative guide to the Indian economy** and is usually seen to provide **policy perspective for the Union Budget**.



ECONOMIC LANDSCAPE

- ◉ The Economic Survey **brings out the economic trends** in the country which facilitates a better appreciation of the mobilization of resources and their allocation in the Budget.
- ◉ The Survey analyses the **trends in agricultural and industrial production, infrastructure, employment, money supply, trade, forex reserves and other relevant economic factors** which have a bearing on the Budget.

HOW IS ECONOMIC SURVEY RELATED TO THE BUDGET?



FOCUS OF ECONOMIC SURVEY 2023-24

Steering the country through compacts and consensus



The survey **highlights the resilience of the Indian economy** in the face of geopolitical challenges and emphasizes the need for sustained investment, particularly from the private sector, to maintain this growth momentum.



It calls for a **tripartite compact between the government, the private sector, and academia** to address skill development and technological adaptation, ensuring employment growth and aligning education with market needs.



It emphasizes the **importance of reducing compliance burdens, improving investment in machinery and equipment, and fostering cooperation** between the union and state governments to navigate the complex global environment and achieve sustainable growth.



FOCUS OF ECONOMIC SURVEY 2022-23

Resilience of Indian Economy, its growth magnets, and lagged growth returns of transformative reforms.



It highlights that the **transformative reforms** undertaken by the government had **lagged growth returns due to temporary shocks** in the economy.



However, in the present decade, the **presence of strong medium-term growth magnets** provides optimism and hope.



Once these **global shocks** of the pandemic and the spike in commodity prices in 2022 **fade away**, the Indian economy is well placed to **grow faster in the coming decade**.

Why should you read it?

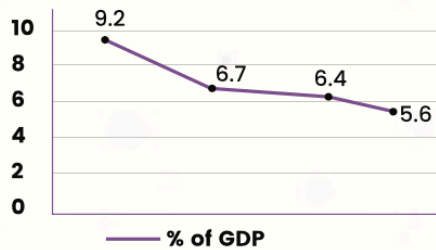


It provides a **holistic perspective of country's economic well-being**, and holds significance as it **acquaints citizens with the state of the economy** and informs them of key economic decisions of the government. It gives an **overview of major sectors of Indian economy**, their inter-linkages and growth drivers. In this manner, it provides topical and sectoral analysis along with a bird's eye view of the economy.

Snapshot of the Indian Economy

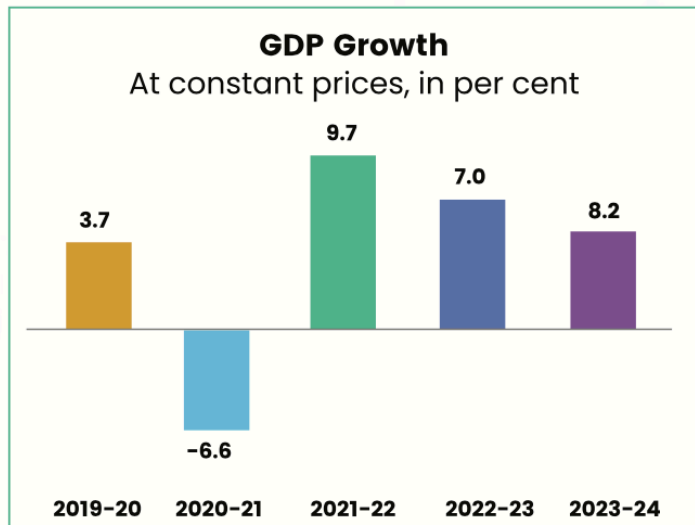
Snapshot OF THE INDIAN ECONOMY

Fiscal Deficit

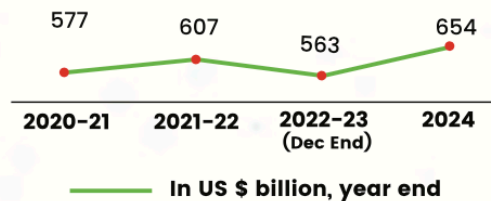


GDP Growth

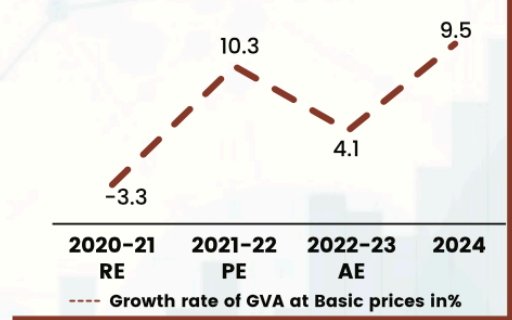
At constant prices, in per cent



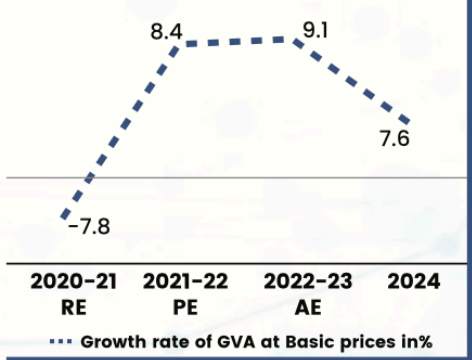
Foreign Exchange Reserves



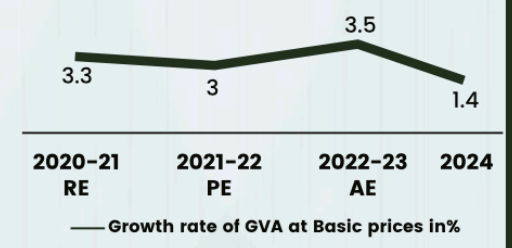
Industrial Growth



Services



Agriculture and Allied Activities





Chapter 1: State of The Economy: Steady as She Goes

Introduction

India’s calibrated response to the pandemic on the economic front included **three salient components** – focus on public spending on infrastructure, the natural response of business enterprise and public administration, and Atmanirbhar Bharat Abhiyan.

Global troubles, supply chain disruptions, and vagaries of **monsoons** intermittently stoked **domestic inflationary pressures**, which were managed by administrative and monetary policy responses. The **fiscal balances** of the general government—Central and State Governments taken together – have **improved progressively** despite expansionary public investment due to tax compliance gains.

Indian economy recovered and expanded in the last three years with real GDP in FY24 at 20% higher than FY20. **Growth has been inclusive** with a reduction in unemployment and multi-dimensional poverty and an increase in labour force participation.

Chapter Precap

<p>Global Economic Scenario</p> <ul style="list-style-type: none"> Global Economy registered a growth of 3.2% in 2023, which is marginally lower than in 2022. Global general government fiscal deficit (as a percent of GDP) rose by 1.6 percentage points in 2023 compared to last year. Global FDI flows declined in 2023 compared to 2022. Risks to global economy include higher inflationary pressure, rising geopolitical tensions, cross-border restrictions, high borrowing costs etc. 	<p>Indicators of Resilient Indian Economy</p> <ul style="list-style-type: none"> India’s real GDP grew by 8.2% in FY24, driven by stable consumption demand and steadily improving investment demand. The shares of the agriculture, industry and services sector in overall GVA at current prices were 17.7%, 27.6% and 54.7% respectively in FY24. Merchandise exports registered marginal decline in growth due to slowing of global growth in 2023.
<p>Macroeconomic Stability Safeguards Growth</p> <ul style="list-style-type: none"> Fiscal deficit of the Union Government has been brought down from 6.4% of GDP in FY23 to 5.6% of GDP in FY24. Revenue receipts of the union government increased YoY by 14.5% in FY24. Capital expenditure for FY24 stood at ₹9.5 lakh crore, an increase of 28.2 % on a YoY basis, and was 2.8 times the level of FY20. Expenditure on major subsidies declined by 22.1% on a YoY basis, led by a decrease in fertiliser and food subsidies. For the first time in 13 years, S&P Global Ratings upgraded India's sovereign credit rating outlook from ‘stable’ to ‘positive’ in May 2024. After averaging 6.7% in FY23, retail inflation declined to 5.4% in FY24. India's service exports reached a new high of USD 341.1 billion in FY24. External debt as a ratio to GDP stood at a low level of 18.7% as of end-March 2024. 	<p>Inclusive Growth</p> <ul style="list-style-type: none"> India’s social welfare approach has undergone a shift from an input-based approach to outcome-based empowerment. Saturation of basic necessities approach involves targeted implementation of reforms for last-mile service delivery. Female labour force participation rate has been rising for six years, i.e., from 23.3% in 2017-18 to 37% in 2022-23. There is a steep decline in the headcount ratio of multidimensionally poor between 2015-16 and 2022-23, as per NITI Aayog’s discussion paper on multidimensional poverty in India. The Monthly Per Capita Consumption Expenditure (MPCE) in 2022-23 increased in real terms in both rural and urban areas over 2011-12.
<p>Outlook</p>	

- Indian economy **recovered swiftly from the pandemic**, with its real GDP in FY24 being 20% higher than the pre-COVID, FY20 levels.
- IMF projects the **global economy to grow at 3.2% in 2024**, with risks being broadly balanced. The average annual global growth was 3.7% during the decade ending FY20.
- Any **escalation of geopolitical conflicts in 2024** may lead to supply dislocations, higher commodity prices, reviving inflationary pressures and stalling monetary policy easing with potential repercussions for capital flows.
- Domestic growth drivers have supported economic growth in FY24 despite uncertain global economic performance. The Survey **conservatively projects a real GDP growth of 6.5–7%**.

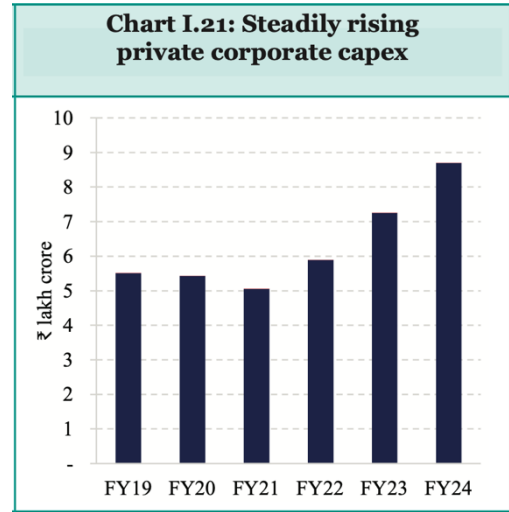
Global Economic Scenario

- **Growth:** Global Economy registered a growth of 3.2% in 2023, which is marginally lower than in 2022 (World Economic Outlook, April 2024).
- **Challenges to global growth:** Higher inflationary pressures, rising geopolitical tensions, cross-border restrictions, high borrowing costs and slower growth in advanced economies.
- **Fiscal situation:** Global **general government fiscal deficit** (as a per cent of GDP) rose by 1.6% in 2023 compared to last year.
 - This increase primarily stemmed from decline in revenues while expenditures remained largely stable.
 - Consequently, **global public debt also increased** to 93.2% of GDP in 2023.
- **Foreign Direct Investment (FDI) flows:** Global FDI flows declined in 2023 compared to 2022.
- **Risks to the Global Economy:**
 - **High Inflation: Core inflation remained sticky** on account of service inflation and a strong labour market, especially in most advanced economies.
 - This prompted many central banks to maintain policy rates at a high level or further increase them in 2023.
 - **Regional differences:** Among advanced economies, the US witnessed continuous growth momentum while **economic activity remains subdued in the Euro area**.
 - This is on account of domestic structural issues, uneven exposure to geopolitical conflicts (Russia-Ukraine conflict) and the impact of monetary policy tightening.

A Resilient Domestic Economy

- **Resilient Growth:** Despite global challenges, **India's real GDP grew by 8.2% in FY24**, driven by stable consumption demand and steadily improving investment demand.
 - On the supply side, **Gross Value Added (GVA)** at 2011-12 prices grew by **7.2% in FY24**.
 - **Net taxes** at constant (2011-12) prices **grew by 19.1%** in FY24, aided by reasonably strong tax growth and **rationalisation of subsidy expenditure**. This led to the difference between GDP and GVA growth in FY24.
- **Sectoral Share:** The shares of the **agriculture, industry and services sectors** in overall GVA at current prices were **17.7%, 27.6% and 54.7%** respectively in FY24.
 - **Agriculture: GVA in the agriculture sector grew at a slower pace** due to erratic weather patterns and uneven spatial distribution of monsoon.
 - **Industry: Manufacturing GVA grew by 9.9%** in FY24, benefitting from reduced input prices while catering to stable domestic demand.
 - **Services: Services sector growth** was demonstrated through **double-digit growth in both GST and e-way bills** and the strong **emergence of contact-intensive services** (trade, transport, real estate) that were impacted the most during the pandemic.
 - **Proliferation of Global Capability Centres (GCCs)** has also imparted resilience to India's services exports.
- **Private Consumption: Private Final Consumption Expenditure (PFCE) grew by 4%** in real terms in FY24. Private consumption has been a crucial and steadfast cog in GDP growth.

- Capital Formation:** Gross Fixed Capital Formation (GFCF) continues to emerge as an important driver of growth, as indicated by its **rising share of nominal GDP**.
 - Private capex:** India is in midst of a **private capex upcycle** that has been aided by government capital expenditure. GFCF by private non-financial corporations increased by 19.8 % in FY23.
 - Households:** Households have also been at the **forefront of the capital formation process** with highest residential real estate sales in 2023 since 2013.
- Credit:** Credit disbursal by scheduled commercial banks (SCBs) to industrial micro, small and medium enterprises (MSMEs) and services continues to **grow in double digits** despite a higher base.
 - Similarly, **personal loans** for housing have **surged**, corresponding to the increase in housing demand.
- Exports:** **Merchandise exports** registered a **marginal decline** in growth due to the slowing of global growth in 2023.
 - This contraction was counterbalanced by the pick-up in fixed investment, thereby continuing the trend of **domestic stimulus seamlessly replacing external stimuli**.



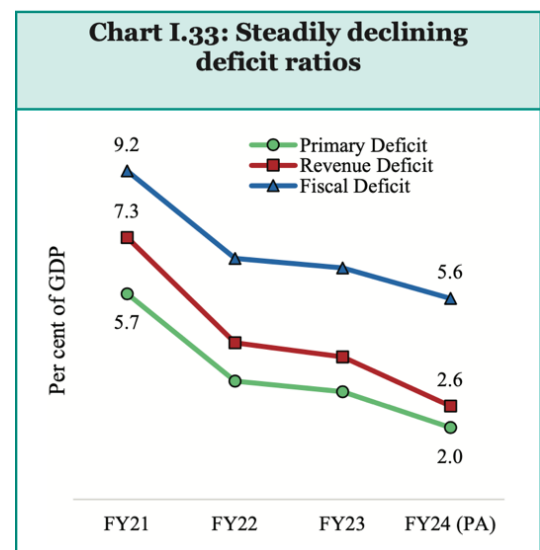
Box 1.1. Growth in GDP, GVA, and their components ensure no permanent losses in demand and output
 In FY24, GDP reached levels projected by pre-pandemic trajectory along with **quick recovery of GVA, private consumption, GFCF and industrial GVA**. This averted any **permanent losses in demand/output**.

- The pandemic-induced contraction presented an opportunity for the deployment of a **counter-cyclical fiscal policy** that focussed on capital expenditure, thereby **positioning government-driven capital formation** as a driver of growth.
- It also enabled the **implementation of multiple process reforms** and the **deployment of public digital infrastructure** that boosted the ease of doing business.
- The pandemic also accelerated the **adoption of digital technologies** amongst the population and enhanced financial inclusion.

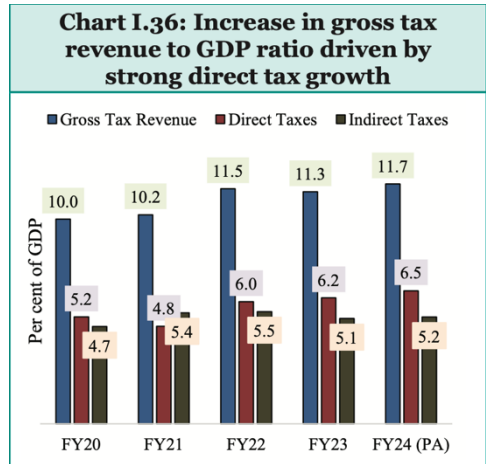
Macroeconomic Stability Safeguards Growth

Improving Public Finances

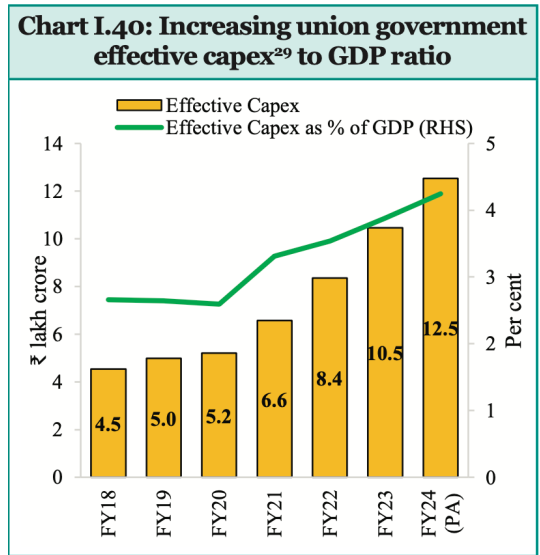
- Fiscal Deficit:** India has remained on the course of fiscal consolidation and the **fiscal deficit** of the Union Government has been brought down from 6.4% of GDP in FY23 to **5.6% of GDP in FY24**.
 - Fiscal deficit commitment has helped **keep the sovereign debt sustainable**.
 - Reduction in fiscal deficit was on account of **strong growth in direct and indirect taxes**, and **higher than budgeted non-tax revenue** in the form of dividends from RBI.
 - Over the past few years, a larger share of the fiscal deficit has been accounted for by **capital outlay**, suggesting improvement in productivity of borrowed resources.
- Revenues:** Significant fiscal consolidation post-pandemic could be achieved largely due to buoyant revenues.
 - Revenue Receipts:** **Revenue receipts** of the union government **increased YoY by 14.5%** in FY24 (PA), with robust growth in both tax and non-tax revenues.



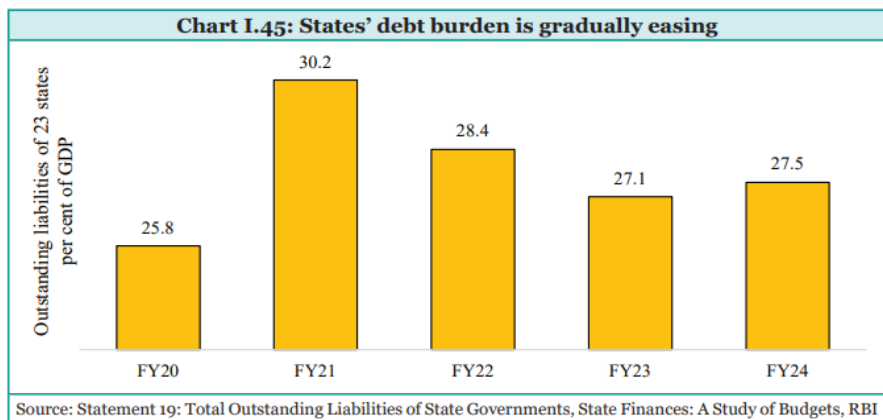
- **Gross Tax Revenue (GTR):** Growth in GTR was estimated to be 13.4% in FY24, translating into tax revenue buoyancy of 1.4.
 - The growth was led by a **15.8% growth in direct taxes and a 10.6% increase in indirect taxes** over FY23.
 - Broadly, **55% of GTR accrued from direct taxes** and the remaining **45% from indirect taxes**.
 - The **efficiency of tax collection** has increased over time, with cost of collection of direct taxes declining from 0.66% of gross collections in FY20 to 0.51% in FY23.



- **Capital Expenditure:** Shares of total expenditure allotted to capital spending were progressively enhanced, thereby improving the quality of expenditure.
 - **Capital expenditure** for FY24 stood at ₹9.5 lakh crore, an increase of 28.2 % on a YoY basis, and was 2.8 times the level of FY20.
 - Government capex has also begun to **crowd in private investment** and government continues to **disburse grants-in-aid for the creation of capital assets** to the states, thereby incentivising them to increase their productive spending.
 - **Private sector should take forward the momentum in capital formation**, however, between FY19 and FY23, the share of private non-financial corporations in overall GFCF increased only by 0.8% to 34.9 %.

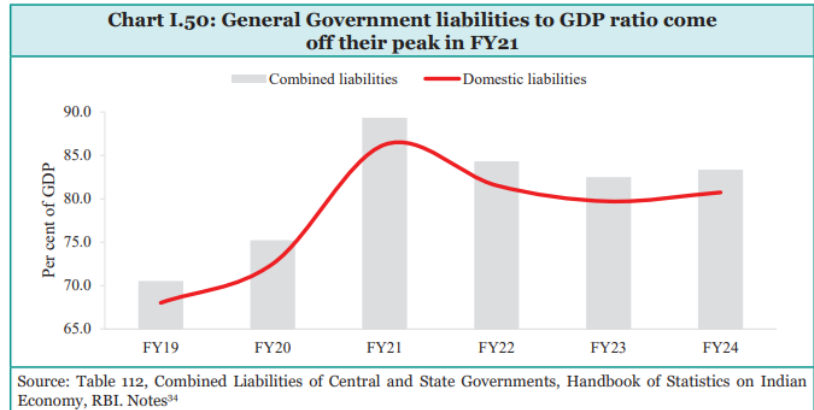


- **Revenue Expenditure:** Total expenditure for FY24 is **lower by ₹60.6 thousand crore** as compared to the budgeted estimates, however, allocation on important revenue expenditure such as rural development and education is higher than budgeted estimates.
 - **Interest payments:** **Efficient expenditure management**, aided by lower borrowing costs, has led to a **marginal downward revision of budgeted expenditure on interest payments**, which stands at 30.4% of revenue expenditure in FY24.
 - A commitment to **fiscal consolidation**, combined with revenues from **asset monetisation and privatisation**, will be essential in **reducing the share of interest payments** in revenue expenditure.



- **Subsidy Expenditure:** Expenditure on major subsidies declined by 22.1% on a YoY basis, led by a decrease in fertiliser and food subsidies by 24.6 % and 22.4 %, respectively, in FY24.
- **State Government Finance:** State governments continued to improve their finances in FY24.
 - For 23 states, whose preliminary unaudited estimates were published by CAG, **fiscal deficit as a percent of GDP came in at 2.8%** as against a budgeted 3.1%.

- The **Union Government’s transfers to the states are highly progressive**, with states with lower Gross State Domestic Product (GSDP) per capita receiving higher transfers relative to their GSDP.
- **General Government Debt:** The general government debt to GDP ratio increased slightly in FY24 because monetary tightening led to a spike in interest rates, while decline in inflationary pressures resulted in lower-than-budgeted nominal GDP growth.
 - Union Government debt is characterised by **low currency and interest rate risks** due to a low share of external debt in the debt portfolio and **almost all external borrowings being from official sources**.
- The **sustained improvement** in fiscal metrics is beginning to **have an impact on India’s credit ratings**.
 - For the first time in 13 years, S&P Global Ratings **upgraded India’s sovereign credit rating outlook from ‘stable’ to ‘positive’** in May 2024.
 - S&P mentioned that cautious **monetary and fiscal policy** that **diminishes general government debt and interest burden** while improving economic resilience could lead to a higher rating over next two years.



Moderation in Inflationary Pressures

- **Inflation moderation:** Despite global supply chain disruptions and adverse weather conditions, domestic inflationary pressures moderated in FY24.
 - After averaging 6.7% in FY23, **retail inflation declined to 5.4% in FY24**.
- **Factors responsible for moderating inflation:**
 - **Government measures** such as open market sales, retailing in specified outlets, timely imports, reducing Liquified Petroleum Gas (LPG) cylinders’ prices and cutting petrol and diesel prices.
 - **RBI raised policy rates** by a cumulative 250 bps between May 2022 and February 2023, which managed liquidity levels efficiently.
- **Unique position:** India was the only country amongst its peers to traverse a **high-growth and low-inflation path** in the period FY22 – FY24.

The Financial System remains Resilient

- **RBI’s role:** The RBI’s vigil over the banking and financial system and its prompt regulatory actions ensure that the system can **withstand any macroeconomic or systemic shock**.
- **Asset Quality:** RBI’s Financial Stability Report of June 2024 show that the **asset quality of Scheduled Commercial Banks (SCBs) has improved**, with the Gross Non-Performing Assets (GNPA) ratio declining to 2.8% in March 2024, a 12-year low.
 - The system-wide **Capital to Risk-Weighted Assets Ratio (CRAR)** declined marginally by 37 basis points (bps) over FY24.

India’s external sector is safely navigating through uncertainties

- **Merchandise Exports: Moderation** in merchandise exports continued during FY24, mainly on account of **weaker global demand and persistent geopolitical tensions**.
 - However, a sharper **decline in India’s merchandise import growth**, owing to declining commodity prices, resulted in a **lower trade deficit** in FY24.
- **Services Export:** India’s service exports reached a **new high of USD 341.1 billion** in FY24.



- **Private Transfers:** Net private transfers, mostly comprising **remittances** from abroad, grew to **USD 106.6 billion in FY24**.
- **Current Account Deficit (CAD):** CAD stood at **0.7 % of the GDP** during the year, an improvement from the deficit of 2.0 % of GDP in FY23.
- **Foreign Portfolio Investment (FPI):** India witnessed **robust FPI inflows** in FY24 that **helped fund the CAD** and aided the RBI in **building adequate forex reserves**.
 - Net FPI inflows stood at **USD 44.1 billion** during FY24 against net outflows in the preceding two years.
- **Foreign Direct Investment (FDI):** Net FDI inflows to India **declined** from USD 42.0 billion during FY23 to **USD 26.5 billion** in FY24.
 - This was primarily due to a **surge in repatriation/disinvestment**.
- **Foreign Exchange Reserves:** Forex reserves as of the end of March 2024 were **sufficient to cover 11 months** of projected imports and more than 100% of total external debt.
 - Ratio of **forex reserves to total debt** stood at **97.4%** as of March 2024.
- **External Debt-to-GDP Ratio:** External debt as a ratio to GDP stood at a **low level of 18.7%** as of end-March 2024.

Reduction in Macro vulnerability

The government continues to stick to the fiscal consolidation path. This has kept the sovereign debt sustainable, thereby keeping sovereign bond yields and spreads in check. This is reflected in the **macroeconomic vulnerability index – an index constructed by combining India’s fiscal deficit, CAD and inflation**.

Strengthening the Statistical System

National Statistical system generates critical statistics that allow observers to see how well a country is performing on key socioeconomic parameters such as per capita income, GDP growth, poverty, average years of schooling etc.

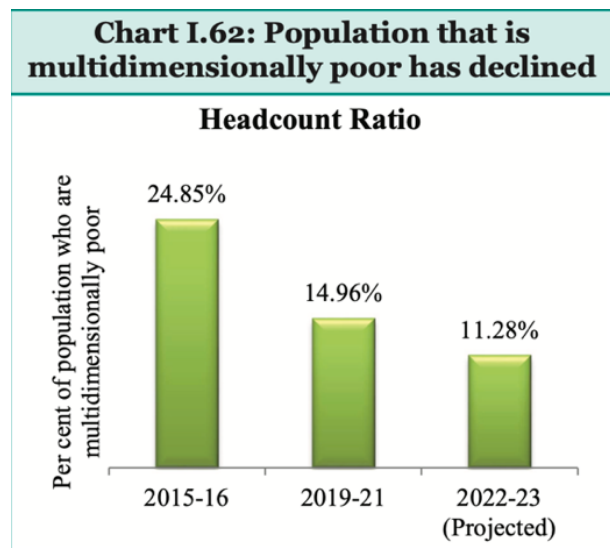
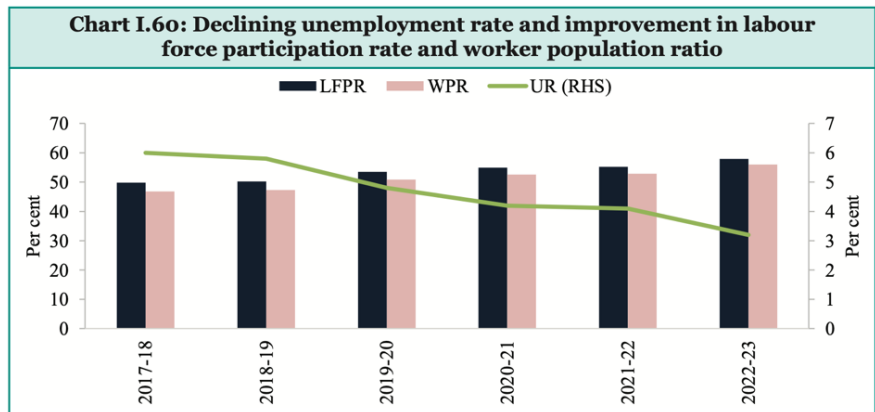
- **Significance of sound statistical system:** Informed citizenry, data-driven policies and decision-making, pivotal role in addressing societal challenges and promoting inclusive growth.
- **Nodal Agency:** Ministry of Statistics and Programme Implementation (MoSPI) anchors the core statistics by publishing GDP, price and volume indices and countrywide surveys of macroeconomic and sectoral importance.
- **Steps taken by MoSPI:**
 - **Surveys:** MoSPI has started new surveys namely, the annual survey of unincorporated sector enterprises, a time-use survey and started a pilot for an annual survey of service sector enterprises.
 - **PLFS:** It is working towards increasing the frequency of Periodic Labour Force Survey (PLFS) data and extending the generation of quarterly estimates for rural areas.
 - **Information Technology:** Modern IT tools are being adopted for improved data capturing and processing.
 - **Metadata Structure:** To encourage greater use of administrative data, a National Metadata Structure is also being developed.
 - **Unified Data Portal (UDP):** UDP project has been envisaged by MoSPI with the objective of creating a centralised database and storage system.
- **Other steps that can strengthen the statistical database**
 - **Base Revision:** MoSPI is undertaking extensive exercise for base revision of important economic statistics such as CPI.
 - Ongoing efforts to construct the Produce Price Index for goods and services may be expedited.
 - **Data linkages:** High-frequency price monitoring data for essential food items collected by different departments may be linked for effective monitoring and improving effectiveness of administrative actions.
 - **Availability of GST data:** The granular GST data, if made available, has great potential to analyse the health of businesses, screening of loan applications, provide support for cash flow-based lending, and deeply understand the economies of different geographies.

- **Common fiscal data standards:** CAG is already in the process of establishing common fiscal data standards, which would ensure availability of fiscal data through public web portal.
- **MSME indicators:** Regular indicators of the dynamics of production and employment in MSMEs are essential.
- **Infrastructural progress mapping:** There is also a need to have a regular mechanism to **aggregate the financial flows to infrastructure and physical progress-** sectorally and geographically differentiated-achieved in different infrastructure sectors, at least on an annual basis.

Inclusive Growth

Shift in approach to welfare

- **Shift in approach:** India’s social welfare approach has undergone a shift from an input-based approach to **outcome-based empowerment**.
 - **Saturation of basic necessities** has been recognised as imperative to achieve this, thus impelling an array of flagship initiatives.
 - The approach also involves the **targeted implementation of reforms for last-mile service delivery** to truly realise the maxim of “no person left behind”.
- **Programmes under new approach:** These include Aspirational District Programme and Aspirational Blocks Programme for most backward regions, Vibrant Villages Programme for border areas and Viksit Bharat Sankalp Yatra.
- **Direct Benefit Transfer (DBT):** DBT scheme and **Jan Dhan Yojana-Aadhaar-Mobile trinity** have been boosters of fiscal efficiency and minimisation of leakages, with ₹36.9 lakh crore having been transferred via DBT since its inception in 2013.
- **Employment:** According to annual PLFS, the **all-India annual unemployment rate** (persons aged 15 years and above, as per usual status) has been **declining** since the pandemic.
 - This has been accompanied by a **rise in the labour force participation rate and worker-to-population ratio**.
 - From the gender perspective, the **female labour force participation rate** has been rising for six years, i.e., from 23.3% in 2017-18 to **37% in 2022-23**, driven mainly by the rising participation of rural women.
- **Poverty Reduction:** As a result of the systematic focus on addressing individual deprivations, the incidence of poverty has reduced remarkably.
 - This is reflected in the **steep decline in the headcount ratio of multidimensionally poor** between 2015-16 and 2022-23, as per NITI Aayog’s discussion paper on multidimensional poverty in India.
- **Consumption Expenditure:** The **Monthly Per Capita Consumption Expenditure (MPCE)** in 2022-23 increased in real terms in both rural and urban areas over 2011-12.





Outlook

- **Indian Economy:** Indian economy recovered swiftly from the pandemic, with its **real GDP in FY24 being 20% higher** than the pre-COVID, FY20 levels.
 - This meant a **CAGR of 4.6% from FY20**, despite a 5.8% decline in FY21 inflicted by the pandemic.
- **Global Economy:** IMF projects the **global economy to grow at 3.2%** in 2024, with risks being broadly balanced. The average annual global growth was 3.7% during the decade ending FY20.
 - **Inflationary pressures have moderated** in most economies with declining global commodity prices and easing of supply chain pressures. However, **core inflation remains sticky** and driven by high service inflation.
- **Downside risks:** Any **escalation of geopolitical conflicts** in 2024 may lead to **supply dislocations, higher commodity prices, reviving inflationary pressures** and **stalling monetary policy easing** with potential repercussions for capital flows. This can also influence RBI's monetary policy stance.
 - **Increased fragmentation** along geopolitical lines and renewed thrust on protectionism may distort merchandise trade growth, **impacting India's external sector**.
 - **Hiring in the information technology** sector had **slowed down considerably** in FY24, and is unlikely to pick up significantly.
- **Growth Drivers:** Domestic growth drivers have supported economic growth in FY24 despite uncertain global economic performance. The Survey conservatively projects a **real GDP growth of 6.5–7%** owing to following factors:
 - **Improved balance sheets** will help the **private sector** cater to strong investment demand.
 - **Private capital formation** after good growth in the last three years may turn slightly more cautious because of **fears of cheaper imports** from countries that have excess capacity.
 - While **merchandise exports are likely to increase** with improving growth prospects in advanced economies, **services exports are also likely to witness a further uptick**.
 - A **normal rainfall** forecast by the India Meteorological Department is likely to **improve agriculture sector performance** and support the revival of rural demand.
 - **Structural reforms** such as the GST and the IBC have also matured and are delivering envisaged results.

What does the Budget Say?

Growth

- India **grew at 8.2% in FY24** and fiscal deficit is estimated at **4.9% of GDP in 2024-25**.
- **Economic Policy Framework:** To delineate the overarching approach to economic development and set the scope of next generation of reforms for facilitating employment opportunities and sustaining high growth.
- Rules and regulations for **FDI and overseas investments** will be simplified.

Taxation

- Government will strive to **further simplify and rationalise GST structure**.
- **Custom duties reduction** to support domestic manufacturing, deepen local value addition, promote export competitiveness and simplify taxation.
- **New Direct Tax Regime** with revised tax rate structure and increase in standard deduction.
- **Simplification and rationalisation of Capital Gains tax**.
- **Angel tax** abolished for all classes of investors to promote start-up ecosystem.

Employment

- **Prime Minister's Package** was announced with 5 Schemes, of which three schemes are for **employment linked incentives**.
- Scheme for providing **internship opportunities** in 500 top companies to 1 crore youth in 5 years.
- **Model Skill Loan Scheme** revised to facilitate loans up to Rs. 7.5 lakh with a guarantee from a government promoted fund.

Inclusive Growth

- **Pradhan Mantri Janjatiya Unnat Gram Abhiyan:** Improving the socio-economic condition of tribal communities covering 63,000 villages benefitting 5 crore tribal people.
- **New Pension Scheme (NPS):** Deduction of expenditure by employers towards NPS to be increased from 10 to 14% of employee’s salary.
- **Saturation Approach:** All round, all pervasive and all inclusive development of people, particularly farmers, youth, women and poor.

Infrastructure

- Provision of ₹11,11,111 crore for infrastructure (**3.4% of GDP**).
- ₹1.5 lakh crore to states as **long-term interest free loans** to support resource allocation.

MSMEs

- Credit Guarantee Scheme for MSMEs in the Manufacturing Sector
- New Assessment model for MSME Credit
- Credit support to MSMEs during stress period.
- E-commerce export hubs to be set up under PPP mode for MSMEs.

Statistics

- **Improvement of data governance,** collection, processing and management of data and statistics.

Glossary

Terms	Meanings
Fiscal Deficit	Fiscal deficit refers to the shortfall in a government's revenue when compared to its expenditure.
Foreign Direct Investment (FDI)	FDI is an investment from a party in one country into a business or corporation in another country.
Foreign Portfolio Investment (FPI)	FPI is an investment in foreign financial assets which does not provide direct ownership of assets.
Gross Domestic Product (GDP)	Gross domestic product is the monetary value of all finished goods and services made within a country during a specific period.
Private final consumption expenditure (PFCE)	PFCE is defined as the expenditure incurred by the resident households and non-profit institutions serving households (NPISH) on final consumption of goods and services, whether made within or outside the economic territory.
Gross Fixed Capital Formation (GFCF)	GFCF refers to the aggregate of gross additions to fixed assets (i.e., fixed capital formation), increase in stocks of inventories and net acquisition of valuables.
Sovereign credit rating	Sovereign credit ratings indicate the capacity and willingness of rated governments to repay commercial debt obligations in full and on time.
Current Account Deficit (CAD)	CAD measures the difference between a country's total exports and its total imports of goods, services, and transfers over a specific period. Deficit indicates that country is importing more goods and services than it is exporting.
Foreign Exchange Reserves	India's Foreign Exchange Reserves comprise foreign currency assets of the Reserve Bank, gold held by RBI and Special Drawing Rights (SDRs) of the Government of India.
Labour Force Participation Rate (LFPR)	LFPR is defined as the percentage of persons in labour force (i.e. working or seeking or available for work) in the population.



Chapter 1: Test Your Learning

MCQs

1. Consider the following statements regarding India's economic performance in FY24:
 1. India's real GDP grew by 8.2% in FY24.
 2. The fiscal deficit of the Union Government was reduced to 5.6% of GDP in FY24.
 3. Retail inflation declined to 5.4% in FY24 from 6.7% in FY23.Which of the statements given above is/are correct?
 - a) 1 and 2 only
 - b) 2 and 3 only
 - c) 1 and 3 only
 - d) 1, 2 and 3
2. Consider the following statements about the Indian economy:
 1. The shares of agriculture in overall GVA at current prices was 17.7% in FY24.
 2. The female labour force participation rate increased from 23.3% in 2017-18 to 37% in 2022-23.
 3. For the first time in 13 years, S&P Global Ratings upgraded India's sovereign credit rating from 'stable' to 'positive' in May 2024.Which of the statements given above is/are correct?
 - a) 1 and 2 only
 - b) 2 and 3 only
 - c) 1 and 3 only
 - d) 1, 2 and 3
3. In the context of India's economic outlook, which of the following is not mentioned as a potential downside risk?
 - a) Escalation of geopolitical conflicts
 - b) Increased fragmentation along geopolitical lines
 - c) Slowing down of hiring in the information technology sector
 - d) Decline in domestic consumption demand
4. Consider the following statements:
 1. The global economy registered a growth of 3.2% in 2023, which was higher than in 2022.
 2. Global Foreign Direct Investment (FDI) flows increased in 2023 compared to 2022.
 3. Global general government fiscal deficit rose by 1.6 percentage points in 2023 compared to the previous year.Which of the above statements is/are correct?
 - a) 1 and 2 only
 - b) 1 and 3 only
 - c) 2 and 3 only
 - d) 1, 2, and 3
5. Consider the following statements:
 1. India's social welfare approach has shifted from an input-based approach to outcome-based empowerment.
 2. The Monthly Per Capita Consumption Expenditure (MPCE) in 2022-23 increased in real terms in both rural and urban areas over 2011-12.
 3. There has been an increase in the headcount ratio of multidimensionally poor between 2015-16 and 2022-23.

Which of the above statements is/are correct?

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

Questions

1. Discuss the key factors contributing to India's economic resilience in FY24 despite global challenges. Examine the role of domestic growth drivers and government policies in maintaining this resilience. (250 words)
2. Evaluate the shift in India's social welfare approach from an input-based to an outcome-based empowerment model. Discuss the major initiatives undertaken under this new approach and their impact on inclusive growth and poverty reduction. (250 words)

फाउंडेशन कोर्स सामान्य अध्ययन प्रारंभिक एवं मुख्य परीक्षा 2025

इनोवेटिव क्लासरूम प्रोग्राम

- प्रारंभिक परीक्षा, मुख्य परीक्षा और निबंध के लिए महत्वपूर्ण सभी टॉपिक का विस्तृत कवरेज
- मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
- योजनाबद्ध तैयारी हेतु करंट ओरिएंटेड अप्रोच
- नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन
- सीसैट कक्षाएं
- PT 365 कक्षाएं
- MAINS 365 कक्षाएं
- PT टेस्ट सीरीज
- मुख्य परीक्षा टेस्ट सीरीज
- निबंध टेस्ट सीरीज
- सीसैट टेस्ट सीरीज
- निबंध लेखन - शैली की कक्षाएं
- करंट अफेयर्स मैगजीन

नोट: ऑनलाइन छात्र हमारे पाठ्यक्रम की लाइव वीडियो कक्षाएं अपने घर पर ऑनलाइन प्लेटफॉर्म पर देख सकते हैं। छात्र लाइव चैट विकल्प के माध्यम से कक्षा के दौरान अपने संदेह और विषय संबंधी प्रश्न पूछ सकते हैं। वे अपने संदेह और प्रश्न नोट भी कर सकते हैं और दिल्ली केंद्र में हमारे कक्षा सलाहकार को बता सकते हैं और हम फोन/मेल के माध्यम से प्रश्नों का उत्तर देंगे।

DELHI: 20 अगस्त, 1 PM | 18 जुलाई, 1 PM **BHOPAL: 23 जुलाई**

LUCKNOW: 18 जुलाई **JAIPUR: 16 अगस्त** **JODHPUR: 11 जुलाई**

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Chapter 2: Monetary Management and Financial Intermediation: Stability is the Watchword

Introduction

India’s **banking and financial sectors have displayed a stellar performance** in FY24 with double-digit growth in bank credit, gross and net Non-Performing Assets (NPAs) at multi-year lows, and improvement in bank asset quality.

Capital markets are becoming prominent in India’s growth story, with an **expanding share in capital formation and investment landscape** on the back of technology, innovation, and digitisation. Indian **stock market was among the best-performing markets**, with the market capitalisation to GDP ratio being the **fifth largest in the World**.

Supported by regulatory measures and the vision to achieve ‘**Insurance for all by 2047**’, India is poised to emerge as one of the fastest-growing insurance markets over the next five years.

The increased **retail participation** in financial markets and **familiarity with financial products** are beginning to grow. Therefore, firms operating in banking, insurance, and capital markets must keep the **interests of the consumers** in mind and **improve their service quality** through fair selling, disclosure, transparency, reliability, and responsiveness.

Chapter Precap

<p>Monetary Developments</p> <ul style="list-style-type: none"> • Monetary Policy Committee (MPC) kept the policy repo rate unchanged at 6.5% since February 2023. • Deposit of ₹2,000 banknotes and an increase in term deposit rates contributed to an acceleration in aggregate deposits and Broad Money (M3). • As of March 2024, the Money Multiplier (MM) was 5.4 against 5.2 a year ago. • Banking system’s liquidity became deficit in mid-September, which persisted during FY24. 	<p>Financial Intermediation</p> <ul style="list-style-type: none"> • Credit growth remains robust, mainly driven by lending to services and personal loans with credit disbursement by Scheduled Commercial Banks at ₹164.3 lakh crore. • Agricultural credit, with double digit growth, had increased nearly 1.5 times from ₹13.3 lakh crore in FY21 to ₹20.7 lakh crore in FY24. • Bank credit to MSMEs enhanced due to initiatives like TReDS, change in MSME definition, Udyam Portal, Credit Guarantee Scheme etc. • Gross Non-Performing Assets (GNPA) ratio of SCBs continued its downward trend, reaching a 12-year low of 2.8% at the end of March 2024 from its peak of 11.2% in FY18.
<p>Trends in Indian Capital Markets</p> <ul style="list-style-type: none"> • Primary markets remained robust during FY24, facilitating capital formation of ₹10.9 lakh crore, compared to ₹9.3 lakh crore in FY23. • Corporate debt market in India strengthened and during FY24, the value of corporate bond issuances increased to ₹8.6 lakh crore. • During FY24, ₹39,024 crore were raised by Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs), more than five times compared to FY23. • Indian stock market was among the best-performing markets, with India’s Nifty 50 index ascending by 26.8% during FY24. 	<p>Insurance and Pension Sector</p> <ul style="list-style-type: none"> • Overall insurance penetration in India moderated slightly to 4% in FY23, from 4.2% in FY22. • Overall insurance density increased from USD 91 in FY22 to USD 92 in FY23. • The Government and Insurance Regulatory and Development Authority of India (IRDAI) have launched mission “Insurance for all by 2047”. • According to the 15th Annual Mercer CFA Institute Global Pension Index (MCGPI), India’s overall global pension index value improved from 44.5 in 2022 to 45.9 in 2023. • Atal Pension Yojana (APY) subscribers account for around 80% of the pension subscriber base.

- **Indian capital markets have seen a surge in retail activity** through direct and indirect (through Mutual Funds (MFs)) channels in the last few years.

Assessment and Outlook

- **Domestic credit to the private sector as a per cent of GDP rose** from 50.6 per cent in 2010 to 54.7 per cent in 2021.
- The **share of insurance and pension fund assets in GDP stands at 19 per cent and 5 per cent**, respectively, in India, compared to a high of 52 per cent and 122 per cent in the USA and 112 per cent and 80 per cent in the UK.
- **India's financial sector needs to support capital formation** and promote trade, business, and investments in MSMEs, enabling them to scale.
- In the medium term, efforts should be made to **move towards data-based lending** instead of judgment-based lending, especially for small businesses.
- It is imperative that **financial intermediation costs decline globally**.

Monetary Developments

Monetary policy plays a crucial role in determining a country's economic conditions through its influence on macroeconomic indicators such as economic growth, inflation, and investments. The **primary objective** of monetary policy is to **maintain price stability** while keeping in mind the objective of **growth**. Various **instruments of monetary policy**, viz. Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR) of banks, open market operations of the Central Bank, and imposition of credit ceilings, etc., are used by the central bank in the direction of this overall objective.

- **Monetary Policy:** With the cumulative **policy repo rate hike of 250 basis points (bps)**, undertaken between May 2022 and February 2023, the Monetary Policy Committee (MPC) kept the **policy repo rate unchanged at 6.5%** since February 2023.
 - MPC focused on **withdrawing accommodation** to ensure that inflation gradually aligns with the target while supporting growth.
- **Factors impacting monetary conditions:** Withdrawal of ₹2,000 banknotes, the merger of HDFC, a non-bank with HDFC Bank, and the temporary imposition of the incremental CRR (I-CRR).
- **Monetary Conditions:** The **expansion in reserve money and Currency in Circulation (CiC) moderated** due to the **return of a predominant part (97.87%) of ₹2,000 banknotes** to the banking system as deposits.
 - Deposit of ₹2,000 banknotes and an increase in term deposit rates contributed to an **acceleration in aggregate deposits and Broad Money (M3)**.
 - As of March 2024, the **Money Multiplier (MM)** was 5.4 against 5.2 a year ago.
- **Liquidity conditions:** **Banking system's liquidity became deficit** in mid-September, which persisted during FY24.

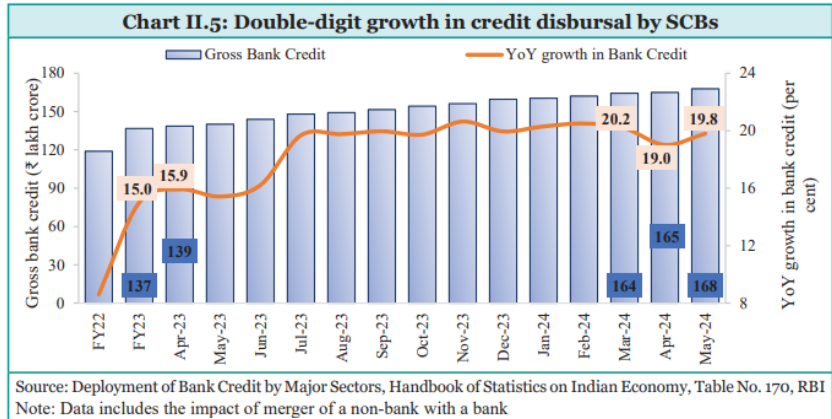
Financial Intermediation

Financial development and economic growth are inextricably linked, and financial intermediation is the pathway through which the former translates into the latter.

- **Definition:** Financial Intermediation is the **practice of linking two parties** in a financial transaction, particularly linking an economic agent with surplus funds to an economic agent requiring such funds.
- **Significance:** Financial intermediation helps in the **efficient allocation of limited resources**.
 - **Services provided by financial intermediaries**, viz. mobilising savings, extending credit, storing assets, managing risk, and facilitating transactions, are **essential for technological innovation and economic development**.
 - Also facilitates and encourages the **inflows of foreign capital**.
 - Help ensure **access to finance to all sections** of society, including vulnerable groups and small and medium-sized firms.

Performance of the Banking Sector and Credit Availability

- Factors for Resilience:** Ongoing improvements in asset quality, enhanced provisioning for bad loans, sustained capital adequacy, and a rise in profitability.
- Credit Growth:** Credit growth remains robust, mainly driven by **lending to services and personal loans**.
 - Scheduled Commercial Banks (SCBs):** Credit disbursement by SCBs stood at **₹164.3 lakh crore**, growing by 20.2% at the end-March 2024, compared to 15% growth at end-March 2023.
 - Non-Banking Financial Companies (NBFCs):** Lending by NBFCs accelerated, led by personal loans and loans to the industry, and their asset quality has improved.
- Sectoral Credit Growth:**
 - Agriculture and allied activities:** Agricultural credit, with double digit growth, had increased **nearly 1.5 times** from ₹13.3 lakh crore in FY21 to **₹20.7 lakh crore in FY24**.
 - Industry:** Boost in credit disbursement to Micro, Small and Medium Enterprises (MSMEs) has been supported by the **availability of collateral-free loans** with a 100% credit guarantee under the **Emergency Credit Linked Guarantee Scheme (ECLGS)**.
 - In future, the development of **new technologies**, such as **Open Credit Enablement Network (OCEN)**, are expected to boost credit flow to MSME sector.
 - Services: Personal loans and NBFCs have the largest share** of credit disbursed by banks.
 - Credit disbursement for **housing loans** increased from ₹19.9 lakh crore in March 2023 to ₹27.2 lakh crore in March 2024.
 - Credit growth in personal loans can be attributed to **significant digitalisation** of the ecosystem with **increased use of credit bureaus** for faster decisions, data collation and validation and **e-commerce transactions**.



Initiatives for enhancing flow of Bank Credit to MSMEs

- Introduction of Trade Receivables Discounting System (TReDS):** TReDS is a digital platform that facilitates the discounting of MSMEs' trade receivables through multiple financiers- Banks and NBFCs - to meet **liquidity and working capital requirements**.
- Change in definition of MSMEs:** From 1 July 2020, MSMEs are defined as per a composite criterion of **turnover and investment in plant and machinery/equipment**.
 - This aims to bring a **large number of entrepreneurs under the ambit of the formal banking sector**, facilitating credit flow to the industry at subsidised rates.
- Registration of MSMEs on Udyam Portal:** Udyam Registration Portal (URP), launched in 2020, is free of cost, simple and online.
- Udyam Assist Platform (UAP):** Launched by Ministry of MSME, in collaboration with Small Industries and Development Bank of India (SIDBI), in 2023 to **formalise Informal Micro Enterprises (IMEs)**.
- Revamp of Credit Guarantee Scheme (CGS) for MSEs:** In Union Budget FY23, the revamp of the CGS for Micro and Small Enterprises (MSEs) was announced with a required infusion of funds to facilitate an **additional credit of ₹2 lakh crore for MSEs**.
 - Subsequently, the **credit limit** was enhanced from ₹2 crore to **₹5 crore**.

- Asset Quality of Banks:** The Gross Non-Performing Assets (GNPA) ratio of SCBs continued its downward trend, reaching a **12-year low of 2.8%** at the end of March 2024 from its peak of 11.2% in FY18.
 - The GNPA ratio of the **agriculture sector remains high at 6.5%** at the end of March 2024, but it has recorded **persistent improvement** during H2 of FY24.

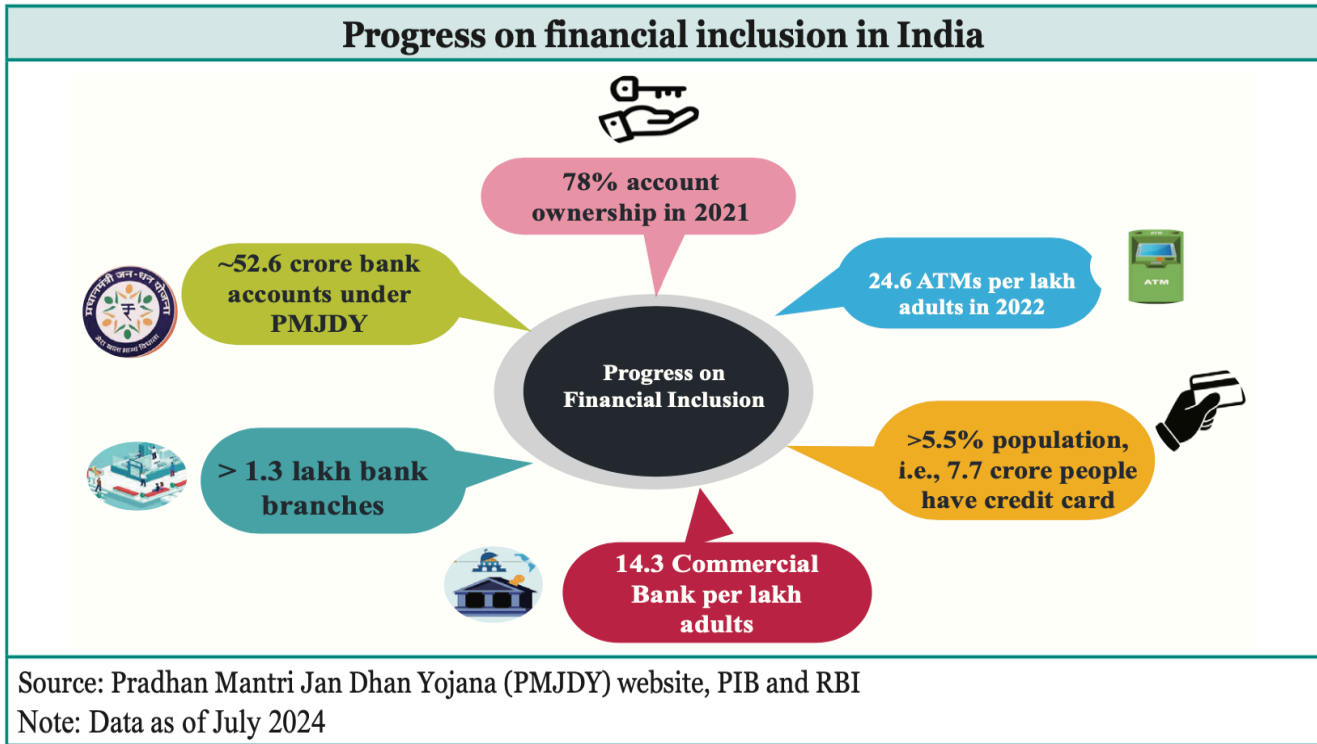


- SCB's **profit after tax rose** by 32.5% (YoY) in March 2024.
- **56.9% of India's deposits are with Public Sector Banks (PSBs)**. 61.1% of total deposits are owned by households.
- **Factors improving asset quality: Improved borrower selection, more effective debt recovery and heightened debt awareness** among large borrowers.
 - Qualitative metrics such as **enhanced disclosures, robust code of conduct, and transparent governance structures** have also improved banking performance.
- **Distressed Assets:** As of March 2016, the **GNPA ratio** of the public sector banks was **14.5%**. The plateauing of the bank debt fuelled an **increase in corporate leverage**, leading to the **twin-balance sheet problem**.
 - **Measures taken:** Strengthening the banking regulatory framework, amending the recovery laws, enacting comprehensive insolvency and bankruptcy legislation, and establishing a public sector asset reconstruction company.
 - **Conventional Channels of recovery of distressed assets:** During FY23, around **45% of the reduction in GNPA**s of SCBs was contributed by recoveries and upgradations.
 - **Regulatory measures for resolution of distressed assets:**
 - **Asset Reconstruction Companies (ARCs)** regulated under the SARFAESI Act are emerging as an **alternative channel** for investors, including FPIs, to access the NPAs/distressed assets held by banks.
 - Securities and Exchange Board of India (SEBI) has **permitted FPIs to invest in debt instruments** issued by companies undergoing resolution and in Security Receipts issued by ARCs.
 - ✓ SEBI also opened a particular route in 2022, the **Special Situation Fund**, a sub-component of Alternative Investment Funds, to participate in the distressed asset market.
 - Government, in 2021, set up **National Asset Reconstruction Company Ltd. (NARCL) and India Debt Resolution Company Ltd. (IDRCL)**.
 - ✓ NARCL acquires assets from banks and IDRCL has an exclusive arrangement with NARCL to resolve assets acquired by the latter.
 - ✓ NARCL has so far **acquired 18 accounts with loan exposure of around ₹92,000 crore**.
 - **Insolvency Resolution:** Insolvency and Bankruptcy Code (IBC) has been recognised as an **effective solution for the twin balance sheet problem**.
 - Since 2016, **31,394 corporate debtors** involving a value of **₹13.9 lakh crore have been disposed of** (including pre-admission case disposals) as of March 2024.
 - IBC is the **dominant recovery route for SCBs** having a share of 43% of the total amount recovered by SCBs in FY23.
 - ✓ Since FY18, the IBC has enabled over **₹3 lakh crore recovery for the SCBs**.
 - **Nine of the twelve large accounts** referred by the RBI for resolution under the IBC have been resolved.

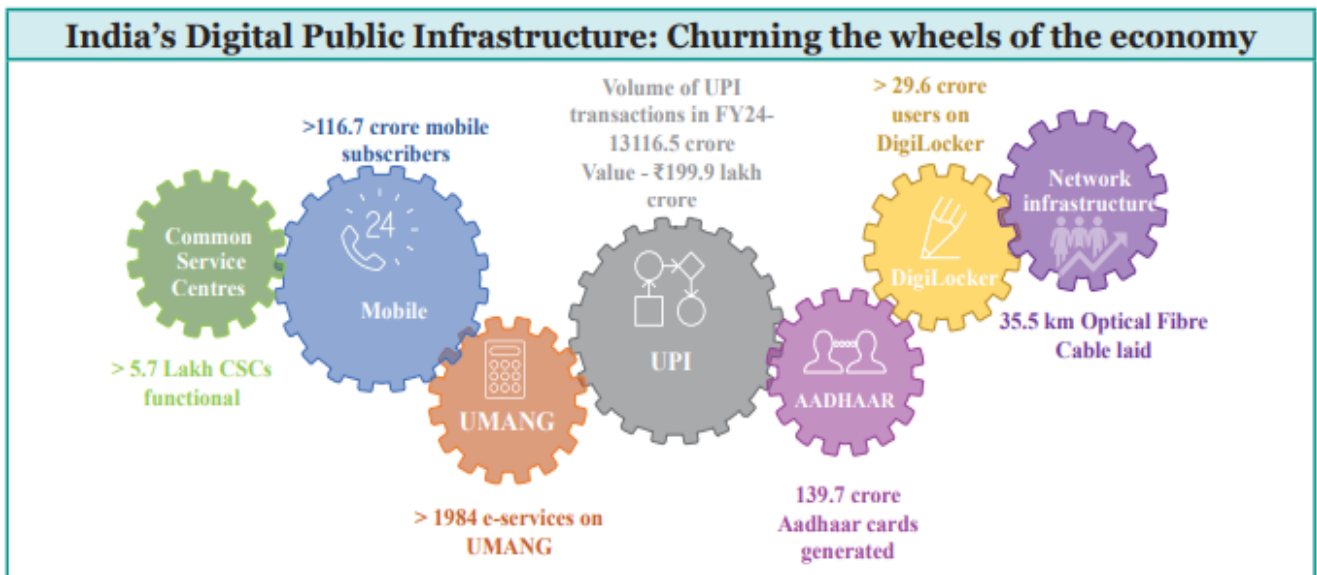
Financial Inclusion

- **Progress:** According to the World Bank's **Global Financial Inclusion Database**, India has made remarkable progress in its **financial inclusion goals over the past ten years**.
 - The **number of adults** with an account in a **formal financial institution** increased from 35% in 2011 to **77% in 2021**.
 - There is a **decline in the access gap between the rich and the poor**. Further, the gender divide in terms of financial inclusion has also narrowed.
- **Financial Inclusion Strategy:** There has been a shift in focus of the financial inclusion strategy from 'every household' to 'every adult'.
 - Government is putting added emphasis on account usage by **enhancing Direct Benefit Transfer (DBT) flows, promoting digital payments** using RuPay cards, UPI etc.
 - India is also **collaborating with several countries** to bring more efficiency to national and cross-border payment systems.
 - The RBI joined **Project Nexus**, a multilateral international initiative to enable instant cross-border retail payments by interlinking domestic Fast Payment Systems (FPSs).

- The Nexus aims to connect the FPSs of four ASEAN countries (Malaysia, Philippines, Singapore, and Thailand) and India, who would be the founding members.



- Digital Financial Inclusion (DFI):** According to the International Monetary Fund (IMF) research, an increase in DFI in payments leads to a **2.2% rise in average economic growth**, likely driven through the **consumption channel and higher formalisation**.
 - Government Measures:** Flagship schemes such as Digital India Mission, Make-in-India, etc. and greater emphasis to creation of DPI such as Aadhaar, e-KYC, Aadhaar-enabled Payment System, UPI, Bharat QR, DigiLocker, e-sign, Account Aggregator, Open Network for Digital Commerce, etc.
 - India Stack:** Advances in DFI are built on the India Stack, a comprehensive digital identity (Aadhaar), payment (UPI), and data-management system.





Microfinance Institutions

- **Microfinance:** Microfinance refers to providing financial services, including **small-value loans to households, small businesses and entrepreneurs** who lack access to formal banking services.
 - It is an **effective tool for financial inclusion**.
- **Measures: Regulatory framework of RBI** coupled with the formulation of an **Industry Code of Conduct** by the **Self-Regulatory Organisations (SROs)**, such as Sa-Dhan and MFIN.
- **Present Status:** Globally, the **Indian microfinance sector is the second largest after China** in terms of number of borrowing customers in India.
 - The Indian microfinance coverage (**Self-Help Groups (SHGs) and Joint Liability Group (JLG)**) is **more than 50% of households** and 10% of the Indian population.
 - As per the 2023 Bharat Microfinance Report, **MFIs operate in 28 States, five UTs, and 646 plus districts in India**.
 - **213 MFIs operate** in India as of FY23, with a branch network of 25,790, engaging 2.2 lakh employees, with a total **loan outstanding of ₹1.8 lakh crore under micro-credit**.
- **Rural Orientation:** MFIs serve both rural and urban poor, however, they are oriented more towards **rural areas in India (74%)**.
- **Gender progress:** Microfinance is mostly a **woman-focused activity** and women constitute **98% of the total clients** of MFIs. Further, it also serves other weaker and marginalised sections with **SC/ST borrowers** constituting a **substantial 23%** of the clients.

Trends in the Indian Capital Markets

- **Primary Market:** Primary markets remained robust during FY24, **facilitating capital formation of ₹10.9 lakh crore** (which approximates 29% of the gross fixed capital formation of private and public corporates during FY23), compared to ₹9.3 lakh crore in FY23.
 - Of the total amount mobilised in FY24, **78.8% was raised through debt issuances**.
 - The number of **Initial Public Offers (IPOs) increased by 66%** in FY24 from 164 in FY23 to 272 in FY24, while the amount raised grew by 24% (from ₹54,773 crore in FY23 to ₹67,995 crore in FY24).
- **Public Debt Issuances:** The corporate debt market in India strengthened and during FY24, the **value of corporate bond issuances increased to ₹8.6 lakh crore** from ₹7.6 lakh crore during the previous financial year.
 - The number of corporate bonds public issues in FY24 was the **highest for any financial year so far**, with the amount raised (₹19,167 crore) at a four-year high.
 - **Private placements** remained the **preferred channel for corporates**, accounting for 97.8% of total resources mobilised through the bond market.
- **REITs and InvITs:** During FY24, **₹39,024 crore** was raised by Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs), **more than five times compared to FY23**, supported by the Government's thrust on infrastructure development.
- **Secondary Markets:** After enduring a highly turbulent global environment in FY23, global stock markets recovered and performed well during FY24.
 - Indian stock market was **among the best-performing markets**, with India's Nifty 50 index ascending by 26.8% during FY24, as against (-)8.2% during FY23.
 - India's weight in the **MSCI-EM index** has increased to **17.7%** at the end of FY24 from 13.7% at the end of April 23, the **second-highest share among the Emerging Markets (EMs)** in the index.
 - Attractive investment destination and sustained IPO activity placed the **Indian market fifth in the world by market capitalisation** in FY24.
 - India's **market capitalisation to GDP ratio** has improved significantly over the last five years to **124% in FY24**, compared to 77% in FY19, far higher than that of other emerging market economies like China and Brazil.



Role of technology in strengthening capital markets

- Technological advancements such as India Stack and regulatory measures have fuelled an **unprecedented surge in retail investor participation and activity**.
- The prevalence and proliferation of user-friendly trading apps, mobile-friendly educational resources, and financial market guidance have **democratised access to the capital markets**.
- Initiatives such as the SEBI Complaints Redress System (SCORES), a platform for investor grievance resolution, and Securities Market Trainers (SMARTs) a program for investor education, have been instrumental in **safeguarding the interests of market participants, particularly first-time investors**.
- India's unique digital architecture has imbued the capital market regulator with the confidence to switch to the **"T+1 settlement regime"** comfortably, a feat followed by very few countries worldwide.
- The introduction of **"Interoperability" among clearing corporations (CCs)** created a one-to-many relationship between stock exchanges and CCs that **reduced trading costs via better margin utilisation and capital resources** of the participants.
- Indian capital markets have also adopted on a pilot basis the "Application Supported by Blocked Account" facility in the secondary market, which allows **investors to block funds in their bank** until trade confirmation.
- Clearing corporations like NSCCL and ICCL have worked on two-way portability to be operated as a "SaaS" (Software as a Service) model to manage **unforeseen software failures**.
- **Privacy concerns, cybersecurity risks, and the rising digital divide** in the population are some issues that require attention.

- **Retail participation:** The Indian capital markets have seen a **surge in retail activity** through direct and indirect (through Mutual Funds (MFs)) channels in the last few years.
 - The number of demat accounts with both depositories rose from 1,145 lakh in FY23 to 1,514 lakh in FY24.
 - Tripling of registered investor base at NSE from March 2020 to 9.2 crore as of March 2024 indicates potentially translating into **20% of the Indian households now channelling their household savings into financial markets**.
 - The MF segment presently has about **8.4 crore systematic investment plan (SIP) accounts** through which investors regularly invest in schemes.
 - **Growth factors:** Seamless technological integration, Government measures towards financial inclusion, growth of digital infrastructure, rapid smartphone penetration, a rise of low-cost brokerages, the pursuit of generating income from alternative sources and lower returns generated by traditional asset classes such as real estate and gold.
 - **Protection measures:** SEBI's Online Dispute Resolution, Enhanced Investor Protection Fund and Settlement Guarantee Fund and shortening of the settlement cycle.
- **Social Stock Exchange (SSE):** Union Budget of FY20 proposed to initiate steps towards creating a SSE under the **regulatory ambit of SEBI** for listing social enterprises and voluntary organisations working for the realisation of a social welfare objective.
 - **Need:** SSE aims to **bridge the financing gap by providing alternative fund-raising instruments** for achieving socio-development goals.
 - SSE can help **social enterprises** like Non-Profit Organisations (NPOs) and Non-Government Organisations (NGOs) **raise funds from the public** through stock exchange mechanism.
 - SSE is expected to stimulate the **ecosystem of outcome-driven philanthropy** in India in a transparent and regulated environment.
 - SSE also offers a platform for **constructive engagement of NGOs** working in the area of social projects related to health, education, livelihood generation, etc., to directly raise funds from the private sector, corporate entities and individuals.
 - **Operationalisation of SSEs:** Contributions towards social sector projects listed on SSE are made through **Zero Coupon, Zero Principal (ZCZP)** instrument, which does **not promise any payment of coupon or return of the principal amount**.



- **Progress:** National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) obtained **SEBI's in-principal approval to set up a separate segment of SSE.**
 - As of April 2024, 51 NPOs are registered on the BSE, and 50 (11 undergoing renewal) are registered on the NSE.

GIFT International Financial Services Centre (IFSC)

- **IFSC:** The IFSC in GIFT City, Gujarat, is envisaged to be a **unique international financial jurisdiction** located inside onshore India.
 - **Dual Objective:** Onshoring India centric international financial services business as well as serving as a preferred gateway for channelising global capital flows into and out of the country.
- **Uniqueness:** The uniqueness of the IFSC as a distinct financial jurisdiction emanates from three fundamental factors.
 - Designated as a **non-resident zone** under the Foreign Exchange Management Act, which means that entities set up here are outside the capital control restrictions and, can conduct business in any of the eleven notified foreign currencies.
 - Brought under the regulatory purview of a **dedicated and unified financial regulator**, i.e. IFSCA (IFSC Authority), set up under an Act of Parliament.
 - Government has provided a **separate tax regime** for IFSC.
- **Thriving Business Activities:** Foreign and domestic banks, external commercial borrowings, flow of global capital to startup ecosystem, aircraft leasing, maritime business, and initiation of foreign universities.

Insurance Sector

- **Challenges:** Global economic slowdown and inflation led rising cost of capital, delayed settlements, liability exposures, and prevalence of unfair business practices etc.
- **Status:** Global insurance markets have witnessed a contraction in 2022 compared to the previous year.
 - Overall **insurance penetration** in India moderated slightly to **4% in FY23**, from 4.2% in FY22. Insurance penetration as a percent of GDP is projected to grow from 3.8% in FY23 to **4.3% by FY35**.
 - Overall **insurance density** increased from USD 91 in FY22 to **USD 92 in FY23**.
 - The Swiss-Re Institute January 2024 report projected that over next five years (2024-28), **total insurance premiums in India will grow by 7.1% in real terms**, well above the global (2.4%), emerging economies (5.1%) and advanced economies (1.7%) market averages. At this rate, India will have the **fastest-growing insurance sector amongst the G20 countries**.
- **Government Initiatives:**
 - **Insurance for All:** The Government and Insurance Regulatory and Development Authority of India (IRDAI) have launched mission “**Insurance for all by 2047**” to ensure that every citizen and enterprise has appropriate insurance cover.
 - **Health insurance: Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)** achieved a milestone of generating 34.2 crore Ayushman cards across India, with 49.3% of them held by females.
 - **Crop Insurance: New technological initiatives** for crop insurance such as YES-Tech Manual, WINDS portal, and enrolment app AIDE/Sahayak to assess crop damage via satellite-based advanced technologies.
 - **Other initiatives: Bima Sugam, Bima Vahak, and Bima Vistaar**, expected to be launched, **aiming to raise insurance penetration**, particularly in semi-urban areas, rural towns, and villages.
 - **Reinsurance:** IRDAI approved amendments to the reinsurance regulations to **position India as a global reinsurance hub**.
 - Fundamental changes include **reducing Foreign Reinsurance Branches’ (FRB) minimum capital requirement** to USD 6.1 million from USD 12.2 million.



Pension Sector

- **Challenges:** Inflation, burden of risk on individuals, inclusion of gig workers and informal workers.
- **Status:** According to the 15th Annual Mercer CFA Institute Global Pension Index (MCGPI), India's overall **global pension index value improved from 44.5 in 2022 to 45.9 in 2023.**
 - Atal Pension Yojana (APY) subscribers account for around **80% of the pension subscriber base.**
 - The **overwhelming share (92%) of ₹1,000 pension** in APY could be due to the target population belonging to low-income households.
- **Growth drivers:** Rise in India's per capita income, transition to high middle-income country, demographic structure with significant proportion of younger people, increase in life expectancy, growing urbanization changing traditional family support system.

Financial Stability

The financial system's stability is **paramount for sustainable economic growth and prosperity** and a financially stable system should be robust to macroeconomic disturbances.

- **Financial Sector Development Council (FSDC):** is a **forum that facilitates interaction among various financial sector regulators.**
 - It is mandated to **deal with a wide range of issues** relating to financial stability, financial sector development, inter-regulatory coordination, financial literacy and financial inclusion, macro-prudential supervision of the economy, including the functioning of large financial conglomerates.
 - It also coordinates **India's international interface with financial sector bodies** (like Financial Action Task Force (FATF), Financial Stability Board (FSB)).
- **Role of RBI:** RBI promotes the financial sector's resilience by regulating financial institutions, monitoring systemic risks, and implementing monetary policy.
 - RBI undertakes collective assessment of the risks to financial stability and strength of Indian financial system in the bi-annual **Financial Stability Report (FSR).**
- **Financial Sector Assessment Program (FSAP) for India:** FSAP is the quinquennial exercise **jointly conducted by the IMF and the World Bank** in countries having 'systemically important' financial sectors.
 - India underwent its first FSAP exercise in 2011-12 and the second one in 2017, and the **third FSAP exercise for India is underway** for 2023-24.
- **Implementation of Basel III Reforms:** India is largely compliant as it has laid down provisions for Net Stable Funding Ratio, liquidity coverage ratio, requirements for Systematically Important Banks, and supervisory framework for measuring and controlling bank's large exposures.
- **Financial System Stress Indicator (FSSI):** FSR June 2024 shows that FSSI indicated a gradual easing of stress during H2 of FY24.
 - The decline in government debt market stress was the primary contributor to the improvement in the overall FSSI, aided by a fall in long-term yields as well as volatility and higher net foreign portfolio debt inflows.

Assessment and Outlook

Assessment

- **Credit:** Domestic credit to the private sector as a per cent of GDP rose from 50.6 per cent in 2010 to 54.7 per cent in 2021.
- **NPAs:** Gross and Net NPAs of SCBs have been declining over time, accompanied by an improvement in CRAR, RoA and RoE.
- **Insurance and Pension:** The share of insurance and pension fund assets in GDP stands at 19 per cent and 5 per cent, respectively, in India, compared to a high of 52 per cent and 122 per cent in the USA and 112 per cent and 80 per cent in the UK, leaving scope for further improvements.
- The **dominance of banking support to credit is being reduced**, and the role of capital markets is rising.

Outlook

- **Financial Intermediation:** As India embarks on the vision to become a developed country by 2047, it is imperative that **financial intermediation costs decline globally**.
- **Financial Services:** Elements of a robust financial services sector include a **highly competitive and viable banking sector**, universal access to banking and other financial services for all citizens, **lowest intermediation costs**, efficient and quick access to credit and equity funding for small businesses, highly liquid, efficient, and well-regulated stock, bond, and commodity markets.
- **Financial Sector:** India's financial sector **needs to support capital formation** and promote trade, business, and investments in MSMEs, enabling them to scale.
 - It also needs to provide insurance protection and retirement security to all citizens.
- **Fintech:** Next big step is likely to be towards Artificial Intelligence/ Machine Learning (AI/ML), Decentralised Finance, Internet of Things (IoT), etc., which have a vast potential to disrupt the digital payments ecosystem.
 - The vision is for **India to evolve as a 'fintech nation'** with the highest number of fintech firms and the highest fintech adoption rate by incumbents fuelled by digital public infrastructure.
 - In the medium term, efforts should be made to **move towards data-based lending instead of judgment-based lending**, especially for small businesses.

What does the Budget Say?

Banking

- More than 100 branches of **India Post Payment Bank** will be set up in the North East region.
- **Credit Guarantee Scheme** for MSMEs in manufacturing sector and credit support to MSMEs during stress period.
- **Mudra Loans limit enhanced** to Rs. 20 lakh from current Rs. 10 lakh under Tarun category.
- **SIDBI will open new branches** to expand reach to serve all major MSME clusters.
- **Integrated technology platform** will be set up for improving outcomes under Insolvency and Bankruptcy Code (IBC).
- **Appropriate changes to the IBC**, reforms and strengthening of the tribunal and appellate tribunals will be initiated to speed up insolvency resolution. Additional tribunals will be established.
- Steps for reforming and strengthening **debt recovery tribunals** will be taken. Additional tribunals will be established to speed up recovery.
- The services of the **Centre for Processing Accelerated Corporate Exit (C-PACE)** will be extended for voluntary closure of LLPs to reduce the closure time.

Capital Market

- For meeting financing needs of the economy, the government will **bring out a financial sector vision and strategy document** to prepare the sector in terms of size, capacity and skills.
- Government will develop a **taxonomy for climate finance** for enhancing the availability of capital for climate adaptation and mitigation.

Insurance and Pension Sector

- A solution will be evolved for **addressing issues with New Pension Scheme (NPS)** while maintaining fiscal prudence to protect the common citizens.
- **NPS-Vatsalya**, a plan for contribution by parents and guardians for minors will be started.

Glossary

Terms	Meanings
Monetary Policy	Monetary policy refers to central bank activities that are directed toward influencing the quantity of money and credit in an economy.
Cash Reserve Ratio (CRR)	Under CRR, the commercial banks have to hold a certain minimum amount of deposit as reserves with the central bank.



Statutory Liquidity Ratio (SLR)	Statutory Liquidity Ratio or SLR is a minimum percentage of deposits that a commercial bank has to maintain in the form of liquid cash, gold or other securities.
Open Market Operations (OMOs)	OMOs involve purchase and sale of government securities by the Central Bank Authority.
Repo Rate	It is the interest rate at which the central bank of a country lends money to commercial banks. Repo is a money market instrument, which enables collateralised short-term borrowing and lending through sale/purchase operations in debt instruments.
Reserve Money	It is the currency issued by the central bank and is held by the public or by the commercial banks.
Broad Money	Currency with the Public + Aggregate Deposits (Demand Deposits with Banks + Time Deposits with banks + 'Other' deposits with Reserve Bank). Generally, M3 is used as indicator of broad money.
Money Multiplier	It is the ratio of the money supply to the monetary base/reserve money (money in bank vaults and money in circulation). It depicts the relationship between the monetary base and the economy's money supply, indicating how fast the money supply will grow from the bank's lending activity.
Non-Performing Asset (NPA)	NPA is a loan or advance where interest and/or instalment of principal remain overdue for more than 90 days or two crop seasons for short duration crops or one crop season for long duration crops.
Primary Market	Primary market is where new securities (stocks, bonds etc.) are issued and sold for the first time.
Secondary Market	Secondary market is where trading in already issued securities is carried out.
Private Placement	A private placement is a sale of stock shares or bonds to pre-selected investors and institutions rather than publicly on the open market.
Insurance Penetration	Insurance penetration is measured as the percentage of insurance premiums to GDP.
Insurance Density	Insurance density is calculated as the ratio of premiums to population (per capita premium).

Chapter 2: Test Your Learning

MCQs

- The GIFT International Financial Services Centre (IFSC) is unique because:
 - It is designated as a resident zone under the Foreign Exchange Management Act
 - It is under the regulatory purview of a dedicated and unified financial regulator
 - It has a separate tax regime
 Select the correct answer using the code given below:
 - 1 and 2 only
 - 2 and 3 only
 - 1 and 3 only
 - 1, 2 and 3
- The Social Stock Exchange (SSE) in India:
 - Is under the regulatory ambit of RBI
 - Aims to bridge the financing gap for social enterprises
 - Allows listing of only for-profit social enterprises
 Select the correct answer using the code given below:
 - 1 and 2 only
 - 2 only
 - 2 and 3 only
 - 1, 2 and 3

3. According to the Economic Survey, which of the following is a correct trend in India's financial sector?
- The role of capital markets is declining in credit support
 - The share of insurance assets in GDP is higher than in the USA
 - Domestic credit to the private sector as a percentage of GDP has increased since 2010
 - The pension fund assets share in GDP is higher than in the UK
4. With reference to the insurance sector in India, consider the following statements:
- Overall insurance penetration in India increased in FY23 compared to FY22.
 - India is projected to have the fastest-growing insurance sector among G20 countries over the next five years.
- Which of the statements given above is/are correct?
- 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2
5. With reference to microfinance in India, which of the following statements is correct?
- The Indian microfinance sector is the largest globally in terms of borrowing customers.
 - Microfinance coverage in India is less than 25% of households.
 - Men constitute the majority of microfinance clients in India.
 - MFIs operate in more than 600 districts across India.

Questions

- Evaluate the role of digital financial inclusion in India's economic growth. How can technological advancements in the financial sector be leveraged to promote inclusive development? (250 words)
- Examine the potential of the Social Stock Exchange in India for promoting social entrepreneurship and addressing development challenges. What measures can be taken to ensure its success? (150 words)

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Chapter 3: Prices and Inflation: Under Control

The **pandemic and subsequent geo-political tensions** presented considerable **challenges** such as supply disruptions to the global economy in **inflation management**. As a result, FY22 and FY23 **witnessed price pressures** in core consumer goods and services. **Food prices were affected by adverse weather conditions** in the last two years. The net impact of these developments was elevated inflationary pressures in FY23 and FY24.

Prudent **monetary policy response and calibrated trade policy measures** by the Government, coupled with strong output growth, helped **reduce core inflation** to a four-year low in FY24. Appropriate administrative actions, including dynamic stock management, open market operations, subsidised provision of essential food items and trade policy measures, helped mitigate food inflation to a great extent.

Medium to long-term inflation outlook will be shaped by the **strengthening of price monitoring mechanisms** and **market intelligence** as well as focussed efforts to increase the domestic production of essential food items like pulses and edible oils for which India has a great degree of import dependence.

Chapter Precap

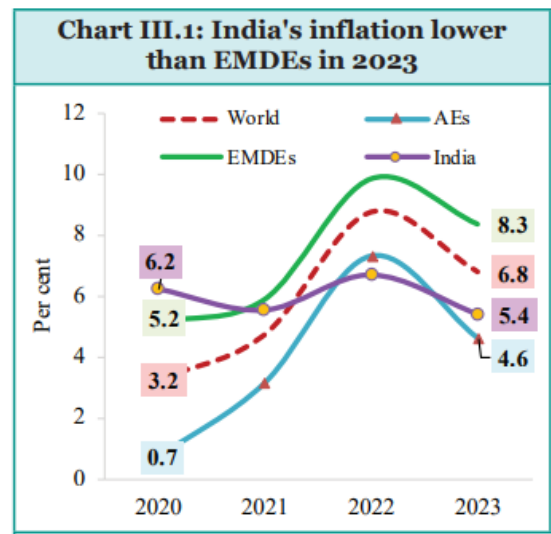
Introduction <ul style="list-style-type: none"> Both advanced economies (AEs) and emerging markets & developing economies (EMDEs) are returning to their inflation targets. India's inflation rate was lower than global average. There is a clear negative relationship between cross-country inflation and per capita GDP. 	
Domestic Retail Inflation <ul style="list-style-type: none"> In 2023, India's inflation rate was within its target range of 2 to 6 per cent. India's inflation rate was 1.4 percentage points below the global average in 2023. In FY23, Consumer Price Index (CPI) based retail inflation in India was primarily influenced by higher food inflation. 	Core Inflation Dynamics in the Post-pandemic World <ul style="list-style-type: none"> Core services inflation eased to a nine-year low in FY24 while core goods inflation also declined to a four-year low. Food inflation based on the Consumer Food Price Index (CFPI) increased from 3.8 per cent in FY22 to 7.5 per cent in FY24.
Inter-State Variation in Retail Inflation <ul style="list-style-type: none"> The inflation rate was less than 6 per cent in 29 out of the 36 States and UTs. Rural consumption basket has a much higher weightage of food items (47.3%) than the urban (29.6%). States that witnessed elevated food prices also experienced higher rural inflation. States with higher overall inflation tend to exhibit a wider rural-to-urban inflation gap. 	Outlook and Way Forward <ul style="list-style-type: none"> Assuming a normal monsoon and no further external or policy shocks, the RBI expects headline inflation to be 4.5 per cent in FY25 and 4.1 per cent in FY26. World Bank projects a 3 per cent decline in the commodity price index in 2024 and a 4 per cent decrease in 2025, mainly driven by lower energy, food and fertiliser prices. It is important to increase the production of major oilseeds such as sunflower and rapeseed & mustard. More efforts are needed to expand the area under pulses. High-frequency price monitoring data for essential food items collected by different departments may be linked.

Introduction

Monetary policy plays a crucial role in determining a country's economic conditions through its influence on macroeconomic indicators such as economic growth, inflation, and investments. The **primary objective** of monetary policy is to **maintain price stability** while keeping in mind the objective of **growth**.

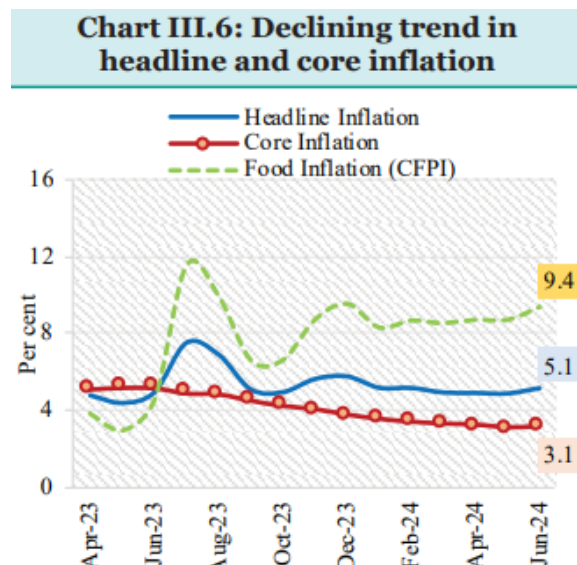
Various **instruments of monetary policy**, viz. Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR) of banks, open market operations of the Central Bank, and imposition of credit ceilings, etc., are used by the central bank in the direction of this overall objective.

- Inflation management:** Low and stable inflation is key to sustaining economic growth and Governments and Central Banks face the challenge of **keeping inflation at a moderate level while ensuring financial stability**.
 - Achieving this delicate balance requires **careful monitoring of economic indicators** and taking appropriate and **timely corrective actions**.
 - With the commitment of the Reserve Bank of India (RBI) to the goal of price stability and policy actions by the Central Government, India successfully **managed to keep retail inflation at 5.4 per cent in FY24**, the lowest level since the Covid-19 pandemic period.
- Challenges to global economy:** After the pandemic, the global economy experienced further supply chain disruptions beginning with the **Russia-Ukraine war** in the first half of FY23.
 - In the latter half of the year and FY24, there was a **decline in global inflation** because of the diminishing impact of price shocks, particularly in energy prices, as well as lower core inflation and monetary tightening.
- Inflation Targeting:** Despite the **synchronous tightening of monetary policy** by most central banks to restore price stability, the global economy has shown **unexpected resilience** in 2023.
 - This is evident in both advanced economies (AEs), and emerging markets & developing economies (EMDEs), as they are **returning to their inflation targets**. This trend is also observed in India.
 - As per the IMF data, where **India's inflation rate was lower than the global average** and that of EMDEs in 2022 and 2023.
- Inflation and GDP:** There is a clear **negative relationship between cross-country inflation and per capita GDP**.
- Factors for effective inflation management:** Established monetary policies, economic stability, well-developed and efficient markets that balance supply and demand conditions, and stable currencies contribute to the effective management of inflation.



Domestic Retail Inflation

- Factors affecting inflation target:** Level of economic development, the structure of the economy, the state of the financial system, and the trade-off between inflation and other economic objectives.
- India's Inflation:** In 2023, India's inflation rate was within its **target range of 2 to 6 per cent**.
 - Compared to advanced economies like the USA, Germany, and France, **India had one of the lowest deviations from its inflation target** in the triennial average inflation from 2021-2023.
 - India's inflation rate was **1.4 percentage points below the global average** in 2023.
- Retail Inflation:** In FY23, Consumer Price Index (CPI) based retail inflation in India was primarily **influenced by higher food inflation**, while core inflation remained moderate.



- Externally, the **Russia-Ukraine war** led to price pressures, while domestically, **excessive heat** in the summer and **uneven rainfall** put pressure on food prices.
- **Monetary Policy:** Since May 2022, monetary policy broadly focused on **absorbing excess liquidity** in the system by **increasing the policy repo rate by 250 basis points** from 4 per cent in May 2022 to 6.5 per cent in February 2023.
 - Thereafter, the policy rate was kept unchanged by focusing on the **gradual withdrawal of accommodation**, aiming to align inflation with the target, while simultaneously fostering growth.
 - Consequently, the **persistent and sticky core inflation** observed in FY23 declined to 3.1 per cent in June 2024.
- **Headline Inflation:** Low fuel and core inflation ensured a **downward trajectory for headline inflation**, despite volatility in food prices in FY24.
 - Decline in inflation was result of **price cuts for LPG, petrol, and diesel** by central government and **decline in global commodity prices** in 2023, thus reducing price pressure in energy, metals, minerals, and agricultural commodities through the imported inflation channel.

Core Inflation Dynamics in the Post-pandemic World

- **Core Inflation:** Core inflation is measured by **excluding food and energy items** from CPI headline inflation. Core goods are further split into consumer durables and consumer non-durables.
 - **Core services inflation** eased to a **nine-year low** in FY24, aided by moderation in housing rental inflation while **core goods inflation** also declined to a **four-year low**.
 - Monetary Policy Committee’s **reduction of repo rate resulted in around 4 percentage points decline** of core inflation between April 2022 and June 2024.
 - **Consumer Durable** inflation increased progressively between FY20 and FY23 by more than 5 percentage points, driven majorly by gold prices and clothing.
 - **Consumer Non-Durables (CND)** inflation reached an all time high in FY22 but declined sharply in FY23 and FY24, mainly due to changes in transport costs.

Chart III.11: Breakdown of core inflation into its components

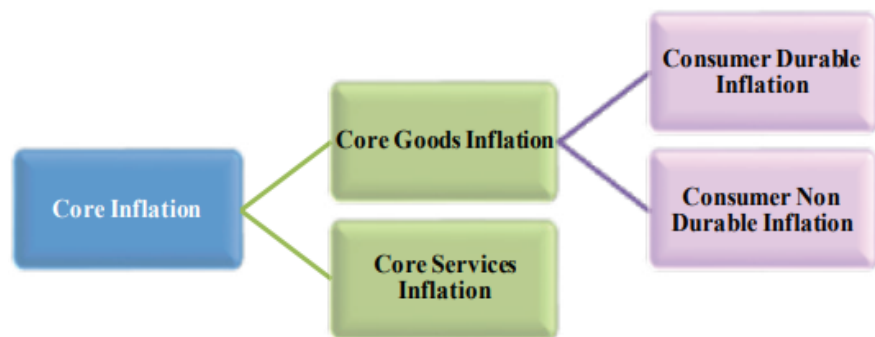
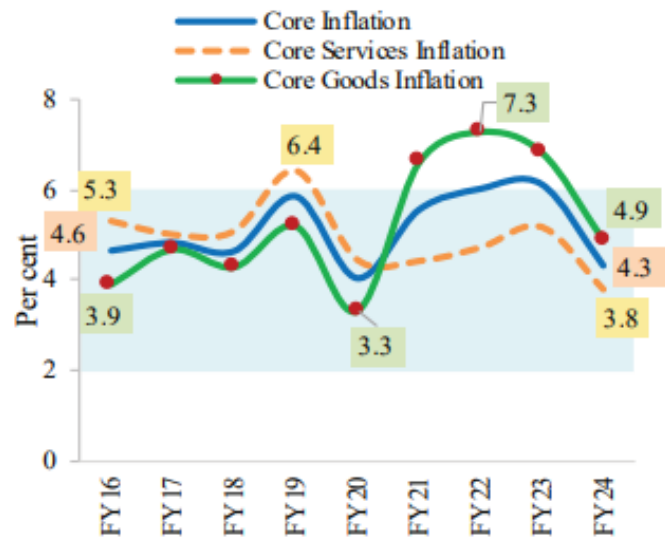


Chart III.12: Core inflation declined to 4 year low in FY24



Food Inflation

Food inflation has been a global phenomenon in the last two years.

- Research indicates the **rising vulnerability of food prices to climate change** – heat waves, uneven monsoon distribution, unseasonal rainfall, hailstorms, torrential rainfall and historic dry conditions.
- In FY23 and FY24, agriculture sector was **affected by extreme weather events, lower reservoir levels, and damaged crops** that adversely affected farm output and food prices. So, food inflation based on the **Consumer Food Price Index (CFPI)** increased from 3.8 per cent in FY22 to **7.5 per cent in FY24**.

- **Reasons for price pressures in major food items:**
 - **Tomato:** Seasonal changes in crop production, region-specific crop diseases such as white fly infestation, and the early arrival of monsoon rains in the northern India.
 - **Onion:** Rainfall during the last harvesting season affecting the quality of rabi onions, delays in sowing during the kharif season, prolonged dry spells impacting kharif production, and trade-related measures taken by other countries.
 - **Pulses:** Low production over past two years caused by adverse weather conditions.
- **Government actions to reduce food inflation:** Open market sales, retailing in specified outlets, and timely imports, to ensure an adequate supply of essential food items.
 - **Pradhan Mantri Garib Kalyan Anna Yojana**, which provides free food grains to more than 81 crore beneficiaries, was extended for a period of five years starting from January 2024.
- **Administrative measures to contain food inflation in FY24:**
 - Placing of **export of food items** such as wheat flour, broken rice, non-basmati rice and onion **under prohibited category**.
 - **Fixing Minimum Export Price** for basmati rice and specific varieties of onion.
 - Imposition of **export duty** on parboiled rice.
 - Imposition of **stock limits** on wheat to prevent hoarding and unscrupulous speculation and **mandatory declaration of stock position** of rice/paddy by traders/wholesalers, retailers, and processors/millers.
 - Introduction of **Bharat Atta, Bharat Rice, Bharat Dal** at subsidised prices.
 - **Offloading of wheat and rice** periodically from **central pool** under open market sale.
 - Calibrated **release of stocks from buffer of pulses and onion**.
 - **Import** of tur and urad, and refined palm oils kept **under 'Free Category'** until March 2025 and basic duty on Masur, crude palm oil, crude soyabean oil and crude sunflower oil reduced to zero.
- **Global Food Prices:** In India, **edible oil market heavily depends on imports**, with more than 50 per cent of the total edible oil requirement being imported, making it **sensitive to global prices**. In this context, the **National Mission on Edible Oils - Oil Palm** aims to increase domestic crude palm oil production to reduce the import burden.

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हिन्दी माध्यम 2025: 28 जुलाई

Inter-State Variations in Retail Inflation

- **General trend:** Consistent with the decline in the all-India average retail inflation rate in FY24 compared to FY23, **inflation in most States and Union Territories (UTs) decreased**. The inflation rate was **less than 6 per cent in 29 out of the 36 States and UTs**.
- **Rural Inflation:** Rural consumption basket has a **much higher weightage of food items (47.3%)** than the urban (29.6%). Hence, in the last two years, States that witnessed elevated food prices also **experienced higher rural inflation**.
 - The inter-state variation is **higher in rural than urban inflation** and states with higher overall inflation tend to exhibit a **wider rural-to-urban inflation gap**, with rural inflation exceeding urban inflation.

Outlook and Way Forward

Outlook

- **Consumer Price Inflation:** RBI and the IMF have projected that India's consumer price inflation will progressively **align towards the inflation target in FY26**.
 - Assuming a normal monsoon and no further external or policy shocks, the RBI expects headline inflation to be 4.5 per cent in FY25 and 4.1 per cent in FY26.
- **Commodity Price Index:** The World Bank expects that the **global supply of commodities will increase**, and so will their demand due to **improved industrial activity and trade growth**.
 - It projects a **3 per cent decline in the commodity price index** in 2024 and a 4 per cent decrease in 2025, mainly driven by **lower energy, food and fertiliser prices**.
 - The **energy price index is expected to reduce** due to significant declines in coal and natural gas prices this year.
 - Fertiliser prices are likely to weaken but remain above 2015-2019 levels due to strong demand and export restrictions.

Way Forward

- **Increase oilseed production:** Domestic consumption of edible oils has been increasing faster than production, leading to increased import dependence.
 - To **stabilise domestic edible oil prices**, it is important to **increase the production of major oilseeds** such as sunflower and rapeseed & mustard, and explore the potential of non-conventional oils such as rice bran oil and corn oil.
- **Improve Pulses production:** India faces a **persistent deficit in pulses** and consequent price pressures. Production of pulses is **concentrated in a few states and districts** in the country, and is vulnerable to biotic and abiotic stresses.
 - More efforts are needed to **expand the area under pulses**, particularly lentils, tur, and urad, in more districts and rice-fallow areas.
- **Storage facility for vegetables:** In view of continuing seasonal surges in prices of vegetables like tomato and onion, it is important to **assess the progress in developing modern storage facilities** conducive to such specific crops.
- **Price Monitoring:** High-frequency price monitoring data for essential food items collected by different departments may be **linked** in such a way that the **build-up of prices** at each stage from the farm gate to the final consumer is **quantifiable and monitorable**.
 - Ongoing efforts to **construct the producer price index** for goods and services may be **expedited** to have a greater grasp of episodes of cost-push inflation.
 - Considering that the results of the Household Consumer Expenditure Survey, 2022-23 of MoSPI are available, it may be appropriate to **expeditiously revise the CPI** with fresh weights and item baskets.

What does the Budget Say?

Inflation

- **Elevated asset prices, political uncertainties and shipping disruptions** continue to pose significant downside risks for growth and **upside risks to inflation**.
- India's inflation continues to be **low, stable and moving towards the 4 per cent target**. Core inflation (non-food, non-fuel) currently is 3.1 per cent.
- Steps are being taken to ensure supplies of perishable goods reach the market adequately

Pulses and Oilseeds:

- Strategy is being put in place to achieve atmanirbharta for oil seeds such as mustard, groundnut, sesame, soybean, and sunflower.

Vegetable Production:

- Large-scale clusters for vegetable production will be developed closer to major consumption centres.
- Government will promote Farmer-Producer Organisations, cooperatives and start-ups for vegetable supply chains including collection, storage and marketing.

Urban Housing

Under the PM Awas Yojana Urban 2.0, housing needs of 1 crore urban poor and middle-class families will be addressed with an investment of Rs. 10 lakh crore.

Glossary

Terms	Meaning
Retail Inflation or Consumer Price Index (CPI) Inflation	CPI measure changes over time in general level of prices of goods and services that households acquire for the purpose of consumption. CPI is widely used as a macroeconomic indicator of inflation, as a tool by governments and central banks for inflation targeting.
Core Inflation	Core inflation is measured by excluding food and energy items from CPI headline inflation.
Headline Inflation	Headline inflation is a composite value that factors in both the core and non-core inflation inputs.
Monetary Policy	Monetary policy refers to central bank activities that are directed toward influencing the quantity of money and credit in an economy.
Accommodative Stance	An accommodative stance means the central bank is prepared to expand the money supply to boost economic growth.

Chapter 3: Test Your Learning

MCQs

1. Consider the following statements about India's inflation management:
 1. India's inflation rate was higher than the global average in 2023.
 2. There is a positive relationship between cross-country inflation and per capita GDP.Which of the above statements is/are correct?
 - a) 1 only
 - b) 2 only
 - c) Both 1 and 2
 - d) Neither 1 nor 2



2. With reference to core inflation in India, which of the following statements is correct?
- Core services inflation reached a nine-year high in FY24
 - Core goods inflation declined to a four-year low in FY24
 - Core inflation is measured by including food and energy items in CPI headline inflation
 - Consumer Durable inflation decreased progressively between FY20 and FY23
3. In the context of food inflation in India, consider the following statements:
- Food inflation based on the Consumer Food Price Index (CFPI) decreased from FY22 to FY24.
 - The government introduced Bharat Atta, Bharat Rice, and Bharat Dal at subsidized prices to contain food inflation.
- Which of the above statements is/are correct?
- 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2
4. Regarding inter-state variations in retail inflation, which of the following statements is correct?
- The inflation rate was less than 6 percent in all States and Union Territories
 - Urban consumption basket has a higher weightage of food items compared to rural
 - States with higher overall inflation tend to exhibit a wider rural-to-urban inflation gap
 - Inter-state variation is higher in urban inflation than rural inflation
5. Consider the following statements about monetary policy in India:
- The primary objective of monetary policy is to maintain price stability while keeping in mind the objective of growth.
 - Since May 2022, the policy repo rate has been decreased by 250 basis points.
- Which of the above statements is/are correct?
- 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2

Questions

- Discuss the challenges faced by India in managing inflation in recent years. Evaluate the effectiveness of various measures taken by the government and RBI to control inflation, particularly food inflation. (250 words)
- India aims to achieve self-sufficiency in pulses and oilseeds production. Discuss the importance of this goal in the context of food security and inflation management. Suggest strategies to increase domestic production of these crops. (250 words)

Chapter 4: External Sector: Stability Amid Plenty

Introduction

India's external sector remained strong despite geopolitical headwinds and inflation. Forex reserves, sustainable debt indicators, and market-determined exchange rate serve as shock absorbers to India's external sector.

Chapter Precap

<p>Changing Global Trade Dynamic</p> <ul style="list-style-type: none"> • Decoupling of International Trade and De-Globalisation. • World merchandise trade is expected to grow 2.6% in 2024. • Disruption on world's leading sea Routes. • India Benefitting from Prevailing Global dynamics. 	<p>India's Trade: Resilience amidst Global Turmoil</p> <ul style="list-style-type: none"> • India's Overall Trade is Resilient. • Increasing Global Export Share. • Services sector a shining star in exports. • India's rising Global Value Chains (GVC) participation. • India's global Trade Arrangements have been expanding after a long time.
<p>Current Account Balance</p> <ul style="list-style-type: none"> • India's CAD shrank below 1%. • Highest recipient of remittance in the world. • FDI in Futuristic sector increasing. • India benefiting from China Plus One Strategy. 	<p>Comfortable Foreign Exchange Reserves</p> <ul style="list-style-type: none"> • FER highest among major countries. • Indian Rupee least volatile against US Dollar. • Trade channel is stronger than the financial channel in India. • RBI mitigating exchange rate volatility.
<p>Stable External Debt Position</p> <ul style="list-style-type: none"> • India managing External debt prudently. • External debt to GDP ratio declined. • India has relatively low levels of total debt. 	<p>Challenges</p> <ul style="list-style-type: none"> • Fall in demand from major trading partners. • Commodity Price Volatility has been a major impediment. • Rise in Trade Cost.

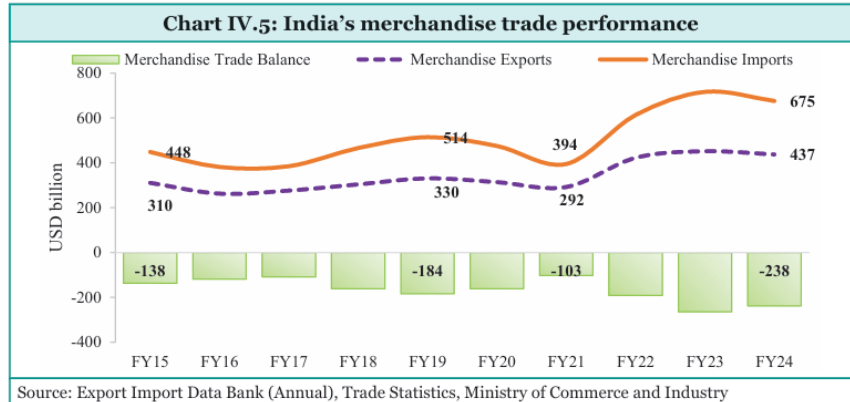
Changing Global Trade Dynamics

- **Decoupling International Trade:** Changing global trade patterns reflect new practices in international trade, such as 'decoupling', 'derisking', 'nearshoring', and 'friend sharing'.
 - E.g., European economies are shifting energy imports from Russia to Norway and the US etc.
- **De-Globalisation:** Trends highly heterogeneous across countries. While the US and China are decreasing their reliance on global markets, this does not seem true for the rest of the world.
 - China's dominance in processed critical minerals and energy transition making decoupling between the two nations difficult or unlikely.
- **Global Trade Outlook for 2024-2025:** World merchandise trade is expected to grow 2.6% in 2024 and 3.3% in 2025 as demand for traded goods rebounds.
 - However, geopolitical tensions, policy uncertainty, restrictive trade practices etc. may limit rebound and impact supply chains.
- **Disruption on world's leading sea Routes:** Panama (6% of global trade) is operating at partial capacity due to freshwater shortages while diversion from the Red Sea and around the Cape of Good Hope has added 10 days to Asia-Europe journeys while also increasing fuel costs.
- **India Benefitting from Prevailing Global Dynamics:** India has broad and diversified trade relationships with Asia, Europe, and the US.

India's Trade: Resilience Amidst Global Turmoil

Various trade reforms have increased trade's share in GDP with the trade openness indicator rising from 37.5 in FY05 to 45.9 in FY24 which has contributed significantly to economic growth.

- **The share of trade (excluding petroleum products) in GDP:** rose from 32.3 % in FY05 to 40.8 % in FY23.
- **India's Increasing Global Export Share:** India's share in global goods exports was **1.8 %** in FY24, against an average of 1.7 % during FY16-FY20.
 - Similarly, its share in global services exports rose to 4.3 % in FY23 from an average of 3.3 % during FY16-FY20.
- **India's Overall Trade:** Despite global challenges, **FY24 saw exports grow by 0.23%, while imports declined by 4.9%.**



- India's overall exports grew steadily from FY17 until FY20 when the global pandemic disrupted growth.

- **India's Merchandise Exports (FY23-24):** Both exports and imports declined in FY24 compared to FY23. **Export contraction** was mainly due to a **slowdown in major export partners** (especially the EU) and **global monetary tightening.**

- Import value fell due to lower global commodity prices.

- **Global Demand Boosts India's Exports in Early FY25:** India's merchandise exports rose to USD 73.1 billion during April-May 2024 from USD 69.6 billion in April-May 2023.
- **Shift in India's Export Composition (FY23-FY24):** Share of capital goods in merchandise exports rose substantially from 16.3 % in FY23 to 18.9 % in FY24, indicating improved industrial capacities. However, consumer goods and intermediate goods exports declined slightly.

Product-specific success stories of boosting exports

Toy Exports

- India's toy exports are **rising**, registering a Compound Annual Growth Rate (CAGR) of 15.9 % between FY13 and FY24.
 - Rising exports, coupled with **declining imports, transformed India from a deficit to a surplus nation in the trade of toys.**
- **Measures undertaken includes National Action Plan for Toys, Increase in basic customs duty on toys, Issuance of a Quality Control Order for toys, zero-duty market access in UAE, Australia etc**

Defence Exports

- Once the world's second-largest arms importer (2015-2019), India is now **among the top 25 arms exporters.**
 - About **100 domestic companies now export diverse defence products** and **Export authorizations increased** from 1,414 in FY23 to 1,507 in FY24.
- Export procedures have been simplified and made industry-friendly, **Aatmanirbhar Bharat** initiatives encouraging indigenization reducing dependency on imports in the long run.

Footwear Exports

- India is **world's second-largest footwear producer and ninth-largest global footwear exporter** (USD 2.5 billion in FY24), accounting for 13% of global production and 2.2% of exports.
 - Indian footwear market, valued at USD 26 billion, is expected to reach USD 90 billion by 2030.
- **Measures undertaken** are Issuance of **three Quality Control Orders, 'Indian Footwear and Leather Development Programme', Benefits under Market Access Initiatives Scheme and Foreign Trade Policy 2023** etc.

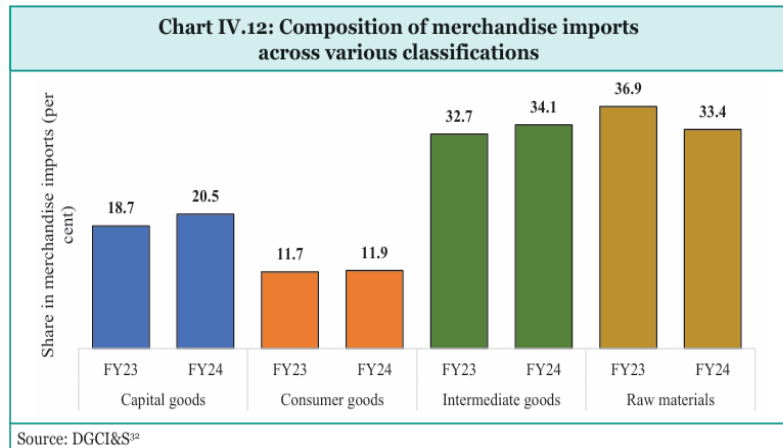
Smartphone Exports

- **42.2 % increase in exports** in FY24 (on a YoY basis) enabled smartphones to rank **among India's top five export items** considered at six-digit HS product categories.

India also became the **world's sixth-largest smartphone exporter** in 2022, from the 23rd largest smartphone exporter in 2014

- **Diversification of Export Destination:** Share of top 10 countries in India's merchandise exports declined from 61.9 % in FY2000 to 50.5 % in FY24.
 - Post-FY2000, **Asian, African and Middle Eastern nations, have emerged as export destinations**, replacing traditional export partners like UK, Germany, Belgium, etc.
- **Exports of both POL and non-POL products declined in FY24**
 - POL exports (value fell 13.7%) increased by 80.8 % to USD 84.2 billion in FY24, with India's global market share rising from 4.3% to 4.8% between 2018 and 2022.
 - **Under non-POL products, exports of engineering goods, electronic goods** (Global share increased from 0.63% (2018) to 0.88% (2022) **and drugs & pharmaceuticals increased** (Global share grew to 6.4% in FY24.

- **India's merchandise imports:** Contracted by 5.7% in FY24, from USD 716 billion in FY23 to USD 675.4 billion in FY24 driven by petroleum, crude products, fertilisers, pearls, precious stones etc.
- **Imports of capital goods increased**, suggesting investments in industrial infrastructure or technological upgrades.
- **Consumer goods saw a marginal increase**, and intermediate goods saw a slight rise, reflecting continued demand for semi-finished products.



Services as a shining star in exports

- **India's services exports: Surged 14% annually over the past 30 years (1993-2022), outpacing merchandise exports growth (10.7%) and global service exports growth (6.8%).**
- **India's Services exports share in world services exports:** Risen from 0.5 % in 1993 to 4.3 % in 2022.
 - India is now the **7th largest services exporting country globally.**
- **Change in composition of services exports basket:** Due to India's deep integration into global value chains of global software industry. India evolved from low-cost back-office services to high-value offerings.
 - **Global Capability Centers**, growing at 18% annually since FY20, has significantly contributed to services exports.

Global Capability Centres (GCC) in India

GCCs are offshore units established by multinational corporations to perform a range of strategic functions.

GCCs in India

- GCCs offer bespoke services in IT, BPO, engineering, and software product development, focusing on key industries like banking, software, telecom, semiconductors, aerospace etc.
- **India houses over 1,600 by 2023 GCCs and by 2028, India is poised to have 2100 GCCs**, with the market size touching USD 90 billion.
 - **Digital India**, policies for easing doing business, **Streamlined tax regulations, flexible labour laws, single window clearance Improved digital infrastructure** facilitating growth of GCCs.

Contribution to Economy

- **Employ 32 lakh people**, primarily engineers and scientists.
- **Generated combined revenue of USD 46 billion** in 2023.
- **Accounts for over 1% of the country's GDP and** estimated to generate total revenue of USD 121 billion by 2030, roughly 3.5 % of India's GDP.

GCCs are increasingly expanding to Tier-II cities

- influenced by the **reverse migration** seen during the pandemic and **cost arbitrage offered by such relatively under-penetrated markets.**
 - During H1 of 2023, about **22 % of GCC centers were set up in tier-II cities.** .

India’s rising Global Value Chains (GVC) participation

- **In line with the global trend:** India's GVC participation increased from 10% in 1995 to 22% in 2009, Post global financial crisis (2009), GVC participation slowed but has recently rebounded due to government initiatives like PLI and Districts as Exports Hub (DEH) initiative.
 - Launched in India in August 2019 **DEH** aims to **select, brand, and promote products from each district** in domestic and international markets.
- **India's global supply chain participation:** India's GVC participation, at 40.3% in 2022, is still lower than USA (47.3%), UK (47.8%), South Korea (56.2 %) and Malaysia (60 %).
- **Asia is the primary beneficiary of shifting supply chains:** India received the most interest from firms for production facility expansion.
- **India’s GVC related trade:** Increased nearly four times from USD 62.9 billion in 2010 to USD 233.1 billion in 2022.
- **Changing Sectoral composition:** Within manufacturing sector, share of low-technology manufacturing has declining, while share of medium and high-technology manufacturing has been rising.
 - **GVC participation in services has gradually matured** from low-value-added business process outsourcing (BPO) services to high-value-added services, such as those provided by GCCs.
- **Way Ahead:** To enhance participation in GVC, India needs to develop quality trade infrastructure, integrate MSMEs, simplify entry and exit, trade facilitation measures etc.

India’s global Trade Arrangements

After a gap of nearly 10 years, **India signed four FTAs (Mauritius, UAE, Australia, and EFTA)** between 2021 and 2024. **Except EFTA, all these FTAs have come into force.**

India-Mauritius CECPA	
<ul style="list-style-type: none"> • India and Mauritius signed the Comprehensive Economic Cooperation and Partnership Agreement (CECPA) in 2021. It is first trade Agreement signed by India with an African country. • The agreement covers 310 export items for India, including food, agricultural products etc. 	<ul style="list-style-type: none"> • India's exports reached USD 462.7 million in FY23 and Mauritius's at USD 91.8 million. • Trade has grown by 168% in the last 17 years, with petroleum products being the largest export item. Other Indian exports include pharmaceuticals, cereals, cotton, shrimps, prawns etc.
India-UAE Comprehensive Economic Partnership Agreement (CEPA)	
<ul style="list-style-type: none"> • The CEPA is expected to increase bilateral trade in goods to \$100 billion within 5 years, and increase trade in services to \$15 billion. • It includes a separate Annex on pharmaceuticals (to facilitate access to Indian pharmaceutical products), digital trade, and e-commerce services etc. 	<ul style="list-style-type: none"> • The bilateral trade between India and UAE in FY24 was USD 83.7 billion. UAE is India’s second-largest export destination. UAE is also eighth largest investor in India. • UAE is among India’s top three trade partners for the past two decades. UAE has been India’s largest export market for gems and jewellery, cereal, and fuel.
India-Australia Economic Cooperation and Trade Agreement (ECTA)	
<ul style="list-style-type: none"> • The Agreement benefits India's labour-intensive sectors, allowing immediate market access at zero duty to 98% of tariff lines, accounting for 96.4% of India's exports to Australia. 	<p>India- Australia Trade</p> <ul style="list-style-type: none"> • India-Australia bilateral merchandise trade increased from USD 25 billion in FY22 to USD 26 billion in FY23.

<ul style="list-style-type: none"> It opens investment opportunities in computer-related services, telecom, construction, health, and environmental services. 	<ul style="list-style-type: none"> Australia was India's 13th largest trading partner in FY24, and India was Australia's 5th largest trading partner in 2023.
India-EFTA TEPA	
<ul style="list-style-type: none"> India-EFTA Trade and Economic Partnership Agreement (TEPA) is the first FTA with European countries, showcasing India's commitment to trade liberalization. The agreement covers two-way trade in goods and services, as well as bilateral investments. 	

Government initiatives on trade facilitation measures and reduction in logistics cost

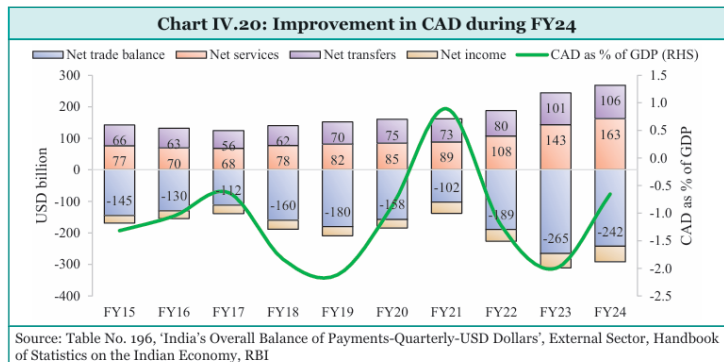
- Reduction in logistics cost:** This was reflected in an improvement in India's rank on **World Bank's Logistics Performance Index**, which improved by 6 places to 38th in 2023 from 44th in 2018 out of 139 countries.
- India's logistics performance at State Level:** 2023 Logistics Ease Across Different States (LEADS) highlights a positive shift in stakeholders' perception across all three pillars of logistics performance services, infrastructure and regulatory environment in 2023 over 2019.
- India took several measures to reduce logistics costs:** Setting export targets, encouraging banks to provide affordable and adequate export credit to MSMEs exporters, Single Window Interface for Facilitation of Trade, PM GatiShakti, National Logistics Policy etc.
 - Sagarmala scheme:** Promoted port-led development by harnessing India's 7,500 km long coastline. The Government also aims to operationalise 23 waterways by 2030.
 - Goods and Services Tax (GST):** Reduced travel time by up to 30 %. This has reduced the logistics cost and increased the average distance trucks travel to 300-325 km.

Favourable Current Account Balance

India's **current account deficit (CAD)** shrank to **0.7%** of GDP in FY24 from 2% in FY23 driven by a narrower trade deficit, rising service exports, and increased remittances.

Invisibles

- Net Services Receipts:** Increased to **USD 162.8 billion in FY24** from USD 143.3 billion in FY23, driven by software, travel, and business services.
- Remittances:** Increased to **USD 106.6 billion in FY24**. Remittances are **India's second-largest external financing source**.
 - India has the **largest emigrant population** and is the **top remittance recipient country** reaching USD 120 billion in 2023 followed by Mexico and China (World Bank).
 - Increase in remittance is **driven by declining inflation and strong labour markets** in the US and Europe (largest destination for India's skilled migrants), other countries.



<h4>Factors Influencing Inward Remittances</h4> <ul style="list-style-type: none"> Rise in global oil prices: It can generate a sizable amount of oil revenues, leading to higher investments and growth in oil producing countries. As a result, the demand for migrant workers increases, translating into higher remittance outflows. Exchange Rate Depreciation: Remitters get better value in rupee terms when it depreciates in terms of foreign currencies. Cross-border transactions in Rupee: Agreement with the UAE to promote the use of Dirhams and Rupees for cross-border transactions. Outlook: Remittances to India are forecasted to grow at 3.7 % to USD 124 billion in 2024 and at 4 % to reach USD 129 billion in 2025.

Capital Account Balance

- **CAD's Net Capital Flows:** Increased to **USD 86.3 billion in FY24**, primarily due to stable capital inflows from FPI flows and net banking capital inflows, including NRI deposits.
- **Net Foreign Portfolio Investment (FPI) flows in FY24:** Reached **USD 44.1 billion**, the highest level since FY15. The highest equity inflows were in financial services, automobile components, healthcare etc.
- **Inclusion of India's sovereign bonds in the JP Morgan Government Bond Index-Emerging Markets** is expected to boost debt inflows.
- **UNCTAD World Investment Report 2024:** Shows a 2% decline in global FDI to USD 1.3 trillion in 2023, largely due to weak growth prospects, trade tensions, supply chain diversification etc.
- **FDI inflows to India declined from USD 42 billion in FY23 to USD 26.5 billion in FY24.** However, gross FDI inflows remained stable at around USD 71 billion, indicating continued investor interest.
 - The decline in net inflows was due to a **surge in profit repatriation, higher interest rates in developed countries**, and a buoyant Indian stock market.

An examination of change in trend and composition of FDI flows

- **FDI in the industry vs services sector: FDI equity inflows into industry and services sectors have weakened** in recent years, with the FDI-to-GDP ratio dropping below pre-pandemic levels.
 - The **industry sector's FDI in GDP declined** from 0.62 to 0.39 in FY24. During the same period, the **share of the services sector in GDP fell** from 0.87 % to 0.69 %.
- **Physical FDI vs Digital FDI:** In FY14, physical FDI was three times the value of digital FDI.
 - However, **protectionism, geopolitical tensions, and non-equity modes of production have slowed down physical FDI.**
 - **During the pandemic, digital FDI increased** due to work-from-home culture and efficient digital infrastructure.
- **Actual FDI vs Intentions:** The declining FDI flows to India are at odds with India gaining market share in global trade in goods and services exports.
 - **Investment intentions in new and futuristic sectors**, such as renewables, artificial intelligence, data centres etc. have increased over time.
 - **India was a leading destination for AI-related FDI in 2022.** India's **low operating costs and world's second-largest pool of skilled AI**, machine learning, and big data workers make it an attractive destination for AI investment.
 - India has a **well-established infrastructure to attract FDI** in select sectors, but focus must be on **improving the ease of doing business** across sectors and expanding beyond sectors attractive to FDI alone.

China Plus One Strategy

- It involves supply chain decisions to decrease risk exposure to China by reducing its reliance on china.
- **India can benefit from this strategy due to its large domestic consumer market** and focus on smartphone manufacturing and assembly.

India's Efforts to Leverage China Plus One Strategy

- The Indian government's **PLI scheme, including tax breaks and subsidies**, plays a significant role in attracting companies.
- India is also focusing on **integrating its value chain with the West**, particularly in sectors like renewable energy and advanced technology.
 - **India's electronic exports to US** transitioned from a trade deficit of USD 0.6 billion in FY17 to a trade surplus of USD 8.7 billion in FY24.
- Agreements such as **Australia-India Free Trade Agreement** and **US-India Clean Energy Initiative** are being pursued to develop trading patterns within these sectors.

Way Forward

- India faces two choices to **benefit from the China plus one strategy**: integrate into China's supply chain or promote FDI from China.

- **Focusing on FDI from China** seems more promising for boosting India's exports to the US, similar to how East Asian economies did in the past.

Comfortable Foreign Exchange Reserves (FER)

- India's FER increased by USD 68 billion to at **USD 653.7 billion** in FY24, the **highest among major countries**.
- This buffer **protects domestic economic activity from global spillovers** and provides **liquidity, covering over 10 months of imports** and 98% of the total external debt outstanding.

Exchange Rates

- **Low volatility in INR:** FY24 saw the US economy show resilience and the **US Dollar gained against major peers, however, the INR showed the lowest volatility**.
 - In FY24, the Rupee/USD exchange rate ranged between ₹82-83.5/USD, depreciating only 2.9% against USD.
- **Indian rupee's stability:** It is attributed to **sound macroeconomic fundamentals** and improved external position.
 - In the future, **robust foreign inflows and comfortable trade deficits** are expected to keep the rupee **within a comfortable range**.
- **Way ahead:** The RBI has announced measures to **diversify forex funding sources and encourage foreign investment in Indian debt instruments** to mitigate exchange rate volatility.

Trade and Financial channels of the Exchange rate

- **Marshal Lerner conditions:** They suggest that depreciated currency can **stimulate an increase in net exports** by **reducing export costs and increasing import prices**.
 - However, **financial channel of the exchange rate can potentially counterbalance the gains made through the trade channel**.
- **In India:** The **trade channel is stronger than the financial channel**, and a competitive Rupee continues to boost the BoP as the benefits received through the trade channel outweigh the costs incurred in the financial channel.
 - This contrasts with other emerging economies, such as Brazil and the Philippines, whose financial channel effect dominates the trade effect.

International Investment Position (IIP)

- **Net IIP:** The **Net IIP position measures a country's net creditor or debtor status** by comparing external assets and liabilities.
 - As of March 2024, **Indian residents' overseas financial assets increased by 11.9 %** due to increased reserve assets, currency, and investments and India's international liabilities increased by 8.1% to USD 1,390 billion due to increased portfolio investment, loans, and direct investments.
- **Debt liabilities:** The share of **debt liabilities in total external liabilities was 51.1%**. However, non-resident net claims declined by 5.5 billion, and **India's international financial assets covered 74% of international financial liabilities**.

Stable External Debt Position

- **Prudent Management:** India has **managed its external debt prudently**, keeping the **CAD within sustainable limits** and encouraging non-debt creation of external finance.
 - The **external debt to GDP ratio declined to 18.7%**, and share of short-term debt in total external debt decreased to 18.5%.
- **Low levels of total debt:** Comparing various debt vulnerability indicators of India with peer countries for 2022 indicates that India is in a better position with relatively low levels of total debt as a percentage of Gross National Income (GNI).

Outlook and Challenges

Challenges

- **Fall in demand from major trading partners:** India's trading partners, including US, experienced a decline in import volume in 2023, impacting export growth.
- **Rise in Trade Cost:** India's economy is impacted by disruptions in major shipping routes due to the Red Sea crisis and drought in the Panama Canal, which has increased journey time and costs.
- **Commodity Price Volatility:** India's trade balance & inflation may be impacted by fluctuating commodity prices, particularly for critical imports like oil and potential global growth risks.
- **Trade policy changes:** India's export opportunities and market access are impacted by changes in trade policies by major trading partners or geopolitical developments.

Outlook

India's **trade deficit decreased** in FY24 due to lower commodity prices and rising service exports. The deficit is expected to decline further as the PLI scheme expands and India creates a **competitive manufacturing base**. Recent FTAs are expected to increase export market share.

What does the Budget say?

Measures to Enhance Competitiveness

- **E-Commerce Export Hubs:** will be set up in public-private-partnership (PPP) mode to enable MSMEs and traditional artisans to sell their products in international markets.
- **Exemption from Custom Duty to Capital Goods:** Budget proposed to exempt capital goods for the manufacturing of solar panels.
- **Basic Customs Duty (BCD) Reduced:** To boost India's seafood exports, BCD on broodstock, polychaete worms, shrimps and fish feed was reduced to 5 %.
- **Other:** Financing for Shrimp farming, processing and export will be facilitated through NABARD.
 - The budget will foster the competitiveness of Indian leather and textile articles of export.

Glossary

Terms	Meanings
Decoupling International Trade	It involves dismantling existing trade and investment relationships, severing supply chains, and establishing new economic partnerships elsewhere.
De-globalization	It is the opposite context of globalization and is the process of diminishing interdependence and integration between countries, especially in terms of trade and financial flows.
Remittance	A remittance is a sum of money sent to another party, usually in another country.
Current Account Deficit	A current account deficit indicates that a country is importing more than it is exporting.
Foreign Portfolio Investment (FPI)	FPI is securities and other assets passively held by foreign investors, allowing individuals to invest overseas.
Foreign direct investment (FDI)	Foreign direct investment (FDI) is when a company takes controlling ownership in a business entity in another country.
Invisibles	Invisibles in economics refer to the trade of services between countries, as opposed to physical goods (visibles).



Chapter 4: Test Your Learning

MCQs

- Which of the following statements is/are correct regarding India's merchandise exports in FY24?
 - The share of capital goods in merchandise exports increased.
 - The exports of consumer goods and intermediate goods showed a slight increase.Select the correct answer using the code given below:
 - 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2
- Consider the following statements about India's footwear industry:
 - India is the world's second-largest footwear producer.
 - India is ninth-largest global footwear exporter.Which of the above statements is/are not correct?
 - 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2
- Consider the following pairs about Free Trade Agreements signed by India.
 - India-Australia: Economic Cooperation and Trade Agreement (ECTA)
 - India-UAE: Trade and Economic Partnership Agreement
 - India-Mauritius: Comprehensive Economic Partnership Agreement
 - India-EFTA: Comprehensive Economic Cooperation and Partnership AgreementHow many of the pairs given above is/are correct?
 - Only one
 - Only two
 - Only three
 - All four
- Consider the following statements regarding factors that influence inward remittances to India:
 - An increase in global oil prices can potentially lead to higher remittance inflows to India.
 - Depreciation of the Indian Rupee against foreign currencies tends to discourage remittances.
 - India has an agreement with the UAE to promote the use of Dirhams and Rupees for cross-border transactions.Which of the above statements is/are correct?
 - 1 and 2 only
 - 2 and 3 only
 - 1 and 3 only
 - 1, 2, and 3

5. With respect to the Indian Rupee, consider the following statements:
1. The Reserve Bank of India directly fixes the exchange rate of the Rupee.
 2. The Indian Rupee showed the least volatility among major currencies against the US Dollar in FY 24.
- Which of the above statements is/are correct?
- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2

Questions

1. Discuss the factors hindering India's transition from a developing to a developed nation. Discuss the policy measures required to address these challenges and ensure inclusive and sustainable growth. (250 words)
2. Critically analyze the potential of India to emerge as a key beneficiary of the "China Plus One" strategy. (150 words)

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Chapter 5: Medium Term Outlook: A Growth Vision for New India

Introduction

The Indian economy has shown resilience over the past decade. The **structural reforms** undertaken by the Government have put the **economy firmly on a growth path**. India is set to become the world's third-largest economy, with a **medium-term growth rate of over 7%**.

Chapter Precap

<p>Brief Background</p> <ul style="list-style-type: none"> India's economy has grown significantly since 1993 India aims to become a developed nation by 2047 Facing global challenges like geopolitical conflict, climate change etc. India's growth and prosperity are amidst these challenges. 	<p>India's Key Focus in short to Medium Term</p> <ul style="list-style-type: none"> Generating Productive Employment Bridging Skill gap Tapping the full potential of the agriculture sector Managing India's green transition Improving the quality of health of India's young population
<p>Six-pronged Growth strategy for Amritkaal</p> <ul style="list-style-type: none"> Boosting private sector investment Growth and Expansion of India's Mittelstand Removing the growth impediments in the agricultural sector Secure the financing of green transition in India Building state capacity and Capability 	<p>Outlook in Medium term</p> <ul style="list-style-type: none"> Indian economy resilient, navigating global crises IMF has raised India's growth forecast India has graduated from being a low-income country to a low-middle-income country. Viksit Bharat by 2047

Setting the Context

- India's Performance:** India's economy has **grown significantly since 1993**, reaching **USD 3.6 trillion**, despite a **3% annual depreciation in the rupee**.

 - India's **per capita current dollar GDP** has also increased from 301.5 in 1993 to **2,484.8** in 2023, indicating a substantial improvement in living standards.
 - India aims to become a **developed nation by 2047**, a decade ahead of China's growth.
- Challenges:**

 - Global Dynamics:** The world is facing major fault lines, including a **multipolar world, a cultural clash between globalist elites** and those tied to their national geographies, and **economic stagnation and geopolitical conflicts**.
 - Covid pandemic** has exacerbated inequality, poverty, and indebtedness, prompting interventionist policies.
 - Climate change and global warming:** developed countries pushing for greenhouse gas reductions, putting pressure on developing nations.
 - Developing nations struggle to restore economic growth and reduce poverty and debt, which have been amplified by the pandemic.
- Way Ahead:**

 - Navigating India's Distinct Path to Growth:** India's growth and prosperity are amidst these challenges. To achieve India's aspirations, it is crucial to **acknowledge the changing terrain and work towards achieving its goals**.
 - Sustainable Growth and Human Capital Development:** India must sustain its economic growth over 25 years sustainably, addressing water stress, air pollution, stagnant life expectancy, and educating its youth.



- **Domestic Resource Mobilization for Growth:** Geopolitics imposes a ceiling on external deficit and financing, making it crucial for India to generate domestic resources for its investment and growth priorities.

India's medium-term growth outlook for the Indian economy, is premised on the following key tenets

- **Geoeconomic Fragmentation & Resource Nationalism:** Both limits growth, causing a trade-off between efficiency and resilience.
- **Climate Change Strategies:** Essential for socio-economic stability, public health, banking, and finances, requiring a balance between adaptation and emission mitigation.
- **Technology:** Emerging as a strategic differentiator determining economic prosperity, with potential social impacts and skewing of capital and labor income shares.
- **Limited Policy Space and Trade-offs:** Due to global economic crises, policymakers are increasingly recognizing and accepting trade-offs due to limited policy space across countries.
- **Collaborative Implementation of Reforms:** India's has pursued big-ticket reforms in the last decade; however, implementation requires engagement with state governments, private sector, and civil society.
- **Bottom-up Reform:** The focus should shift to bottom-up reform and strengthening governance for sustainable, balanced, and inclusive growth.

Key Areas of Policy Focus in the Short to Medium Term

- **Generating Productive Employment:** India's working-age population (**15-59 years**) will grow until 2044 (UN population projections), requiring the creation of nearly **78.51 lakh jobs** non-farm jobs annually to meet demand.
 - India's workforce is estimated at nearly **56.5 Crore**, of which more than 45 % are employed in agriculture, 11.4 % in manufacturing, 28.9 % in services etc.
- **Skill gap challenge:** 65% of the population is under 35 and many lack the necessary skills for a modern economy (UN). About **51.25% of the youth are not yet employable**.
 - Ministry of Skill Development & Entrepreneurship (MSDE) reports that only 2.2% of persons aged 15-59 have received formal vocational training.
 - ✓ **Challenges in skilling and entrepreneurship** are low apprenticeship coverage, limited mobility between skill and higher education programs, narrow and often obsolete skill curricula etc.
- **Tapping the full potential of the agriculture sector:** India's agriculture sector faces structural issues affecting economic growth. The main concern is sustaining growth without food price inflation while incentivising farmers to increase production.
 - Other challenges includes **improve price discovery mechanisms, increase efficiency, reduce disguised unemployment, address the fragmentation of landholding**, etc.
- **Easing compliance requirements & financing bottlenecks confronting MSMEs:** MSMEs are crucial for economic growth but **excessive regulations, complex compliance, and limited access to finance** hinder their potential.
 - Government initiatives like **Mudra Yojana** and **Credit Guarantee Fund** have helped but a **substantial credit gap persists**.
- **Managing India's green transition:** India faces a significant **funding gap for climate change adaptation and mitigation**. Aggregate investment support required by India to achieve its 2070 net-zero targets will be USD 1.4 trillion at an average of USD 28 billion per year.
 - India aims to **reduce its greenhouse gas emissions by 33-35% by 2030, increase non-fossil fuel-based electricity to 40%**, and enhance forest cover to absorb 2.5-3 billion tonnes of carbon dioxide.
- **The Chinese conundrum:** India-China economic relations are complex and intertwined, with China dominating global supply chains and affecting India's renewable energy program.
 - India faces questions about integrating into the global supply chain without affecting China's supply chain and balancing goods and capital imports.



- **Deepening the corporate bond market:** India's economic growth requires investment from various financing options beyond bank financing, and capital markets.
 - An active corporate bond market is crucial for long-term funds. However, India's market is small compared to other Asian emerging markets and dominated by highly-rated issuers, lacking depth.
- **Tackling inequality: India's top 1% accounting for 6-7% of total incomes.** Government interventions focus on job creation, informal sector integration, and female labour force expansion aimed at effectively addressing inequality.
 - Tax policies on capital and labour incomes will be crucial, especially with the impact of AI on employment and income.
- **Improving the quality of health of India's young population: 56.4% of India's disease burden is due to unhealthy diets,** exacerbating micronutrient deficiencies and overweight/obesity problems.
 - If India needs to reap the gains of its demographic dividend, it is critical that its population's health parameters transition towards a balanced and diverse diet.

India's expanding obesity challenge (National Family Health Survey (NFHS-5), 2019-2021)

- Obesity is emerging as a serious concern among India's adult population. **Men aged 18-69 experiencing a 22.9 % increase and women at 24.0%.**
- It is significantly **higher in urban India than in rural India** (29.8% vs. 19.3% for men and 33.2% vs. 19.7% for women).

Growth Strategy for Amrit Kaal: Strong, Sustainable and Inclusive

It presents a **Six-pronged growth strategy** that can guide the bottom-up reform process going forward.

Six-pronged growth strategy

- **Boosting private sector investment:** India needs to boost private investment in machinery and intellectual property to create quality jobs. Government should improve infrastructure, workforce skills, and resource availability.
 - Initiatives like Aatmanirbhar, and Production Linked Incentive, are crucial for sustained private investment.
- **Growth and Expansion of India's Mittelstand: Deregulation, state dialogue, physical and digital connectivity, infrastructure upgrades, training in enterprise management i.e. management, financial management, and technology etc., and export strategies like 'Make in India'**
 - **Mittelstand** (MIIM) program are crucial for growth, boosting productivity and boosting India's economy.
 - India's MSME sector is contributing 30% of GDP, 45% of manufacturing output, and providing employment to 11 crore of its population.
- **Removing the growth impediments in the agricultural sector:** Agriculture faces challenges in ensuring food security, adapting to climate change, and sustainably using resources like water, energy, and land.
 - India's economic development necessitates a shift from agriculture to industry and services, yet agriculture remains crucial for national security and food supply.

A farmer-friendly policy framework

- **Food Deficit Country to Net Exporter:** India's agriculture sector has made significant progress from a food deficit in the Sixties to being a net exporter of agricultural products.
 - However, the country still needs to enhance value addition and make employment in agri-value chains attractive among its youth.
- **Yet to Utilize Full Potential:** Unlike East Asian economies and developed countries of the West, India has yet to fully exploit the potential of agriculture to contribute to economic growth and employment generation.
- **Need structural transformation:** Because climate change and water criticality loom large in the times to come.

- **Subsidies to Framers:** India subsidises its farmers with water, electricity, and fertilisers, providing them with minimum support prices (MSP) for 23 selected commodities and monthly cash support through the PM-KISAN scheme.
- **Interplay of Market Forces:** Share of agriculture in the economy declines over time due to the interplay of market forces.
 - Farmers must be protected from price shocks and other risks, such as excessive water consumption, depletion of groundwater, soil quality erosion, and health costs.
- **Price Support:** Insurance can come in the form of price support or income support, such as direct price floors, price-gap support, direct benefit transfers (DBT), or crop insurance.
- **Balancing Interests:** Governments must balance supporting farmers with interests of low-income consumers, as these policies often conflict with income support policies for farmers.
- **Way Ahead:**
 - Direct cash transfers, which allow markets to function, are more effective than other forms of insurance and price support.
 - By implementing a basket of policies that serve both farmers and consumers.

Empowering Farmers Through Market Forces: A Government's Role

By not banning futures or options markets at the first sign of price spikes	By invoking export bans only under exceptional circumstances	By increasing the Total Net Irrigated Area	India's inflation targeting framework should consider targeting inflation, excluding food	By making farming consistent with climate
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- **Secure the financing of green transition in India:** India needs to leverage global green capital from sovereign wealth funds, pensions, private equity, and infrastructure funds to finance its green transition.
 - This can be achieved by **addressing investment barriers**, fostering a sustainable finance ecosystem, and diversifying funding sources, **Innovative approaches like blended finance, engage with multilateral development banks** etc.
- **Bridging the education-employment gap:** India, with a young population, a median age of 28 can harness its demographic dividend by nurturing a workforce equipped with employable skills.
 - **The** schooling should focus on foundational literacy and numeracy, and the government should prioritize new skilling initiatives and revamp existing ones.
- **Building state capacity and Capability:** India has made significant progress in infrastructure and direct benefit schemes since 2014, with civil service playing a crucial role. To sustain progress, state machinery needs reimagining and accountability mechanisms.

Mission Karmayogi's holistic approach to building state capacity in India

- **Issues in Civil Services:** Silos of policies, poor communication, information boundaries, and lack of collaboration etc. (**1st and 2nd Administrative Reforms Commission**).
 - **Performance management systems were not equipped** with the proper mechanisms to **assess, reward, and improve performance**, and to align officials' capacities with needs of system.
- **Mission Karmayogi:** Launched Mission Karmayogi to **enhance state capacity using the 'Workforce to Work-Workplace' framework**.
 - **It provides a multi-pronged solution encompassing -**
 - **Building the capacity of the Workforce** centred on their roles and associated competency requirements at multiple career stages.
 - **Improving the quality of the Work** through role-based human resource management and decision-making.
 - **Enhancing the Workplace through mentorship**, better managerial practices, and improved physical infrastructure.
 - **iGOT Karmayogi:** The platform is a central node for civil servants to access tailored modules, track their competency requirements, and share knowledge.

Outlook in the Medium Term

- India's growth story over the past decade has been **resilient, navigating global crises through a recovery strategy and structural reforms.**
- **World Economic Outlook**, IMF has raised India's growth **forecast for 2024-25 to 6.8 %** from 6.5 % on the back of **strong domestic demand** and a rising working-age population, making India the fastest-growing G20 economy.
- India has graduated from being a low-income country to a **low-middle-income country.**
 - As it journeys further towards middle and upper middle-income status, the aspirations of the people keep rising.
- Our knowledge and attitudes have to continually evolve to keep up with the requirements that the project, **'Viksit Bharat @2047'** entails.

Glossary

Term	Meaning
Mittelstand	<ul style="list-style-type: none">• Refers to a group of stable business enterprises in Germany, Austria and Switzerland that have proved successful in enduring economic change and turbulence.• It is usually defined as a statistical category of small and medium-sized enterprises with annual revenues up to 50 million Euro and a maximum of 500 employees.
Green Transition	<ul style="list-style-type: none">• Refers to the global shift from a fossil fuel-dependent economy to one that is powered by renewable energy sources and characterized by sustainable practices.
Corporate Bond	<ul style="list-style-type: none">• A corporate bond is a debt security issued by a corporation to raise capital.
Demographic dividend	<ul style="list-style-type: none">• It refers to the economic growth potential that can result from shifts in a population's age structure, mainly when the share of the working-age population is larger than the non-working-age share of the population"

Chapter 5: Test Your Learning

MCQs

1. India's economic growth since 1993 has been characterized by:
 - (a) Significant growth in GDP despite rupee depreciation
 - (b) Stagnant per capita income
 - (c) Heavy reliance on external debt
 - (d) Negligible foreign investment
2. With reference to the Indian workforce, consider the following statements:
 1. Less than 50% of India's workforce is employed in agriculture.
 2. The service sector absorbs most of the Indian workforce.How many of the above statements are correct?
 - (a) Only 1
 - (b) Only 2
 - (c) Both 1 and 2
 - (d) None
3. The term "Demographic Dividend" refers to the the following?
 - (a) Decline in the birth rate
 - (b) Potential economic advantage from a young population
 - (c) An increase in the elderly population
 - (d) A decrease in the labour force participation rate

4. Consider the following statements:
1. Unhealthy dietary habits are a major contributor to India's disease burden.
 2. Obesity is a growing concern among India's adult population
 3. Obesity is significantly higher in urban India than in rural India.
- How many of the above statements are correct?
- (a) Only one
 - (b) Only two
 - (c) Only three
 - (d) None
5. iGOT Karmayogi is a platform designed to:
- (a) Facilitate better governance through technology
 - (b) Provide a central repository for government data
 - (c) Enable civil servants to enhance their competencies and share knowledge
 - (d) Improve public grievance redressal mechanisms

Questions

1. Analyze the factors hindering India's ability to fully harness this demographic dividend. Suggest policy measures to address challenges.
2. Discuss the potential of the agriculture sector in driving inclusive growth and employment generation in India.

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Chapter 6: Climate Change and Energy Transition: Dealing with Trade Offs

Introduction

- The world is becoming aware that its **current method of dealing with climate change is faulty** as it continues to **disregard tradeoffs**. Countries had to push back their own climate mitigation deadlines. For example, the United Kingdom postponed its plan to restrict the sale of petrol and diesel automobiles for five years, Germany softened its laws on banning fossil fuel-powered boilers, etc.
- The chapter talks about inequity between developed and developing nations in terms of climate action, finance, impacts, etc., and highlights difficulties associated with the transition to renewable energy and electric vehicles.
- The chapter discusses how globally **recognizing trade-offs is critical to bringing climate goals** into the realm of feasibility and acceptability. It also examines India's performance and initiatives in combating climate change, talks about the challenges associated with the energy transition, and explores the state of the global negotiations as well as the alternatives accessible to India for future action.

Chapter Precap

Present Status of India's Climate Action

- **2 Targets of first Nationally Determined Contribution (NDC) achieved well in advance.**
- **NDC updated in August 2022**
 - Target to **reduce the emissions intensity of India's GDP enhanced to 45%** by 2030 from the 2005 level.
 - Target on **cumulative electric power installed capacity from non-fossil fuel-based energy resources increased to 50%** by 2030.
- **Progress on updated Targets**
 - Share of non-fossil sources in installed electricity generation capacity **reached 45.4%**. (May 2024)
 - **On track to make an additional carbon sink of 2.5 to 3.0 billion tonnes through tree and forest cover by 2030.**

Energy Composition and Efficiency

- **3 typical features characterize India's energy use-**
 - High use of biomass as a share of the total primary energy supply
 - Predominance of imports of fossil fuel (mainly petroleum)
 - Use of domestic coal for electricity generation
- **Government initiatives for energy efficiency:** Energy Conservation Building Code; Lifestyle for Environment (LiFE) initiative; Perform, Achieve, and Trade (PAT) scheme; etc.
- **Challenges of Energy Transition:** Intermittency and discontinuous supply of Renewable energy; Technologies required for global Net Zero currently commercially unavailable; Increase in demand for land and water Renewable waste recycling; Concentration of rare earth and critical minerals; Lack of availability and access to affordable finance etc.

India's measures for Sustainable Finance

- **'Framework for Sovereign Green Bonds'** released in 2022
- SEBI's new sustainability reporting requirements under the Business Responsibility and Sustainability Report (BRSR)
- RBI's Framework for **Acceptance of Green Deposits for the Regulated Entities**
- **Carbon Market Framework**
 - **Carbon Credit Trading Scheme (CCTS):** To allow the **determination of a price for one tonne of carbon dioxide equivalent emissions.**
 - **Voluntary Carbon Market:** India is the second-largest supplier of carbon offsets in this market.

- **Green Credit Programme:** Encourages voluntary environmental positive actions through issuance of green credits.

Challenges faced by developing countries in accessing finance

- Estimated **USD 5.8 trillion to USD 11.5 trillion** are required till 2030 to meet the targets set by developing countries in their NDCs. [**Standing Committee on Finance (a body under the UNFCCC)**]
- Estimated **adaptation costs in developing countries are 10 to 18 times greater** than current international adaptation finance flows. (**2023 UN Adaptation Gap Report**)

Key Outcomes of CoP 28

- **First GST:** Seeks to ratchet up global climate ambition before the end of the decade.
- Operationalization of the **Loss and Damage Fund** and its funding arrangements
- Finalization of **Emirates Framework for Global Climate Resilience**

India's International Initiatives to Address Climate Change Issues

- **International Solar Alliance:** Successfully established the **Solar Technology and Application Resources Centres (STAR-C)** in Ethiopia and Somalia.
- **One World, One Sun, One Grid:** Led by **India and the UK** to interconnect solar energy systems.
- **Coalition for Disaster Resilient Infrastructure:** To promote the resilience of new and existing infrastructure systems.
- **Infrastructure for Resilient Island States':** To achieve and deliver resilience and climate adaptation.
- **Leadership Group for Industry Transition:** To brings together countries and companies committed to action to achieve the goals of the Paris Agreement.

Present Status of India's Climate Action

- **Initiatives**
 - **National Action Plan on Climate Change (NAPCC):** Includes nine national missions covering solar, water, energy efficiency, forests, sustainable habitat, sustainable agriculture, sustaining the Himalayan Ecosystem, strategic knowledge for climate change, and the recently added mission on human health.
 - States and Union Territories (UTs) have been encouraged to prepare their **State Action Plan on Climate Change (SAPCC)**. So far, 34 SAPCCs are operational.
 - **Eighth cycle of Perform Achieve and Trade (PAT) scheme** notified for the period 2023-24 to 2025-26.
 - **PAT total energy saving target: 0.3370 MTOE** (million tonnes of oil equivalent).
- **India's Nationally Determined Contribution (NDC)**
 - **Targets of first Nationally Determined Contribution (NDC) achieved well in advance-**
 - **Achieved 40% cumulative electrical power** installed capacity from non-fossil fuel-based energy sources in 2021. (9 years before target year 2030)
 - **Reduced the emission intensity** of India's GDP from 2005 levels by 33% in 2019. (11 years before target year 2030)
 - **NDC further updated in August 2022**
 - Target to **reduce the emissions intensity of India's GDP enhanced to 45%** (from the earlier 33-35%) by 2030 from the 2005 level.
 - Target on **cumulative electric power installed capacity from non-fossil fuel-based energy resources increased to 50%** (earlier 40%) by 2030.
 - **Progress on updated Targets**
 - Share of non-fossil sources in installed electricity generation capacity **reached 45.4%**. (May 2024)
 - **On track** to make an additional carbon sink **of 2.5 to 3.0 billion tonnes through tree and forest cover by 2030**
 - **Carbon sink of 1.97 billion tonnes of CO₂ equivalent** having already been created from 2005 to 2019.
- **Third National Communication (NC):** It was submitted and **includes India's first Adaptation Communication**, to the UNFCCC. Highlights of the TNC-
 - **Sector wise contribution to the overall anthropogenic emissions:** Energy sector (75.81 %), agriculture sector (13.44 %), Industrial Process & Product Use (IPPU) (8.41 %), and waste (2.34 %).

- Land Use, Land-Use Change & Forestry (LULUCF) sector remained a net sink in 2019.
- India’s net national emissions (2019): 26,46,556 GgCO₂e

Why adaptation is critical for India?

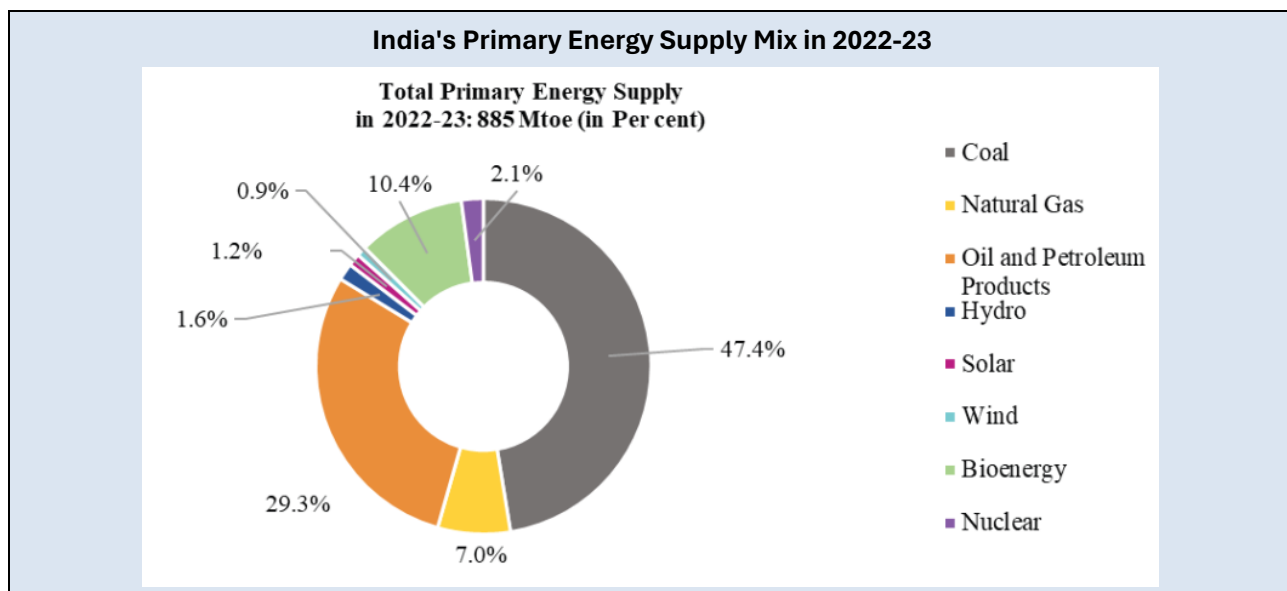
- According to a meta-analysis of several studies, the **welfare-equivalent income loss** due to a 2.5°C warming is **significantly higher for lower-income countries**.
 - **Advantages with high-income countries:** Resilient infrastructure, adequate healthcare coverage, and access to adaptive technologies, etc.
 - **Lack of resources makes lower income countries** more susceptible to increased vulnerability and potential economic disruption.
- From a developing country’s perspective, **continued economic growth is the best insurance against climate change**.
- India’s Total **adaptation-relevant expenditure** was **5.60% of the GDP in 2021-2022**, a growth from 3.7% in 2015-16. (Initial Adaptation Communication of India)

Vulnerable areas	Steps taken by the government for adaptation
Natural habitats, Vegetation, and bio-resources.	<ul style="list-style-type: none"> • Seven of nine mission of NAPCC has been on adaptation. • Promotion of micro irrigation under the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY). • National Innovations on Climate Resilient Agriculture (NICRA) to enhance the resilience of Indian agriculture
Coastal regions	<ul style="list-style-type: none"> • Since 2014, 56 new wetlands across the country have been designated as Ramsar sites (total 82). • ‘Amrit Dharohar’ initiative to promote nature tourism in the conserved Ramsar sites. • The Mission Sahbhagita to enable a societal ownership approach with communities leading at the forefront.

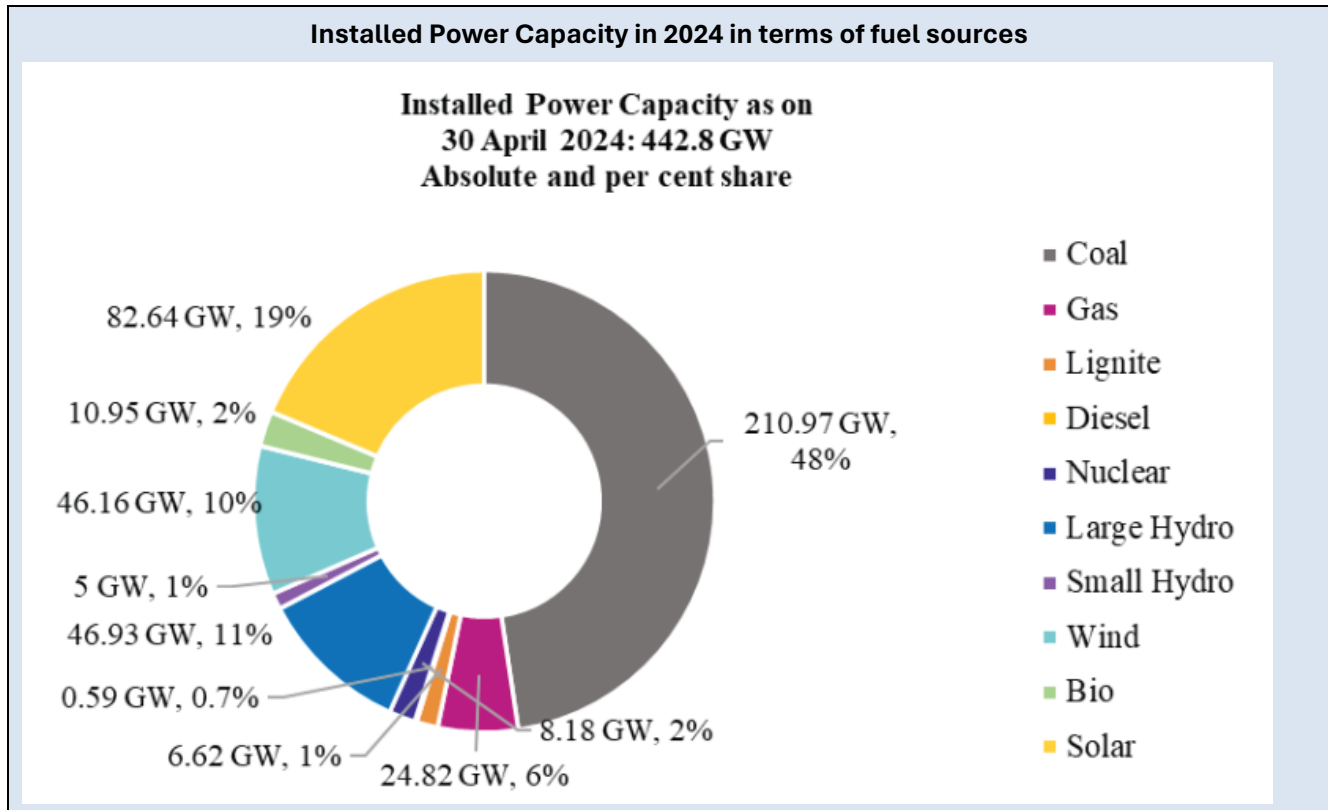
Low Carbon Development and Energy Composition

Energy Composition and Efficiency

- India’s energy needs are **expected to grow 2 to 2.5 times by 2047**.
- **India’s primary energy mix in 2022-23:** Fossil-fuel dominant, with almost 84 % met from coal, oil, and natural gas combined. (See below figure)



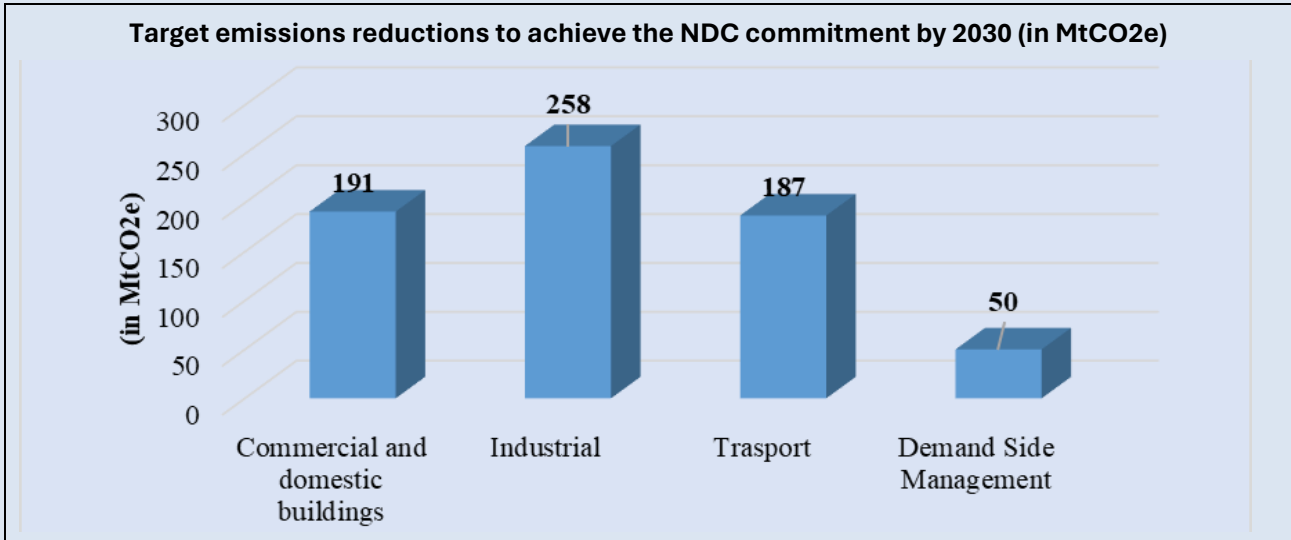
- **Phasing in of renewables in the electricity sector:** Share of **non-fossil power capacity** being **45.4 %** as of May 2024.



- **Recent initiatives for enhancing the production of renewables**
 - **PM-Surya Ghar Yojana** is expected to add 30 GW of solar capacity and reduce 720 million tonnes of CO₂ equivalent, creating around 17 lakh direct jobs across the solar value chain.
 - Notified the **national offshore wind energy policy and offshore wind energy lease rules, 2023**, and viability gap funding for an initial capacity of **one gigawatt** has been announced.
 - **Green Hydrogen Mission** to achieve five MMT of green hydrogen by 2030.
- **Three typical features characterize India's energy use-**
 - **High use of biomass as a share of the total primary energy supply:** It is set to change significantly with the **advancement of solar rooftop installations, the proliferation of solar appliances, and the ramping up of LPG-based cooking.**
 - **Predominance of imports of fossil fuel (mainly petroleum):** **Petroleum (85 % of which is imported)** has a diversified presence across transport, industrial sector, residential, and commercial.
 - **Use of domestic coal for electricity generation:** Coal accounts for nearly **70 % of the total electric generation.** Steps taken by Government for clean coal-
 - **Coal Gasification Mission:** Aims to gasify **100 million tonnes of coal by 2030** through surface coal/lignite gasification projects.
 - **Coal Bed Methane (CBM) gases,** exploring coal to hydrogen, **Carbon Capture and Storage (CCS),** and coal beneficiation through washeries, etc.
 - Encouragement to adopt **super-critical and ultra-super-critical technologies** for coal power plants.

Steps taken to improve Energy Efficiency

- **India's target: Emissions Intensity (EI) reduction of 45 % by 2030** from the base of 2005.
 - Overall emissions in the economy would have to be reduced by **3753 MtCO₂e** (over the baseline scenario).



- Reduction in **emission intensity in the building sector** will play a key role in achieving the target.
 - Presently, around **33 % of the total electricity consumption** is in consumers' commercial and residential categories.
- **Government initiatives for energy efficiency**
 - **For Building sector:** Energy Conservation Building Code, Net Zero Energy Building, Net Positive Energy Buildings, Standards and Labelling (S&L) program, Star-rated program to offer high-efficiency ACs for consumers, etc.
 - **Sustainable lifestyles: Lifestyle for Environment (LiFE)** initiative, BEE's AC @ 24 etc.
 - Adopting worldwide LiFE actions would save consumers about USD **440 billion and amount to one-fifth of the emissions reduction needed by 2030.** (IEA analysis)
 - **For industrial sector:** Perform, Achieve, and Trade (PAT) scheme, Carbon Credit Trading Scheme (CCTS) etc.
 - **For transport sector:** Fuel consumption standards and norms have been set for cars, heavy-duty vehicles (HDVs), and others.
 - **Demand-side management (DSM):** Energy-efficiency pump sets in agriculture, improving the efficiency of the local bodies' drinking and sewage water pumping systems, improving the efficiency of the distribution transformer network, and star rating of appliances and white goods.

Challenges of Energy Transition

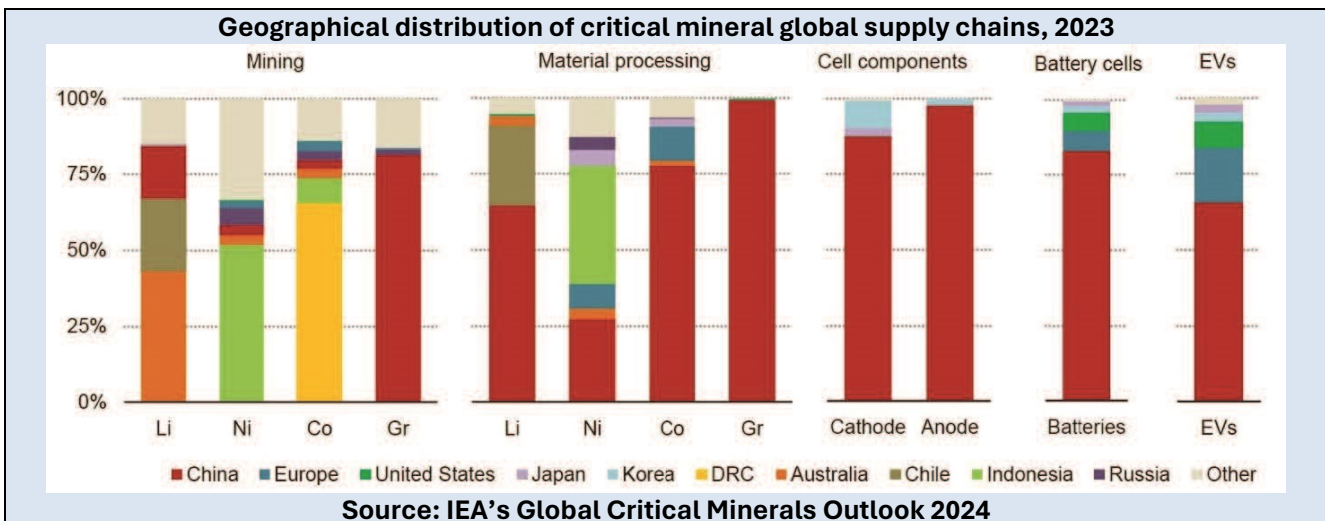
- **Renewable energy faces intermittency and discontinuous supply:** This impacts grid stability in the absence of battery storage.
 - As per estimates, Levelised Cost of Electricity (LCOE) of renewables such as solar has fallen **below that of fossil fuels in several countries**, including India, Brazil, Australia, and Italy.
 - But this **does not reflect the total cost the economy faces** as it ignores the costs associated with **intermittency and dispatchability.**
- **Potential solution: Round-The-Clock (RTC) renewable energy supply contracts**, which allow the internalisation of risks related to intermittency and dispatchability.

Round-the-Clock (RTC) Supply of Renewable Energy (RE)

- The objective of the Round-the-Clock (RTC) supply is to match the buyer's energy demand curve through **renewable energy power projects with energy storage systems.**

- Ministry of Power issued ‘Guidelines for Tariff Based Competitive Bidding Process for Procurement of Firm and Dispatchable Power from Grid Connected Renewable Energy Power Projects with Energy Storage Systems’ in 2023 to provide a framework for Power Purchase Agreements (PPAs) for RTC supply.
- Challenges for RTC-RE:** Dynamic requirements of the utilities and growing energy demands, Higher upfront costs, technology risks, longer payback periods, and limited access to critical and rare earth minerals required for battery storage technology etc.
- In this context, **pump storage-based energy storage solutions** can be utilised to reduce system costs, owing to their longer lifetimes compared to battery energy storage systems.

- Many technologies required for global Net Zero are currently commercially unavailable:** Such as hydrogen-fuelled steel/cement, steel and aluminium production with CCUS, etc.
- Solution:** Need to enhance international cooperation in R&D, especially in the domains of distributed RE, offshore wind, geothermal, tidal energy, biofuels, compressed biogas, green hydrogen, energy storage, electrolyzers, and nuclear power (including Small Modular Reactors SMR).
- Increase in demand for land and water:** For instance, according to a study, about **1 MW of solar photovoltaic (PV) may require around 1–1.5 hectares (ha) of land.**
 - The **availability of land is a major challenge for India**, which has the lowest land availability per capita amongst the G20 countries.
- Renewable waste recycling:** Globally, **solar photovoltaic (PV) waste** is estimated to be around 78 million tonnes by 2050.
 - PV waste recycled as scrap **poses risks to the environment and human health** due to toxic metals, for which we need a comprehensive policy for managing PV waste.
 - India’s amended **E-Waste (Management) Rules, 2022**, attempts to address concerns regarding disposal practices.
- Concentration of rare earth and critical minerals in mining and processing:** Critical minerals are required for renewable energy and battery storage technologies.
 - The source of **such minerals is geographically concentrated**, notably Graphite (China, 79 %), Cobalt (DRC, 70 %), rare earth (China, 60 %), and Lithium (Australia, 55 %).
 - The concentration level is even higher for processing, with **China dominating across the board.**



- India’s steps to access critical minerals**
 - Joined the Mineral Security Partnership (MSP)** to enable access to critical minerals to smooth the green transition.
 - MSP includes 14 countries** (India the only developing country).
 - Government released a list of **30 critical minerals for India.**
 - Total number of projects on critical minerals rose **from 59 in 2020 to 123 in 2023 domestically.**



- **Khanij Bidesh India Limited (KABIL)** undertakes the identification, acquisition, exploration, development, mining, and processing of strategic minerals overseas.
- **Lack of availability and access to affordable finance:** India's total investment cost until 2047 is conservatively estimated at ~ **USD 250 billion per year to prepare** its energy systems for Net-Zero pathways. (NITI's IESS 2047 Model)

Report on Synchronizing Energy Transitions towards Possible Net-Zero for India: Affordable and Clean Energy for All

- **Conducted by:** Indian Institute of Management Ahmedabad with the support of the Office of the Principal Scientific Adviser to the Government of India and the Nuclear Power Corporation of India Ltd.
- It contains the **projection of the energy mix in the backdrop of India's Net Zero 2070 announcements and cleaner, affordable energy for all.**
- **Main Conclusions of the Report**
 - **Sustainable energy transition needs the co-existence of several energy sources.**
 - **Coal is projected to continue until the next two decades** as the backbone of the Indian energy system.
 - **Renewable Energy (RE) and nuclear power** are expected to be the predominant sources of energy by 2070.
 - **Coal phase-down will be heavily dependent** on the import of critical minerals required for renewable energy and battery storage.

Finance for Sustainable Development

India's measures

- **'Framework for Sovereign Green Bonds'** released in 2022: The Government issued **sovereign green bonds amounting to ₹16,000 Crore** in January-February 2023 followed by ₹20,000 Crore in October-December 2023.
- **SEBI issued new sustainability reporting requirements under the Business Responsibility and Sustainability Report (BRSR)**
 - The BRSR was mandatory for the top **1000 listed entities (by market capitalisation) from 2022-23.**
 - In July 2023, the SEBI also introduced the **BRSR core (a sub-set of the BRSR) for Environmental, Social and Governance (ESG) disclosures for value chains.**
- **RBI implemented the Framework for Acceptance of Green Deposits for the Regulated Entities:** To foster and develop India's green finance ecosystem.
- **RBI's Priority Sector Lending (PSL) rules:** Examples of projects covered- solar-based power generators, biomass-based power generators, windmills, micro-hydel plants, street lighting systems and remote village electrification etc.

Market Framework to Price Carbon: Indian Carbon Market (ICM)

Carbon Credit Trading Scheme (CCTS) (also called the Indian Carbon Market)

- Its regulations were notified by the Ministry of Power in 2023.
- **Objective:** To allow the **determination of a price for one tonne of carbon dioxide equivalent emissions.**
- **Subsumes existing PAT scheme:** Designated Consumers (DCs) under the PAT scheme will gradually transition to CCTS by 2028-30.
 - Government shall set **entity-wise GHG emission intensity targets** to enable a per-output emissions limit (i.e., GHG emissions intensity target) **in place of specific energy consumption targets** under the existing PAT scheme.
- **Compliance Mechanism:** Registered entities notified under the mechanism, called **obligated entities (OE), will be notified of GHG emission intensity targets** for each annual year in the trajectory period.
 - **OE achieving greater than notified target notified:** Can get the **Carbon Credit Certificates (CCC)** issued by the difference between the actual and target.



- CCCs can be sold in the carbon market or banked by the obligated entity.
- **OE failing to meet the targets:** Required to buy the CCCs in the Indian carbon market or use their banked CCCs for compliance

Institutional Architecture of Carbon Market in India	
Function	Institution
Governance, oversight and functioning	National Steering Committee for the Indian carbon market
Policy & administrator	Bureau of Energy Efficiency
Implementor of targets	Obligated entity
Trading regulator	Central Electricity Regulatory Commission
Registry	Grid Controller of India Limited (GCIL)
Trading platform	Power exchange – IEX, PXIL, HPX

Voluntary Carbon Market (VCM)

- **VCM** are those market which are not regulated by **governments and are entirely voluntary**.
- The global voluntary carbon market is **worth over USD 1.2 billion**, and **India is the second-largest supplier** of carbon offsets.
- **Mechanism:** Carbon offsetting
- **Concerns:**
 - **Double counting-** when sellers and buyers can claim the carbon reductions.
 - Uncertainty about whether a **credit being used as an offset by a foreign entity can be simultaneously** claimed by the country where the credit was generated.

Evolution of Carbon Markets
<ul style="list-style-type: none"> • 1970s: Sulphur dioxide (SO₂) allowance trading programme by the United States. • 1987: Montreal Protocol served as an early international precedent for trading emissions permits to address ozone depletion. • Article 4.2(a) of the UNFCCC (Convention) set the foundation for early carbon markets by allowing the Parties to implement emission reduction policies jointly. • 1997: Conference of the Parties (COP) of UNFCCC adopted Kyoto Protocol (KP) (ended in 2020) which established legally binding GHG emissions reduction targets for 38 industrialised countries and Economies in Transition (EIT) – Annex-B Parties. <ul style="list-style-type: none"> ○ It had three mechanisms <ul style="list-style-type: none"> ✓ Clean Development Mechanism (CDM) leading to Certified Emission Reductions (CERs) from mitigation projects in developing countries, ✓ Joint Implementation creating Emission Reduction Units (ERUs) achieved by projects in countries with emission caps, and ✓ International Emissions Trading (IET) enabled trading of Assigned Amount Units. • 2005: European Union Emission Trading Scheme (EU-ETS) <ul style="list-style-type: none"> ○ Fungibility of the credits with EU-ETS helped the Kyoto Protocol to establish a stronger carbon price in its first commitment period (2008-2012). • 2013: Second phase of the KP’s carbon markets (2013-2020) failed due to non-participation of some major developed economies and non interchangeability of Kyoto credits with EU-ETS. • 2015: Paris Agreement provides countries the option to voluntarily cooperate for higher ambition in their NDCs through a unified global carbon market. <ul style="list-style-type: none"> ○ Article 6.2 calls for ‘voluntary cooperative approaches’ at bilateral level involving the use of Internationally Transferred Mitigation Outcomes in meeting NDCs. ○ Article 6.4 defines an international mechanism to issue emission credits against mitigation outcomes. ○ Negotiations are still ongoing on the implementation of Articles 6.2 and 6.4.

Green Credit Programme (GCP)

- **Objective:** An innovative market-based mechanism aimed at encouraging individuals, communities, private sector industries, and companies to engage in **voluntary environmental positive actions through the issuance of green credits.**
- **Implementation and Governance of GCP:** As per Green Credit Rules, 2023, notified in 2023-
 - **Phased and iterative approach:** Initial phase to focus on **voluntary tree plantation** on degraded land, wasteland, watershed, etc., under the control and management of the Forest departments.
 - **Steering Committee:** Members from concerned ministries, experts, and institutions.
 - **Administrator:** **Indian Council of Forestry Research and Education (ICFRE)** is responsible for the implementation and management.
 - **Dedicated web platform** and a **green credit registry for streamlining operations.**
- **The generation of green credits under Green Credit Rules, 2023,** is independent of the carbon credit under the Carbon Credit Trading Scheme, 2023.
- A 'Green Credits Programme' was co-hosted by India and UAE on the side-lines of COP- 28.

International Commitments on Climate Finance: The Developments

- **Challenges faced by developing countries in accessing finance**
 - Estimated **USD 5.8 trillion to USD 11.5 trillion** are required till 2030 to meet the targets set by developing countries in their NDCs. [**Standing Committee on Finance (a body under the UNFCCC)**]
 - Estimated **adaptation costs in developing countries are 10 to 18 times greater** than current international adaptation finance flows. (**2023 UN Adaptation Gap Report**)
 - **Finance flows from developed nations** have been very meagre.
 - Most of the international finance available is in **the form of loans rather than grants.**
 - Much of the resource flow for climate action - mitigation and adaptation - is **primarily from domestic resources.**
 - **Limited ability of private capital in developing countries** to meet the needs due to the limited depth of financial markets and vulnerable debt profiles.
- **India's estimated finance needs:**
 - **Long-Term Low Emission Development Strategy (LT-LEDS):** Financial resources of the order of **tens of trillions of dollars required by 2050** for India's transition towards a low-carbon development pathway.
 - **1st Adaptation Communication (AC) submitted to UNFCCC:** Cumulative need for expenditure for adaptation is **₹56.68 trillion by 2030.**
- **First Global stocktake (GST):** Underscored the current needs of developing countries and the criticality of new and additional, grant-based, highly concessional finance and non-debt instruments in supporting developing countries.

CoP 28 and the Global Stocktake (GST)

- **Key Outcomes:**
 - **First GST:** Seeks to ratchet up **global climate ambition** before the end of the decade, implemented in a nationally determined manner, taking into account the Paris Agreement and their different national circumstances. Highlights-
 - Recalls that **developed country Parties shall provide financial resources to assist developing country Parties** in continuing their obligations concerning mitigation and adaptation.
 - **Recognizes that adaptation finance must be significantly scaled up** to support the urgent and evolving need to accelerate adaptation and build resilience in developing countries.
 - Calls upon Parties to contribute to the **tripling of global renewable energy capacity, accelerating efforts towards the phase-down of unabated coal power, phasing out inefficient fossil fuel subsidies,** etc.
 - Noted that **measures taken to combat climate change,** including unilateral ones, **should not constitute arbitrary or unjustifiable discrimination** or a disguised restriction on international trade.

- **Operationalization of the Loss and Damage Fund and its funding arrangements.**
- **Finalization of Emirates Framework for Global Climate Resilience** in line with the mandate under the Paris Agreement to develop a Global Goal for Adaptation (GGA).
 - The decision calls for all countries to have **adaptation plans by 2030.**

New Collective Quantified Goal (NCQG)

- **NCQG on climate finance is being negotiated under the UNFCCC** aim to mobilize climate finance from developed countries for the developing countries **from 2025 onward.**
- Its mandate is to set a **new quantified goal from the floor of USD 100 billion per year**, considering the needs and priorities of developing countries.
- **Developing countries seek-**
 - **Ambitious mobilisation goal** that adequately addresses their needs.
 - **Grant-based or highly concessional** and accessible financial resources.
 - **Balance between the financing** of mitigation and adaptation actions.

India’s International Initiatives to Address Climate Change Issues

Initiative	Feature
International Solar Alliance	<ul style="list-style-type: none"> • Joint initiative of India and France in 2015 to deploy solar energy solutions. • Treaty-based inter-governmental organisation with 119 Member and Signatory countries. • Successfully established the Solar Technology and Application Resources Centres (STAR-C) in Ethiopia and Somalia.
One World, One Sun, One Grid (OSOWOG)	<ul style="list-style-type: none"> • An ambitious project led by India and the UK to interconnect solar energy systems on a massive scale. • To be carried out in three phases. <ul style="list-style-type: none"> ○ 1st phase: Indian grid to be connected to the Middle East, South Asia, and South-East Asia grids. ○ 2nd phase: Connect the functional first phase to the pool of renewable resources in Africa, and ○ 3rd phase: Achieve global interconnection by 2050.
Coalition for Disaster Resilient Infrastructure (CDRI)	<ul style="list-style-type: none"> • Launched by India during the United Nations Climate Action Summit, 2019. • A global partnership of National Governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and academic and knowledge institutions. • Aims to promote the resilience of new and existing infrastructure systems to climate and disaster risks in support of sustainable development.
Infrastructure for Resilient Island States’ (IRIS)	<ul style="list-style-type: none"> • Launched in 2021 by India, a flagship strategic initiative of CDRI and Small Island Developing States (SIDS). • Designed to achieve and deliver resilience and climate adaptation solutions to the SIDS.
Leadership Group for Industry Transition (LeadIT)	<ul style="list-style-type: none"> • Launched by governments of India and Sweden in 2019. • Brings together countries and companies committed to action to achieve the goals of the Paris Agreement. • At COP 28, India and Sweden launched the second LeadIT (LeadIT 2.0) phase for 2024-26.

Conclusion

Depending on the evolving and ambitious **NDC targets and the objective of ensuring energy security**, it is amply clear that India needs to target a diversified set of energy sources. Such diversification will help minimise risks associated with energy systems while pursuing low-emission pathways in line with national commitments.

The integration of renewables, alongside exploring nuclear energy and biofuels, presents a path towards achieving these objectives.

Availability, affordability, and accessibility of financial resources will drive the green transition. The world needs a more balanced approach to the issue of climate change. It should also focus on nearer-term policy goals of improving human welfare rather than being excessively preoccupied with one large, longer-term goal of global climate management.

What does the budget say?

Resilience in Agriculture

- New 109 **high-yielding and climate-resilient varieties** of 32 field and horticulture crops to be released for cultivation by farmers.
- **1 crore farmers across the country** to be initiated into natural farming, with certification and branding in next 2 years.
- **10,000 need-based bio-input resource centres** to be established for natural farming.

Critical Mineral Mission

- It is to be set up for **domestic production, recycling of critical minerals, and overseas acquisition** of critical mineral assets.
- **25 critical minerals** fully exempted from customs duties.

Energy Security

- **Energy Transition**
 - Policy document on **‘Energy Transition Pathways’** to balance the imperatives of employment, growth and environmental sustainability to be brought out.
- **Pumped Storage Policy**
 - Policy for **promoting pumped storage projects** for electricity storage to be brought out.
- **Research and development of small and modular nuclear reactors**
 - Government to partner with private sector for R&D of Bharat Small Modular Reactor and newer technologies for nuclear energy, and to set up Bharat Small Reactors.
- **Advanced Ultra Super Critical Thermal Power Plants**
 - Joint venture proposed between **NTPC and BHEL to set up a full scale 800 MW** commercial plant using Advanced Ultra Super Critical (AUSC) technology.
- **Roadmap for ‘hard to abate’ industries**
 - Appropriate regulations for transition of ‘hard to abate’ industries from the current **‘Perform, Achieve and Trade’ mode to ‘Indian Carbon Market’** mode to be put in place.

Glossary

National Communication (NC)	Parties to the United Nations Framework Convention on Climate Change (UNFCCC) must periodically submit NC with information on their GHG emissions, their vulnerability to climate change, and the measures they are taking to mitigate emissions and adapt to the impacts of climate change.
Climate change mitigation	According to UNDP, it refers to actions that help reduce vulnerability to climate change's current or expected impacts , like weather extremes and hazards, slow onset events such as sea-level rise, biodiversity loss, or food and water insecurity
Levelised Cost of Electricity (LCOE)	Represents the total cost of building and operating the asset per unit of electricity generated over an assumed lifetime.
Sovereign Green Bonds (SGrBs)	A type of government bond specifically earmarked to finance environmentally sustainable projects.
Carbon offsetting	Process that allows entities to compensate for their emissions through emission reduction/ removal/avoidance achieved in projects elsewhere or by other entities.



Chapter 6: Test Your Learning

MCQs

1. Consider the following initiatives:
 1. International Solar Alliance
 2. Coalition for Disaster Resilient Infrastructure
 3. Infrastructure for Resilient Island StatesHow many of the above international initiatives are launched by India to address climate change issues?
 - a) Only one
 - b) Only two
 - c) All three
 - d) None
2. The 'Green Credit Programme' in India aims to:
 - a) Provide loans for renewable energy projects
 - b) Encourage voluntary environmental positive actions
 - c) Replace the Carbon Credit Trading Scheme
 - d) Implement a carbon tax system
3. Which of the following sectors contributes the highest to India's overall anthropogenic emissions?
 - a) Agriculture sector
 - b) Energy sector
 - c) Industrial Process & Product Use (IPPU)
 - d) Waste sector
4. Consider the following statements about India's climate action:
 1. India achieved its first NDC target of 40% cumulative electrical power installed capacity from non-fossil fuel-based energy sources in 2021.
 2. The updated NDC aims to reduce the emissions intensity of India's GDP by 45% by 2030 from the 2005 level.
 3. India has already created a carbon sink of 1.97 billion tonnes of CO₂ equivalent from 2005 to 2019.Which of the statements given above are correct?
 - a) 1 and 2 only
 - b) 2 and 3 only
 - c) 1 and 3 only
 - d) 1, 2 and 3
5. The Carbon Credit Trading Scheme (CCTS) in India is regulated by:
 - a) Central Electricity Regulatory Commission
 - b) Securities and Exchange Board of India
 - c) Reserve Bank of India
 - d) Ministry of Environment, Forest and Climate Change

Questions

1. There is need to recognize trade-offs in climate action. Critically examine the balance between climate mitigation efforts and economic development in the context of developing countries like India. (150 words)
2. Evaluate India's role in international climate initiatives. How do these initiatives contribute to global climate action and enhance India's position on the world stage? (250 words)

Chapter 7: Social Sector: Benefits That Empower

The chapter discusses the impact of economic growth on India's citizens, focusing on health, education, and women's empowerment. It also highlights the role of government policies in rural India, highlighting developments at grassroots levels and role of policies and program for rural India.

Chapter Precap

<p>Changing Nature of Welfare</p> <ul style="list-style-type: none"> • New welfare approach (increasing the impact per rupee spent) • Emphasis on process reforms with use of technology. • Goal Oriented Approach for Budget • Acceleration in Capital expenditure • Data governance 	<p>Quality Healthcare For All</p> <ul style="list-style-type: none"> • Increase in government health expenditure • Minding the Mind: Taking stock of mental health • Mental Health Initiatives in India • Evolving Mental Health of Children and Youth • Policy Recommendations on Mental Health
<p>Education</p> <ul style="list-style-type: none"> • Various Schemes in Education Sector • Progress in School Infrastructure • New Education Policy-2020-Transformational Tool • India's headway in R&D 	<p>Social and Economic empowerment of women</p> <ul style="list-style-type: none"> • Steady Rise in Gender Budget • Social: Education, Skilling • Economic: Labour force participation, Financial Inclusion • Political: Nari Shakti Vandan Abhiniyam, 2023 • Equality of asset ownership
<p>Rural economy: driving the growth engine</p> <ul style="list-style-type: none"> • Enhancing quality of life in rural India • Modernizing the safety net of MGNREGS • Nurturing Rural entrepreneurship at the grassroots 	<p>Sustainable Development</p> <ul style="list-style-type: none"> • Progress in SDG Goals • Performance of states and UTs on the Niti Aayog SDG India Index 2023-2024

Introduction

- Sustainable and equitable economic growth, along with effective public policy implementation, is crucial for India to become a “**developed India**” by 2047 (**Viksit Bharat@2047**). A vast ground has been covered, however the journey continues with challenges old and new, as well as solutions, centralized and local.
- India's concept of welfare has transformed into a **more long term oriented, efficient and empowering avatar laying solid foundations for human development**.
- Government Spending on social services has seen a rising trend since FY 2016

- Nominal GDP has grown at a compounded annual growth rate (CAGR) of ~9.5% (between FY 18 to FY 24).
- Overall, **Welfare expenditure** has grown at a CAGR of **12.8%**
 - Expenditure on **education** has grown at a CAGR of **9.4%**
 - Expenditure on **health** has grown at a CAGR of **15.8%**.

Items	2017-18	2021-22
Expenditure on Social Services	6.7	7.6
Education	2.8	2.7
Health	1.4	1.9

- **Trends in Social Expenditure by Government**

- Expenditure on social services as a percent of GDP has shown a rising trend from 2017-18 to 2021-22.
- Expenditure on education as a percent of GDP has shown a rising trend from 2017-18 to 2020-21 and decreased in 2021-22.
- Expenditure on health as a percent of GDP has shown a rising trend from 2017-18 to 2021-22.

Dovetailing Growth with Empowering Welfare: A Paradigm Shift

- As India becomes the **fifth largest economy**, citizens' lives have improved through various initiatives:
 - >10.3 crore women have been provided gas connections under PM Ujjwala Yojana
 - 11.7 crore toilets have been built under Swachh Bharat Mission
 - 52.6 crore Jan Dhan Account have been opened
 - 3.47 pucca houses have been built for poor people under PM AWAS Yojana
 - 11.7 crore households have been provided tap water connections under Jal Jeevan Mission
 - 6.9 crore hospital admissions have been made under Ayushman Bharat Scheme
- India's social and economic mileau presents various strengths, opportunities and challenges:-
 - Strength:** delivering welfare through digital public infrastructure (DPI).
 - Opportunities:** 18% of population is in the age group of 15-24 years (global average is 15.4%)
 - Challenges:** improving learning outcomes, eliminating malnutrition, tackling regional, caste and gender disparities, limited fiscal resources.
- These challenges call for long term measures focusing on universal access to basic amenities, development of social infrastructure and enables individuals to climb the standard of living ladder.

Success Stories:

- Demchok village, Leh** got its **first tap water connection** under **Jal Jeevan Mission in 2022**
- Bulumgavan village, Maharashtra**, received **electric supply** for the first time in **2018**

Placing people on the 'development' treadmill from the 'welfare' treadmill is not just a matter of fiscal sustainability but also helps in enhancing self-esteem and personal dignity of citizens.

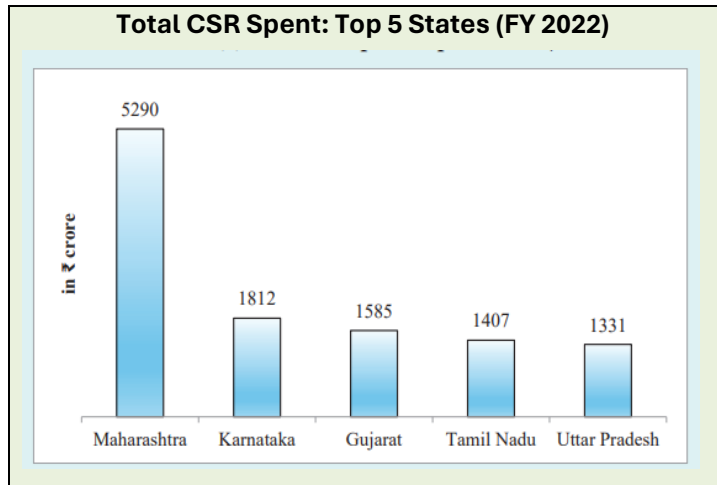
Pillars of the new approach to welfare

- The New welfare approach** focused on bringing effectiveness by increasing the **impact per rupee** spent. Thus, emphasis is on **process reforms and accountability along with utilization of technology**.
- The digitization of healthcare, education, and governance** has enhanced the effectiveness of welfare programs in India using **Direct Benefit Transfer and JAM trinity** reducing leakages and boosting fiscal efficiency.
- Goal Oriented approach for budget, Output Budget, Outcome Monitoring Framework (by NITI Aayog)** are steps in this direction
- Acceleration in Capital expenditure** signifies higher productivity and creation of societal assets.
- Data governance:** Government has been using various initiatives for real time monitoring instilling transparency and accountability and mainstreaming use of data in governances. **E.g. National Data Sharing and Accessibility Policy, District Development coordination and monitoring committee (DISHA)**
 - Data Governance Quality Index (DGQI)** aims to assess data preparedness of Ministries / Departments on a standardized framework to drive healthy competition and peer learning.
- Targeted reforms for last-mile service delivery:** E.g. Aspirational Districts Programme (ADP), Aspirational Block Program, Vibrant Village program, Vikshit Bharat Sankalp yatra.
- Focus on Health and Sanitation:** Percentage of fully vaccinated children aged 12-23 months increased from 77.9% in 2015-16 to 83.8% during 2019-21(NFHS-5)
- Affordable social security schemes:** Atal Pension Yojana (APY), PM Jeevan Jyoti Yojana (PMJJY), and PM Suraksha Bima Yojana (PMSBY).

Constituents of Data Governance and Quality Index

Data Analysis and Dissemination	Inter- Agency Collaboration
Data security and HR capability	Data Management
Action Plan	Data Quality
Intra M/D synergistic Data	Use of Technology
Data and Strategy Unit	Good Practices
Data Generation	Perspective Analytics

- **Increasing private sector participation:**
 - Annual CSR spending has been increasing (FY2017-18 to FY2021-22).
 - Public Sector Units constitute 2 per cent of companies but contribute to almost 17 per cent of total CSR amount.
 - Sector wise CSR: Education (32.4%), Healthcare & Sanitation (38.4%), Rural Development (6.9%) etc.
 - Distribution of CSR is centered around corporate headquarters, while underdeveloped areas remain relatively less funded.



Case studies: From Aspiration to Transformation

Baramulla, Jammu and Kashmir and Gumla, Jharkhand, won the prestigious PM Awards for excellence in Public Administration

- Baramulla addressed its challenging topography and harsh weather by establishing birth waiting wards which benefitting 20,000 pregnant women thereby leading to decline in malnutrition.
- Gumla tackled anaemia and malnutrition by promoting the cultivation of Ragi, empowering women in Self-Help Groups (SHGs).

Overall Progress and Outcomes

- **India’s progress in MPI: 2019-21 vs 2015-16**
 - NITI Aayog’s discussion paper finds that 24.82 crore people have escaped MDP between 2013-14 and 2022-23.
 - Uttar Pradesh has registered the largest decline in the number of poor followed by Bihar.
- **Household Consumption Expenditure Survey 2022-23:**
 - The Gini coefficient, an indicator of inequality, has declined for the rural as well as urban sector.
 - Rural-urban divide has also declined.
 - Bottom 5% fractile saw higher growth than the top 5% fractile (2011-12 to 2022-23).

Quality Healthcare for All

Key Government schemes:

Schemes	Purpose
Ayushman Bharat Pradhan Mantri Jan Aarogya Yojana	Health insurance cover of ₹5 lakh/ year for underprivileged families for secondary and tertiary hospitalization.
PM Jan Aushadhi Kendras	Quality medicines at 50-90% cheaper than market rates.
AMRIT	Affordable Medicines and Reliable Implants for Treatment
Ayushman Bhav Campaign	To saturate healthcare services in every village/town
Ayushman Bharat Digital Mission	To create a national digital health ecosystem across the country.
eSanjeevani (2019)	Telemedicine for virtual doctor consultations in remote areas.

Minding the Mind: Taking stock of the mental health scenario

Mental health is **state of mental well-being enabling people to cope with stresses of life**, realize their abilities, learn and work well, and contribute to their community.

Rising prevalence of mental health issues

- **As per National Mental Health Survey (2015-16)**
 - **10.6% of adults in India suffer from mental disorders**



- **Treatment gap for mental disorders ranged between 70 to 92%.**
- **Higher rates of mental health issues in urban metro regions (13.5%)** areas as compared to rural areas(6.9%) and urban non-metro regions(4.3%).
- Individuals aged 25-44 years are the most affected by mental illnesses.
- **1 in every 8 people** was living with a mental disorder (**WHO-2019**).

Evolving Mental Health of Children and Youth

- 1 in 7 (10-19 years) experience a mental disorder (WHO 2021)
- Increase in mental health issues in children and adolescents is linked to overuse of internet , social media
 - Unrestrained and unsupervised use culminate into **doom scrolling** (obsessive consumption of social media)
 - Increased screen time and reduced free play is making young people **‘The Anxious Generation’**
 - 23.8% of children use smartphones while they are in bed, and 37.2% of children experience reduced levels of concentration due to smartphone use(**NCPCR**)
 - Social media is akin to tobacco and warning labels should be imposed on tech platforms(Vivek Murthy, the U.S. Surgeon General)

Mental Health Issues through the lens of Economics

- It affects quality of life of an individual and constrains the realization of an individual’s potential. It leads to significant productivity losses due to absenteeism, decreased productivity, disability.
- Poverty also **Impacts mental health by** stressful living conditions, financial instability, lack of opportunities for upward mobility, heightened psychological distress.

Mental Health Initiatives in India

Initiatives	Objectives
Policies	National Mental Health Policy (2014), the National Youth Policy (2014) and the National Education Policy (2020)
District Mental Health Programme	Central funds to districts under the national health mission
National Tele Mental Health Programme	Universal Access to mental health counselling through Toll-free number
Rashtriya Kishor Swasthya Karyakram	Holistic development of the adolescent population
Ayushman Bharat School Health & Wellness Programme	Sensitising and training Health and Wellness Ambassadors (teachers), “Emotional Wellbeing and Mental Health” module developed by NCERT
Unique Initiatives by States	<ul style="list-style-type: none"> ● Meghalaya(provide targeted support to children and adolescents) ● Delhi(Happiness Curriculum for students from Nursery to Grade 8)

Policy Recommendations on Mental Health

- **Increase number of psychiatrists** from 0.75 per lakh(2021) population in 2021 to 3 per lakh population (WHO)
- Develop **age appropriate mental health curriculum** for teachers and students.
- Advocating for a **bottom-up strategy** engaging communities comprehensively.

Impact manifest in health statistics

- **National Health Accounts show rising role of public healthcare:**
 - Government health Expenditure has risen from **28.6%** (2013-14) to **41.4%** (2019-20) as percent of total health expenditure.
 - Share of primary healthcare expenditure has increased from 51.3% (FY15) to 55.9% (FY20).
 - Out-of-pocket expenditure (OOPE) has decreased from 64.2%(2013-14) to 47.1%(2019-20)

- **Infant mortality rate** has decreased from **39(2013) to 28(2020)**
- **Maternal mortality rate** has dropped from **167(2014) to 97(2020)**
- As per Health Ministry’s estimates, total cost of the treatment would have been 1.5 -2 times higher if the beneficiary had availed the same treatment on their own outside the ambit of Ayushman Bharat(PM-JAY).
- **PMJAY** has led to **significant reduction in NPA rates in microfinance loans**, highlighting the interplay between health insurance and financial stability

Education

- **New Education Policy (2020)** encompass SDG goal 4 (quality education) and prepare youth for Knowledge driven economy.
- **School Education:** The NEP aims to transform school education for improved learning outcomes by emphasizing **Early Childhood Care and Education (ECCE)**, foundational literacy, experiential learning, and holistic assessment. An example of this initiative is the "**Poshan bhi Padhai bhi**" program launched in 2023.

Programmes	Purpose
NISHTHA	Integrated teacher training program
District Institutes of Education and Training (DIETs)	District level nodal institutions guiding school education and teachers education
Kasturba Gandhi Balika Vidyalaya	Residential schools for girls from disadvantaged groups
National Assessment Centre-PARAKH	Guiding school educational boards, Achievement Surveys, standards norms for student assessment, building capacity for assessments.
Digital Infrastructure for knowledge sharing (DIKSHA)	Digital platform for school education by NCERT.
Strengthening of teaching learning and results for states (STARS)	Improving quality of governance of school education
Pradhan Mantri Schools for Rising India (PM SHRI)	Setting up exemplar schools
ULLAS-Nav Bharat Saaksharta Karyakram	Foundational literacy and numeracy for non-literates above 15 years of age.
PM POSHAN	One hot cooked meal for student of class 1-VIII in government and government aided schools.
Vidyanjali	Connects volunteers(alumni of educational institutions, serving and retired teachers, scientists) directly with schools of their choice

Progress in school infrastructure

- **National Curriculum Framework for School Education (NCF-SE) 2023:** charts a comprehensive roadmap for Early Childhood Care and Education (ECCE) and Foundational Literacy and Numeracy (FLN).
- **Vocational Education:** Under Samagra Shiksha Scheme, a non-recurring grant for purchasing equipments, including furniture, computers is given to states/UTs to augment school infrastructure. NEP 2020 emphasizes mainstreaming vocational education in all institutions, targeting skills gaps and local job opportunities.
- **Higher Education:** Enrolment in **higher education has witnessed 26.5% increase since FY15.**
 - Total students enrolment in higher education has seen an increasing trend from 2014-15 to 2021-22
 - **It is largely driven by underprivileged groups (SC,ST,OBC)** and a notable rise in female enrolment which grew by 31.6% (between FY15 and FY22)(AISHE 2021-22)
- **Re-imagining lifelong learning through a digital prism: Digital public infrastructure** is used to amplify digital solutions.

Year	2012-13	2021-22
Girls Toilet	88.1	97.5
Boys Toilet	67.2	96.2
Library/Reading Room	69.2	87.3
Electricity	54.6	89.3
Computer	22.2	47.5
Internet	6.2	33.9



- The National Education Policy 2020 introduced the **National Credit Framework (NCrF)** to enable lifelong learning.
- **Automated Permanent Academic Account Registry (APAAR)**: serves as an electronic registry for institutions, students, and faculty.
- **Academic Bank of Credits (ABC)**: online repository of academic credits that facilitates students' mobility across Higher Education Institutions (HEIs)
- **India's Online learning architecture**:
 - **SWAYAM (Study Webs of Active Learning for Young Aspiring Minds)**: an open learning massive open online courses platform
 - **SWAYAM PRABHA**: a Direct to Home Satellite TV service providing UG/PG level educational content
 - **PM e-VIDYA**: unifies digital education efforts by offering diverse content through DIKSHA and Sathee platforms

Way forward in education

- **Unity of purpose**: collaboration among central, state, and local governments
- **Vocation Education by Lending a Hand India Model(LAHI)**
 - LAHI focuses on cooperation between government and civil society to introduce vocational education as a core curriculum
- **Increasing Cost-Effectiveness of public education**

India making headway in R&D

Achievements

- ~1 lakh patents in FY2024
- India ranked **40th** in **Global Innovation Index (GII)** in 2023
- **Gross Expenditure on R&D (GERD) has been consistently increasing over years and has** more than doubled(FY2011-2021)
- **R&D investment at 0.64% of GDP, lower than China (2.41%), US (3.47%) and Israel (5.71%)**
 - **Private sector contributes only 36.4% to GERD, compared to 77%(China) and 75% (USA)**
- National Research Foundation '**Anusandhan**' has been launched to strengthen and promote R & D ecosystem
- **1 lakh crore (in interim Budget FY25) has been allocated** adopting the slogan “**Jai Jawan, Jai Kisan, Jai Vigyan, Jai Anusandhan**”

Social And Economic Empowerment of Women

India is shifting from women's development to **women-led development**, with the G20 Presidency in 2023 prioritizing this focus.

- **Steady Rise in Gender Budget**:
 - **38.7% rise in the Gender Budget Statement (GBS) vis-à-vis FY24 BE**
 - Share of the Gender Budget in total Budget has increased to 6.5%(FY25), the highest since the introduction of GBS in FY06
- **Social empowerment of women**:
 - “**Beti Bachao, Beti Padhao**” has sensitised collective consciousness towards cherishing, educating, and saving for the girl child (via Sukanya Samridhi Yojana).
 - **Sex ratio at birth (SRB)** improved from **918 (2014-15) to 930 (2023-24)**
 - **Maternal Mortality Rate** has declined from **130/lakh live births (2014-16) to 97(2018-20)**.
 - **Institutional delivery** has increased from 78.9%(2015-16) to 88.6% (2019-21)
- **Nutritional security of women and children through Anganwadi centres**
 - **Saksham Anganwadi & Poshan 2.0 programme** aims to achieve **Nutritional security** of women and children
 - **Access to basic necessities**: Toilets (SBM), clean cooking gas (Ujjawala), clean water (JJM).

- **Safety through Sambal:** One Stop Centre/Sakhi centers provides medical and legal aid.
- **Education and skilling:**
 - Gender parity has been achieved at school with help of Sarva Shiksha Abhiyan (2000) and Right to Education Act 2009. (**Savitribai Phule “...a woman without education is like a banyan tree without roots or leaves.”**)
 - Female GER (in **higher education**) has been greater than male GER for five consecutive years.
 - Participation of women trained has increased from 42.7% (FY16) to 52.3% (FY24) under Pradhan Mantri KAushal Vikas Yojana(PMKVY)
- **Women in Science:**
 - Graduates female in STEM is at 42.7% (World Bank 2018)
 - Scheme ‘Women in Science and Engineering- **KIRAN (WISE KIRAN)**’ strives to boost the involvement of women in STEM fields.
 - **Vigyan Jyoti programme**, initiated in 2020, aims to address the underrepresentation of girls in various science and technology courses from 9th to 12th grades.
- **Political empowerment: Nari Shakti Vandan Abhiniyam, 2023 (NSVA)** is a leap towards women’s political participation.

Economic empowerment of women

- **Rising participation in the labour force:** Female LFPR rose to 37% (2022-23) from 23.3%(2017-18).
- **Financial Inclusion:** PM Jan Dhan Yojana has facilitated the opening of bank accounts, of which 55.6% are women
- **Rural Microfinance:** The Deendayal Antyodaya Yojana- NRLM covers 89 million women in 8.3million SHGs
- **Entrepreneurship:**
 - 68% of the loans have been sanctioned to women under PM Mudra Yojana,
 - 77.7% of the beneficiaries under Stand-Up India are women.

Towards equality of asset ownership

Substantive equality in asset ownership would actualize the independent identity of women. For development to be led by women, it will also have to be ‘owned’ by them.

- Only 14 per cent of landowners in nine sample states were women
- Requirement of female ownership of houses under PM AWAS Yojana is an effort to nudge social change towards gender equity.

Rural Economy: Driving The Growth Engine

Integrated and sustainable development of Rural India is at the heart of Government strategy for Rural India.

Enhancing the quality of life in rural India

Sectors	Initiatives
Basic amenities	Swaccha Bharat Mission Gramin, Jal Jeevan Mission, Saubhagya
Banking and Financial Inclusion	Pradhan Mantri Jan Dhan Yojana, Kisan Credit Cards, Regional Rural banks
Education	Samagra Shiksha Abhiyan.
Health	Ayushman Arogya Mandir

Strengthening and modernizing the safety net of MGNREGS

- MGNREGS Aims to provide at **least 100 days of guaranteed wage employment** per year to rural households whose adult members volunteer for unskilled manual work.
- **Multiple efficiency reforms have been introduced to fully utilize the scheme:**
 - **E.g. Geo-tagging** of works, **Direct Benefit Transfer** (>99.9% payment is through National Electronic Fund Management System) **Setting up of Social Audit** units.



- Capacity development is being promoted by initiatives such as **Bare Foot Technicians and UNNATI skilling project**.
- **Insights from MGNREGS Data showcases differences in MGNREGA work demands across states**
 - Although, Tamil Nadu has <1% of country’s poor population, however it accounted for~ 15% of all MGNREGS funds released.
 - Kerala, with only 0.1% of the poor population, used ~4% of the Nation’s MGNREGS funds.
 - Bihar and UP, with about 45% (20% and 25% respectively) of the poor population, accounted for only 17%(6% and 11% respectively) of MGNREGA funds.

Nurturing Rural entrepreneurship at the grassroots

The Government has implemented a bouquet of vibrant schematic interventions with a distinct focus on seamless access to affordable finance and generating lucrative market opportunities that ultimately aim to provide a fillip to rural entrepreneurship.

A variety of interventions focus on affordable finance and market opportunities to boost rural entrepreneurship:-

Scheme	Focus areas
Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM)	empower poor households through self-employment and skilled wage opportunities, supports solar panel production, sanitary pad manufacturing
Lakshpati Didis Initiative	elevate three crore Self-Help Group (SHG) households to a minimum annual income of ₹1 lakh within three years.
Saras Aajeevika Portal	authentic handcrafted products made by SHGs, enhancing market access.
Start-Up Village Entrepreneurship Programme (SVEP) and Aajeevika Grameen Express Yojana (AGEY)	promote non-farm livelihoods under DAY-NRLM
The Rural Self Employment Training Institute (RSETI) scheme	skill and entrepreneurship training to strengthen rural entrepreneurship
Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)	a state-led, outcome-driven skilling program focused on rural youth, emphasizing sustainable employment, 3 rd party certification

Rural Governance: A story of digital transformations at the grassroots

- Rural governance serves as a foundation and multiplier for program-led impact and individual utilization of emerging opportunities.
- With a 200% rise in rural internet subscriptions (2015-2021), digitization of governance can reduce distance between villages and administrative headquarters leading to regional development. Multiple digitization initiatives have been taken for rural India:-

Digitization Initiatives in Rural India	
e-Panchayat Mission Mode Project	Enhances internal workflows of panchayats, online audits of panchayat accounts
e-Gram SWARAJ	create digital panchayats for rural India.
Bhu-Aadhaar	A 14-digit identification number (ULPIN) assigned to land parcels based on geographic coordinates.
SVAMITVA Scheme	provide 'Record of Rights' to rural household owners through mapping technology

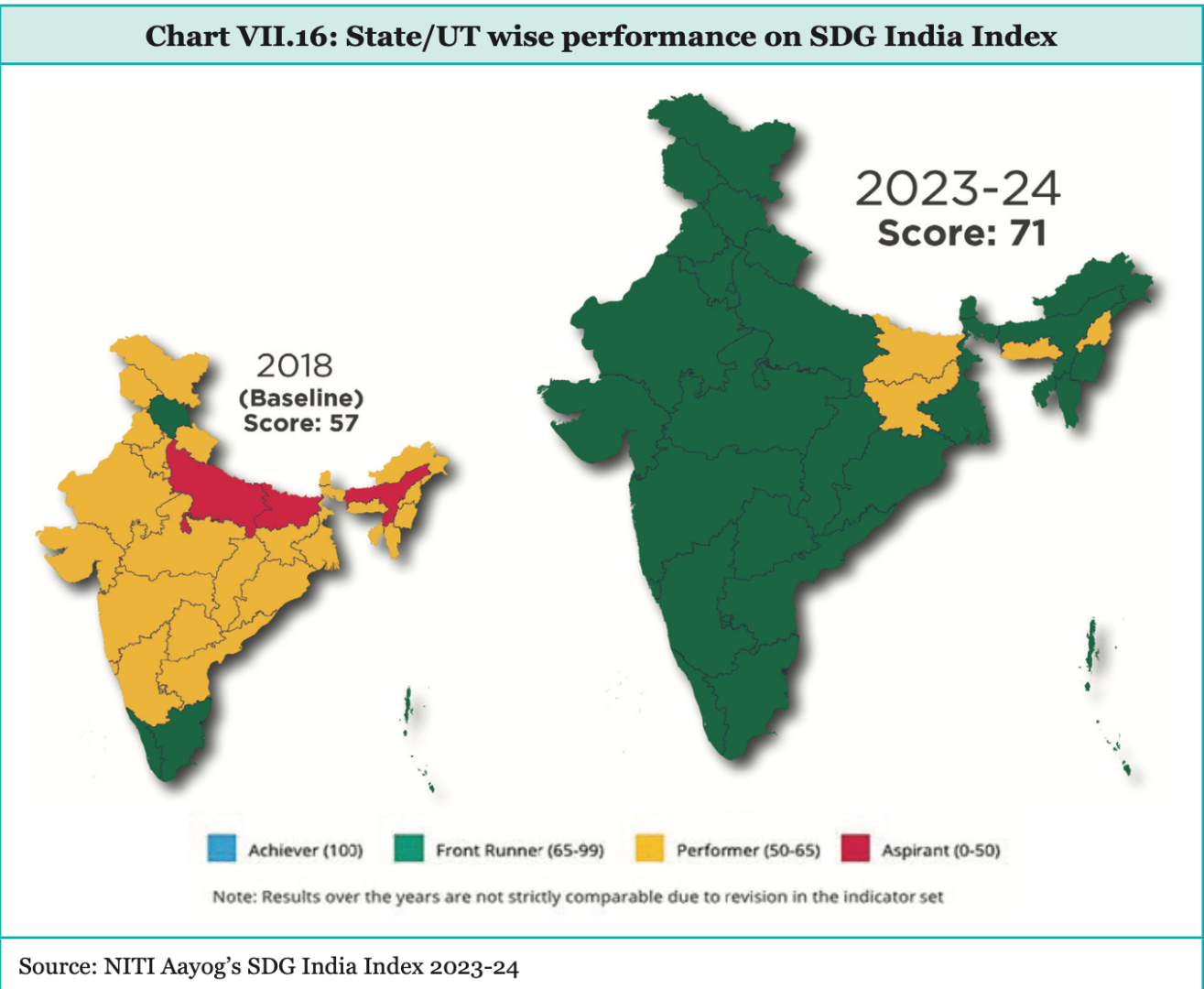
Towards Sustainable Development

- Government of India has been proactively embracing and adopting the **Sustainable Development Goals (SDGs)** to enhance citizen welfare and quality of life.

- According to **NITI Aayog's SDG India Index progress report**, India has made significant strides in achieving the SDGs despite global challenges.
- Since 2018, India has witnessed substantial progress across several key SDGs such as :-
 - Goal 1 (No Poverty)
 - Goal 3 (Good Health and Well-being)
 - Goal 6 (Clean Water and Sanitation)
 - Goal 7 (Affordable and Clean Energy)
 - Goal 9 (Industry, Innovation and Infrastructure)
 - Goal 11 (Sustainable Cities and Communities)

Performance of states and UTs on the Niti Aayog SDG India Index 2023-2024

- It showcases positive trend in the performance of States and UTs.
- This year 32 states and UTs have scored between 65-99 up from 22 in the 2020-21 edition.
- There are 10 new States and UTs in the Front Runner category
- Between 2018 and 2023-24, fastest moving States are Uttar Pradesh, followed by J&K, Uttarakhand Sikkim, Haryana etc.





Conclusion

- **Reformed welfare approach** has been adopted by Indian economy focusing on empowerment, efficient service delivery, and participation of private sector and civil society. **Saturation of basic necessities has been recognized as the first step for productive participation of every citizen in the economy.**
- **Digitization** in healthcare, education, and governance **enhances the efficiency** of welfare spending.
- NEP 2020 is expected to yield **Foundational Literacy and Numeracy** for every child passing the third standard in the near future.
- **Ayushman Bharat** is not only saving lives but also saving generations from the debt traps
 - In the age of social media and **the great rewiring of childhood**, ensuring mental health and well-being is intrinsically and economically valuable.
- **Although, Women-led development** is progressing in terms of social, economic and political empowerment, enhancing asset ownership is yet to be secured.
- To improve better quality of life to the hinterland, RSETI can be utilized as district hub of skill development and enterprise.
- Further, a scheme, however well-designed and noble in its formulation, is only as good as its implementation. To maximise efficiency of translating spending into outcomes, many channels at the ground level needs to be unclogged.
- **India has a lot to be content about and a lot to be impatient for.**

What does the Budget say?

Expenditure:

- **Social Welfare: 56,501 crores**
- **Education: 1,25,638 crores**
- **Health: 89,287 crores**
- **Rural Development: 2,65,808 crores**

Education:

- **Education Expenditure:** 1,25,638 crores
- **Loans upto 7.5 lakh** with a guarantee from a government promoted fund. Expected to help **25000 students** every year.
- **Higher education:** Financial support for loans **upto 10 lakh for higher education** in domestic institutions.
- **Direct e-vouchers** to 1 lakh students every year for **annual interest subvention of 3%.**

PM Package: Skilling Program

- **Budget theme:** Employment, **Skilling**, MSMEs, Middle Class.
- **20 lakh youth will be skilled** over a 5-year period.
- **1,000 Industrial Training Institutes** will be upgraded in hub and spoke arrangements with outcome orientation.
- **Course content & design** aligned as per skill needs of industry.

Women

- Budget focus on **4 Major castes:** Farmer, Poor, **Women**, and Youth.
- **Working Women Hostels:** facilitate participation of women in the workforce
- **More than ₹3 lakh crore** allocated for schemes benefitting women and girls.
- **Urban development:** encourages states to **lower stamp duties** for properties purchased by women.

Rural

- **Expenditure on Rural Development:** 2,65,808 crores
- **Rural Infrastructure: PMGSY (phase IV)** to provide **all weather connectivity** to 25,000 rural habitations.
- **Land: Unique Land Parcel Identification Number** or **Bhu-Aadhaar** for all lands.

Glossary

Terms	Meanings
Digital Public infrastructure	It is an infrastructure-based approach that uses technology to achieve societal goals through an ecosystem (comprising technology, markets and governance) built in the public interest
Social Infrastructure	It includes assets which provides for social services such as education, health, washing and sanitation facilities, housing, etc.
Dooms scrolling	It is an habitual and immersive scanning on social media for negative information
Out of pocket expenditure	It represents the expenditures borne directly by a patient when insurance does not cover the full cost of the health good or service
Household Consumption Expenditure Survey	It collects information on consumption of goods and services by the households

Chapter 7: Test Your Learning

MCQs

- Which of the following is the purpose of the Atal Pension Yojana (APY)?
 - Health insurance cover of ₹5 lakh/ year for underprivileged families
 - Affordable social security scheme
 - Subsidised medicines for critical illnesses
 - Telemedicine for virtual doctor consultations in remote areas
- Which of the following is the purpose of the Kasturba Gandhi Balika Vidyalaya scheme?
 - Residential schools for girls from disadvantaged groups
 - Scholarship to meritorious students from Economically Weaker Sections (EWS) to arrest their drop outs
 - One hot cooked meal for students of class 1-VIII in government and government aided schools
 - Accessibility of education for children with special needs
- Consider the following statements regarding the impact of the Ayushman Bharat scheme:
 - It aims to provide treatments at much lower costs compared to private options.
 - It provides for Health insurance cover of ₹10 lakh/ year for underprivileged families for secondary and tertiary hospitalization.How many of the above statements are correct?
 - Only 1
 - Only 2
 - Both 1 & 2
 - None
- Consider the following pairs:
 - SWAYAM - MOOC platform for online learning
 - SWAYAM PRABHA - DTH channels for online learning
 - PM e-VIDYA - Digital platform for school education by NCERTHow many of the above pairs are correctly matched?
 - Only one
 - Only two
 - All three
 - None

5. Which of the following schemes aims to address the underrepresentation of girls in various science and technology courses from 9th to 12th grades?
- (a) Vigyan Jyoti
 - (b) Beti Bachao, Beti Padhao
 - (c) Sukanya Samriddhi Yojana
 - (d) Nari Shakti Vandan Abhiniyam, 2023

Questions

- 1. India should transition from the approach of "women's development" to "women-led development" and "women-owned development". Comment. (250 words)
- 2. The great rewiring of children is causing an epidemic of mental illness and turning the present generation into "The Anxious Generation". Discuss the impact of social media on children and suggest measures to minimize the harm. (150 words)

MAINS 365 – SUMMARY OF ECONOMIC SURVEY



Lakshya Prelims & Mains Integrated Mentoring Program 2025

(A 15 Months Strategic Revision, Practice, and Mentoring Program for UPSC Prelims and Mains Examination 2025)

VisionIAS introduces the Lakshya Prelims & Mains Integrated Mentoring Programme 2025, offering unified guidance for UPSC aspirants across both stages, ensuring comprehensive support and strategic preparation for success

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- Emphasis on themes for Prelims & Mains with High-Scoring Potential
- Focus on Current Affairs & CSAT preparation through rigorous practice
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- Sandhan Personalised Test Series with an extensive collection of 15000+ questions
- Development of Advanced answer writing skills
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- Interactive Session with Toppers, Bureaucrats, and Educationists

Date	Duration	Medium	Mode
6 th AUGUST	15 Months	English & Hindi	Offline & Online

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Chapter 8: Employment and Skill Development: Towards Quality

Introduction

Employment is the crucial link between growth and prosperity. Generation of suitable employment opportunities, commensurate with the legitimate aspirations of India’s youth, is necessary to reap the country’s once-in-a-lifetime demographic dividend.

Chapter Precap

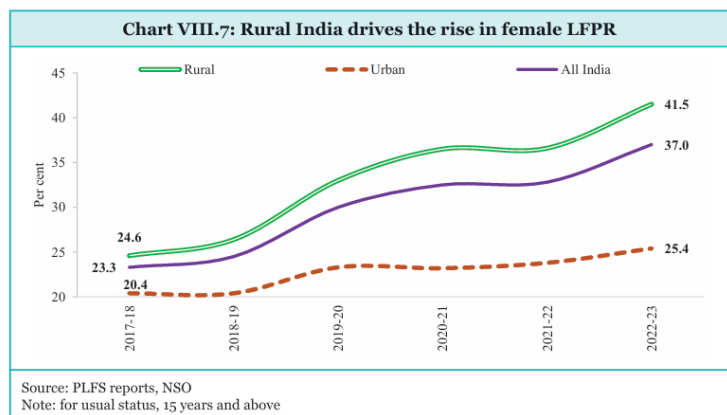
<p>Current Employment Scenario</p> <ul style="list-style-type: none"> Decreasing unemployment rate in India Rise in Female labor force participation rate Organized sector job market shows consistent rise Initiatives launched for job creation and labour welfare 	<p>Evolving Landscape of Jobs in India</p> <ul style="list-style-type: none"> Fourth Industrial revolution and climate impact on the job market Shift towards gig economy Requirement of jobs creation until 2026 Agro-processing potential
<p>Care Economy</p> <ul style="list-style-type: none"> Increasing need for a well-developed care economy The rising need for elderly care Opportunities for women in care economy 	<p>Developments and progress skilling</p> <ul style="list-style-type: none"> India must equip its young workforce with Industry 4.0 Various Initiatives for enhancing skilling Re-calibrating the apprenticeship framework

Current Employment Scenario

- Declining unemployment:** Periodic Labour Force Survey shows a declining annual unemployment rate since the COVID-19 pandemic, with a rise in the labour force participation rate & worker-to-population ratio.
 - Quarterly unemployment rate declined to 6.7% in March 2024.
- Workforce size:** India’s workforce is estimated to be nearly **56.5 crore in 2022-23** as per PLFS and MoHFW’s population projections.
- Workforce distribution:** According to PLFS, more than **45 % of the workforce is employed in agriculture**, followed by service (28.9%) and manufacturing (11.4 %).
 - 57.3% of the total workforce is self-employed** & Female workforce is shifting to self-employment. Casual labour comprises 21.8 % & salaried workers are 20.9 % of the total workforce.

Youth and Female Employment

- Rising youth employment:** According to PLFS, youth (age 15-29 years) unemployment rate has declined from 17.8 % in 2017-18 to 10 % in 2022-23.
 - Nearly **2/3rd of new subscribers in EPFO payroll are 18-28 years old.**
- Rise in Female labor force participation rate (FLFPR):** FLFPR has been increasing for 6 years, with a notable 16.9 % point rise in rural areas from 2017-18 to 2022-23.
 - This growth is attributed to factors like sustained agricultural output and improved access to basic amenities, freeing up women’s time.





- It also indicates women's increasing contribution to rural production.
- **Employment in Factories:** In 2021-22, smaller factories (employing less than 100 people) dominated with 79.2 % of all factories but provides employment to only 22.1 % of total persons employed. In contrast larger factories generate greater employment and pay better wages.
 - The food products industry (11.1 %) remained the largest employer, followed by textile.
- **Enrolment in EPFO:** The organised sector job market conditions measured by payroll data for EPFO indicate a consistent year-on-year (YoY) increase in payroll addition since FY19.
 - Yearly net payroll additions to EPFO more than doubled from 61.1 lakh in FY19 to 131.5 lakh in FY24.

Initiatives to Foster Job Creation and Workers' Welfare

Employment Generation

- **Production Linked Incentive (PLI) scheme:** To enhance India's manufacturing capabilities, increase capital expenditure, etc., and to promote worker welfare.
- **National Career Service (NCS):** Launched in 2015, NCS Portal offers employment and career services. By 31 March 2024, it has attracted 4.1 crore jobseekers and 25.6 lakh employers.
- **e-Shram portal:** National database of unorganized workers. It aims to integrate with other relevant portals of to facilitate access of different Central Government schemes to unorganised workers at one place.
- **Aatmanirbhar Bharat Rojgar Yojana (ABRY):** For Post-COVID employment boost with social security benefits. By 31 March 2024, the scheme benefited 60.5 lakh individuals.
- **Prime Minister's Employment Generation Programme (PMEGP):** Provide employment opportunities for artisans and youth.
 - The estimated employment generated is 37.46 lakhs.
- **Deendayal Antyodaya Yojana – National Urban Livelihoods Mission (DAY-NULM):** Aims to reduce poverty and vulnerability of the urban poor households by enabling them to access self-employment and skilled wage employment opportunities.
 - 5.48 lakhs are beneficiaries since 2018-19.

Social Security and Welfare

- **Pension schemes:** Atal Pension Yojana, launched in 2015, has more than 6.5 crore subscribers. More than 50 lakh workers have enrolled under Pradhan Mantri Shram Yogi Maan-Dhan scheme, in 2019.
- **Affordable insurance programmes:** Life and Disability cover is provided through Pradhan Mantri Jeevan Jyoti Bima Yojana and Pradhan Mantri Suraksha Bima Yojana of ₹2 lakh at an annual premium of ₹436 and ₹20 only.
- **New Labour Codes:** Four Labour Codes; namely, the Code on Wages, 2019, the Industrial Relations Code, 2020, the Code on Social Security, 2020 and the Occupational Safety, Health and Working Conditions Code, 2020; have been enacted.
- **PM Street Vendor's AatmaNirbhar Nidhi (PM SVANidhi):** 2020 to facilitate collateral-free working capital loans to street vendors has more than 64 lakh beneficiaries.
- **One Nation One Ration Card:** launched in 2019, has enhanced migrant workers' welfare by allowing portable food security across India.

Entrepreneurship and Skill Development

- **Pradhan Mantri Mudra Yojana (PMMY):** Its collateral free loans up to ₹10 lakh, are extended to micro/small business enterprises and to individuals to enable them to set up or expand their business activities. **47.7 crore loan sanctioned under it.**
- **Stand Up India (2016):** Provides loans to SC/ST and women entrepreneurs to start new businesses.
- **Start-Up India:** Department for Promotion of Industry and Internal Trade (DPIIT) recognised startups increased from over 300 in 2016 to 1,17,254, as on 31 December 2023.
- **Rural entrepreneurship programs:** DAY-NRLM, RSETIs.

Re-balancing Labour Regulations to promote employment

Introduction

- Current labour regulations have unintended adverse repercussions for both the general workforce and women specifically.

Regulations Inhibiting employment

- **Higher overtime wage premium:** Compared to peers and advanced economies potentially hindering the growth of the manufacturing sector.
- **Systematic barriers to job opportunities for women:** The 10 most populous states collectively impose 139 prohibitions on women from participating in factory processes such as electroplating, petroleum generation, manufacturing of products like pesticides, rechargeable batteries etc.
- **Welfare demand discourages growth:** India prescribes higher floor space per worker on a factory floor compared to other countries. Increases in space requirements can discourage the expansion of factories
- **Inflexibility in working hours:** limiting the monetizable time for Indian workers and affecting their families and the country's prosperity

Conclusion

The new Labour Codes marginally improve some of the observations above. However, the Codes are yet to be fully operationalized and many states are found to be reintroducing the older restrictions under the new Laws

The evolving landscape of Jobs in India

Technology, climate change efforts, and geopolitical shifts are reshaping jobs. The World Economic Forum's **Future of Jobs report** predicts **23% of jobs will change globally in the next five years**, with 69 million new jobs and 83 million job cuts, resulting in a net decrease of 14 million jobs.

Fourth industrial revolution (4th IR)

- The 4th IR characterized by new technologies like cyber-physical systems, IoT, big data, nanotechnology etc. is **transforming job markets in India and the rest of the world.**
- **The COVID-19 pandemic has accelerated demand in areas like big data, AI, cybersecurity,** etc. in which WEF predicts the fastest-growing jobs in the next five years.

Disruptions due to the adoption of AI

- While AI can **boost productivity**, it can **also disrupt certain sectors**, such as customer service, creative sectors, education, and healthcare, leading to automation.

Impact of Automation

- Automation may be **good or bad, depending on how we deploy** it, and the direction of the technology being implemented.
- **New technology can hurt labour interests** by reducing the marginal productivity of labour while **overall productivity may rise**, thereby leading to **substitution of labour by machines.**
- At the same time, automation can benefit labour in two ways.
 - If it significantly **increases marginal productivity of labour** in the right sectors thereby **increasing labour demand in non-automated tasks** or in industries producing complementary products, as in the case of jennies.
 - When automation is accompanied by creation of new tasks and increase in marginal productivity of labour in new activities like in the railways example (Acemoglu and Johnson 2023).
- According to IMF almost **40 % of global employment is exposed to AI** and about half of these may be negatively affected by AI. At the same time, the rest could benefit from enhanced productivity through AI integration.
- **Gradual diffusion of AI is expected to augment productivity.** i.e., Uses of AI to identify health risks out of digitalised health data, predict weather, and complementing teachers in grading tests etc.

Making the most of AI in India

- **AI Research:** India (23,398) published less than one-fourth of AI related research papers published by China (102,161) in 2019 indicate gaps in AI research in India.
- **Significant growth of AI in India:** In the agri-tech, industry & automotive, healthcare, BFSI and retail sectors in India. Ex- Praman Exchange, world's largest horticulture exchange.
- **Need well-defined strategic plan** to strengthen AI sector like US.
 - Research and Information System for Developing Countries (RIS) suggested that there is a need for an Inter-Agency Coordination Authority for AI.
- **Initiatives undertaken:** Future Skills Prime, 'YUVAi: Youth for Unnati and Vikas with AI', 'Responsible AI for Youth, India AI Mission etc.

Shift towards gig economy

- In India, gig economy is driven by **tech-enabled platforms, internet access, digital public infrastructure, flexible work arrangements, and a focus on skills.**
 - In 2020-21, **77 lakh workers were engaged in the gig economy**, constituting 1.5% of the total workforce. It is **expected to expand to 2.35 crore by 2029-30.**
- The **Code on Social Security (2020)** marks a significant advancement by expanding the scope of **social security benefits to encompass gig and platform workers.**

Climate change impact on Jobs

- Climate change is a pressing issue, with projections indicating an **increase in extreme weather events and potential job loss.**
- **Heat** is a health hazard, and **India is one of the most vulnerable countries to productivity losses** due to its high share of agricultural and construction employment and tropical latitude.
- Thus need **suitably designed policy support and private insurance products** to protect their health and incomes from the climate hazards.
 - An innovative pilot program by **Self Employed Women's Association (SEWA)** offers heat-linked parametric insurance for unorganized workers, providing partial wage payment when temperatures breach 43.60 C.
- **However India's green transition and clean energy initiatives potentially creating 3.4 million jobs by 2030.**

Requirement of Job Creation until 2036

- **Rise in workforce:** Estimated assuming constant WPR for men (54.4 % in 2023) and rising WPR for women (27.0 % in 2023 to 40.0 % in 2036).
- **Required Jobs in non-farm sector: Needs to generate an average of nearly 78.5 lakh jobs annually until 2030** in the **non-farm sector** to cater to the rising workforce.
- **Structural transformation:** it is assumed that the share of agriculture in workforce gradually declines from 45.8 per cent in 2023 to one-fourth in 2047.

Flexi job market in India

- India employs **5.4 million** formal contract staff or flexi workers through contract/temporary staffing companies.
- Most contract/flexi jobs in India continue to happen at the **lower end of skill spectrum** such as **data operations, accounts, sales, back-end operations.**
- Flexi workforce has grown at a **CAGR of 13.2 % in decade** ending 2023. However, as a share of total workforce, contract staffing workforce is about 1 % only, compared to 2.2 % in Europe and Asia Pacific.

Agro-Processing as a Promising Sector for Rural Employment and Growth

Introduction

The agro-processing sector offers numerous opportunities for rural growth and serves as an intermediate for the farm-to-factory transition, making it suitable for job creation in India.

Significance of Agro-Processing

- **Demand for Rural Jobs:** Agro-processing can increase productivity, accelerate crop diversification, and offer numerous opportunities for jobs and rural growth.
- **Low value-addition in agriculture:** India's food processing level is 4.5% for fruits, 2.7% for vegetables, 21.1% for milk, 34.2% for meat, and 15.4% for fishery, compared to 30% in China.
- **Rising demand for diverse and local food products:** The Indian food processing market is expected to reach USD535 billion by 2025, growing at a CAGR of 15.2%.
- **Presence of precedents:** Numerous successful agro-processing examples, including Sahyadri Farmer Producer Company in Maharashtra, Araku Coffee plantations in Andhra Pradesh etc.
- **Avenues for captive demand of agro-processed output:** Local units supply mid-day meals in schools, while agglomerations boost health consciousness and local sentiment.
- **Convergence of multiple existing programmes:** The sector can benefit from utilising the synergies between Mega Food Park, Skill India, Mudra, one district-one product, etc., for labour, logistics, credit, and marketing.

Way Forward

India, being an agriculturally gifted country, can utilise the range of products on offer by its different agro-climatic zones and productively engage the sizeable rural workforce in the sector.

Caring Our Way to Growth: The Necessity and Prospects of a Well-Developed Care Economy in India

Introduction

The care economy holds the potential for economic growth and well-being, particularly in India, which has both demographic and gender dividends to reap. It **promotes gender equity, human development, and economic growth** by filling the efficiency gap in human resource allocation. Long-term benefits and solutions are explored.

Defining care work - the first step to acknowledging care as 'work'

- Care work consists of **activities and relations involved in meeting the physical, psychological, and emotional needs of adults and children**, old and young, frail and able-bodied (ILO).
- Care work falls into two categories:
 - **Unpaid or underpaid work:** caregiving and providing social support is often performed within households i.e., childcare, eldercare, domestic work, etc.
 - **Paid care work:** involves labour performed by nurses, caregivers, etc., for remuneration.

Increasing need for a well-developed care economy

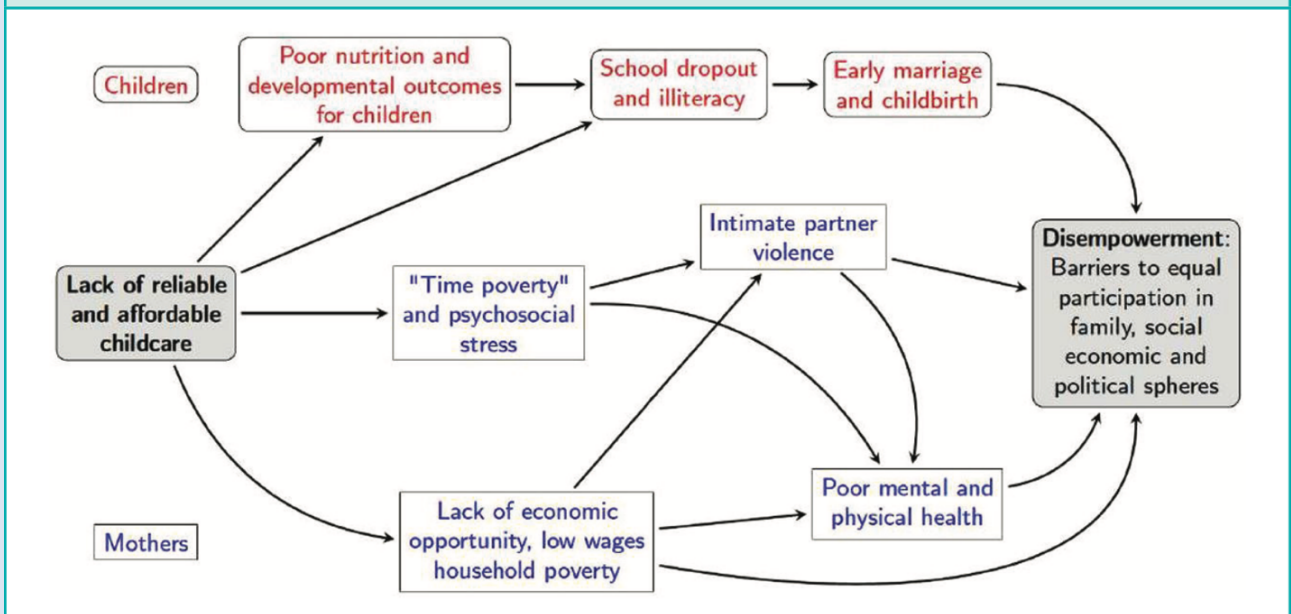
- **Demographic transition:** Currently, a quarter (36 crore) of the population is under 14, while one-tenth (14.7 crore) is over 60. By 2050, under 14 population is estimated to decline (30 crore persons), elderly population would be 34.7 crore. Compared to 50.7 crore persons in 2022, the country would need to care for 64.7 crore persons in 2050.
- **Equal opportunity for females – decoupling gender and unpaid care work:** Development of a care economy can increase FLFPR by providing equal opportunities for paid work, particularly for women.
 - **Women bear the disproportionate burden of unpaid care work**, which contributes to low FLFPR globally, including in India.

- **Working-age women in India spend 5.6 hours per day (Men 30 min) on unpaid work.**
- **Double Burden:** Even women in paid employment spend nearly 6X time on unpaid care work compared to men, culminating in ‘double burden’.
- **Motherhood Penalty:** The impact of childbearing and childcare is found to have a significant cost on women’s careers, termed the ‘motherhood penalty’
- **Economic potential:** Investments in care services sector are estimated to generate 475 million jobs globally by 2030. In the case of India, direct public investment equivalent to 2 % of GDP has the potential to generate 11 million jobs, nearly 70 % of which will go to women.

Case Study: Multidimensional Impact of Creches

- **Study in Mexico:** Availability of public childcare services in Mexico had a dual effect on the involvement of women in the labour force.
 - First, low-income mothers received assistance in finding paid employment. Second, the initiative created some 45,000 paid positions for caregivers and their assistants.
- **Study in India:** The study in India found a positive impact of quality creche facilities on women’s well-being, income, child well-being, and relationships with family members
 - **Government Programme:** Revamped Palna scheme for crèches, **Anganwadi-Cum-Crèche initiative etc.**

Chart VIII.27: Impact of lack of access to childcare: A conceptual model



Senior care reforms in India: Reimagining the senior care paradigm

Introduction

As per Asian Development Bank’s **Ageing Well in Asia**’ report India’s aging population is expected to rise from 20% in 2022 to 30% by 2050, necessitating early discussions on senior care to develop a future-ready elderly care policy.

The rising need for elderly care

- Significant portion of the elderly population suffers from chronic diseases, functional limitations, depressive symptoms, and low life satisfaction.
- As the elderly population is increasingly female and residing in rural areas, feminisation and ruralisation of the elderly are linked with poverty, dependency, and loneliness.

Recommendations of India Ageing Report 2023

- Including relevant questions in the National Sample Survey, the National Family Health Survey, and the Census of India to inform evidence-based policymaking.
- Increasing awareness about existing schemes for older persons.
- Emphasising the importance of elderly people living in multigenerational households.
- Encouraging in situ (at home) ageing as much as possible by creating short-term care facilities like creches or day-care facilities.

Examples of innovative solutions for elderly care

- **Tata-funded start-up Goodfellows:** It hires young people called “grandpals” having emotional intelligence and empathy to interact with lonely senior citizens.
- **Vedanta’s comprehensive parenthood policy** of 12 months sabbatical for new mothers and flexible working hours after maternity leave by Vedanta Ltd.,
- Provision of full-time childcare to 3639 children up to the age of six for children of informal women workers under the Sangini Model of the SEWA.

Need for a wholesome policy for elderly care

- **India's elderly care sector is underdeveloped.** Despite its size (USD 7 billion), it lacks infrastructure, research, and emergency services. A comprehensive policy is needed to address these gaps.
- **Older workers can boost the economy.** Employing people aged 60-69 could increase GDP by 1.5% in Asian countries. Creating age-friendly jobs and promoting lifelong learning can help older people contribute to the workforce while also improving their quality of life and reducing care needs.

Suggestions for Building a Better Care Ecosystem

- **Set up Sector Skill Council for Care Services:** To help develop a skill training framework for the care sector, formulate skilling modules etc.
- **Public-private partnerships (PPP):** Could play a significant role in building the care infrastructure, especially institutions for childcare and the elderly.
- **Institutional oversight and continuous monitoring:** To ensure that the infrastructure is well-maintained and care services are satisfactory.
- **Collaboration with community-based and civil society organisations:** To address operational issues with the care infrastructure and financial constraints.
- **Other:** Subsidising care services, Generating awareness about crèches, Developing innovative business models, Rating systems of creches and elderly homes etc.

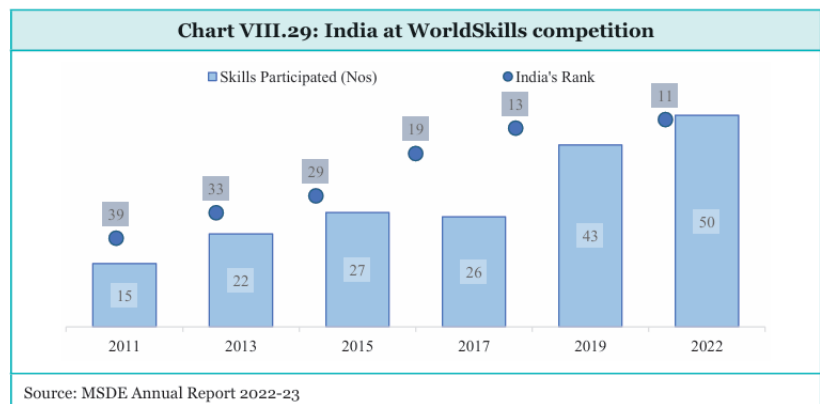
Conclusion

By providing care services, women can participate more fully in the workforce, boosting economic growth. Thus, India needs policies promoting affordable, accessible care services and encouraging shared parental responsibilities.

Developments and Progress in Skilling

Introduction

In order to reap the demographic advantage, India must equip its young workforce with Industry 4.0 skills to compete globally. Accordingly, several Measures are being taken by Government to translate India’s demographic dividend into a productivity dividend by enhancing skill.



Progress of Skilling

- Over the period, there is a significant improvement in the proportion of skilled people.
- According to the Periodic Labour Force Survey (PLFS) report 2022-23, **4.4% of Indian youth (15-29) received formal vocational training**, while **16.6% received informal training**.
- The across-the-board progress in skilling has manifested in **India's rising position in WorldSkills Competitions**, held every two years. (Refer Infographic).

Various schemes for skilling

Schemes under Ministry of skilling	Aim/objective	Progress
Pradhan Mantri Kaushal Vikas Yojana (PMKVY)	<ul style="list-style-type: none"> • Free short-duration skill training and certification 	<ul style="list-style-type: none"> • Since its launch in 2015, 1,42,67,888 persons have been trained. • Participation of women among those trained has increased from 42.7 % in FY16 to 52.3 % in FY24.
Craftsmen Training Scheme at Industrial Training Institutes (ITIs)	<ul style="list-style-type: none"> • Vocational training through a network of 14,955 it is 	<ul style="list-style-type: none"> • 1.24 lakh persons enrolled in long-term training between 2014 and 2023. • Women participation has gone up from 9.8 per cent in FY16 to 13.3 per cent in FY24.
Jan Shikshan Sansthan (JSS)	<ul style="list-style-type: none"> • For skilling of non/neo literates and persons with a rudimentary level of education 	<ul style="list-style-type: none"> • From FY19 to FY24, 26,36,769 persons have been trained, and 24,94,807 persons have been certified.
National Apprenticeship Promotion Scheme (NAPS)	<ul style="list-style-type: none"> • To promote apprenticeship training by reimbursing a partial stipend 	<ul style="list-style-type: none"> • 32.38 lakh apprentices engaged between FY17 and FY24. • Participation of women has increased from 7.74 per cent in 2016-17 to 20.77 per cent in 2023-24.
Skill India Digital Hub platform Convergence platform	Facilitating access to skilling, employment etc. through AI/ ML technology	Registration of 60 lakh learners and 8.4 lakh app downloads .

International Collaboration

G2G MoUs	<ul style="list-style-type: none"> • MoUs with 8 countries i.e., Australia, Denmark, France, Germany, Japan etc, for cooperation in Mutual Recognition of Qualifications, etc
Skill India International Centres (SIIC)	<ul style="list-style-type: none"> • Budget FY24 announced the setting up of 30 SIICs • Two centres at Varanasi and SDI Bhubaneswar have been made operational
NSDC International Limited	<ul style="list-style-type: none"> • Drives the Skill India International Mission focusing on priority sectors such as Information Technology, Construction, Hospitality, etc.

Targeted Skilling beyond MSDE Schemes

Jal Jeevan Mission	<ul style="list-style-type: none"> • Overall guidance and coordination of the multi-skilling course by MSDE.
PM Vishwakarma	<ul style="list-style-type: none"> • Central Sector Scheme launched in 2023, for recognition, skill upgradation, collateral free credit and marketing support to traditional artisan/craftsperson working with traditional tools. • 18 trades such as tailors, barbers, masons, carpenter, etc. are covered under Scheme. • 4.37 lakh candidates have been trained/undergoing training under the programme.

Green Hydrogen	<ul style="list-style-type: none"> Development of 50 new short-term qualifications for skilling, upskilling and re-skilling.
PM-JANMAN	<ul style="list-style-type: none"> Entrepreneurship and Skill Development, capacity building and handholding of identified PVTG beneficiaries.
Special Skill Provisions for Agniveers	<ul style="list-style-type: none"> Skill certification of Agniveers to ensure employment opportunities in industries after service of 4 years.

Partnering with industry for skilling

- Industry connection is crucial to any large-scale skilling programme, **enabling contemporary relevance and employability** and ascertaining demand to **absorb the newly skilled workforce**.
- Initiatives Undertaken to Partner with Industry**
 - NSDC partnerships:** Over 3.1 lakh people trained through 62 corporate tie-ups.
 - Skill Impact Bond:** Leveraging private funds for skill development, job placement, and retention, targeting 50,000 youth, with a focus on women.
 - DGT initiatives:** Flexi MoUs with industry, Dual System Training, and IT collaborations for Industry 4.0 readiness.

Re-calibrating the apprenticeship framework
 Learning while doing is considered the best way to **bridge the gap between theory and practice**, and is known as apprenticeship or internship in knowledge-based professions.

Significance

- Help people **transition from informal work to formal employment** or from **academics to the workplace**.
- It can **bridge the skills gap** and **improve vocational students' employability**.

Challenges

- Lack of **coordination between education institutions and industry**.
- Inadequate infrastructure**, and regulatory gaps.
- Negative perception** of vocational training as inferior to academic education.

Way Forward

- Need **flexibility in work hours, compensation**, and disengagement, emulating **Swiss and German models**.
- Minimizing government agencies' role** and Operationalizing matching opportunities and demand at local levels.
- Focusing on **effective implementation through awareness raising, industry incentives** etc.

Way Forward

- Formalization and Social Security:** Formalising a burgeoning workforce, and ensuring social security benefits for those in regular wage/salaried employment.
- Job Creation:** Creating jobs in sectors that can absorb workers from agriculture remains a challenge.
- Remove State-Level Barriers:** State governments need to ease business regulations and land reforms to facilitate job creation.
- Agro-Processing:** Despite its potential, the agro-processing sector requires a focused, national-level approach.
- AI and Automation:** The impact of AI on jobs requires careful management to ensure shared prosperity.
- Care Economy:** Developing infrastructure for childcare and elder care is crucial for increasing female labor force participation.
- Corporate Responsibility:** Businesses need to balance profit maximization with employment generation and fair distribution of income.
- Skill Development:** A market-based approach to skill development is essential, with government support for removing regulatory hurdles.

What does the Budget say?

Expenditure

- It allocated ₹1.48 lakh crore for employment and skilling initiatives in Budget 2024.

Initiatives Announced

- Prime Minister’s Package of 5 Schemes and Initiatives for employment, skilling and other opportunities for 4.1 crore youth over a 5-year period.
 - Scheme A - First Timers:** One-month salary of up to ₹15,000 to be provided in 3 installments to first-time employees, as registered in the EPFO.
 - Scheme B - Job Creation in manufacturing:** Incentive to be provided at specified scale directly, both employee and employer, with respect to their EPFO contribution in the first 4 years of employment.
 - Scheme C - Support to employers:** Government to reimburse up to ₹3,000 per month for 2 years towards EPFO contribution of employers, for each additional employee.
 - New centrally sponsored scheme for Skilling**
 - 20 lakh youth to be skilled over a 5-year period.
 - 1,000 Industrial Training Institutes to be upgraded in hub and spoke arrangements.
 - New Scheme for Internship in 500 Top Companies** to 1 crore youth in 5 years
- To facilitate higher participation of women in the workforce,
 - working women hostels and crèches to be established with industrial collaboration
 - women-specific skilling programmes to be organized
 - market access for women SHG enterprises to be promoted
 - The Model Skill Loan Scheme** will be revised to facilitate loans up to ₹7.5 lakh, with a guarantee from a government promoted fund. This measure is expected to benefit 25,000 students annually.

Glossary

Term	Meaning
worker-to-population ratio	• An important economic indicator that measures the proportion of a country's working-age population that is employed.
labour force participation rate	• The percentage of the working-age population that is either employed or actively seeking employment.
Fourth Industrial Revolution	• Refer to the current era of connectivity, advanced analytics, automation, and advanced-manufacturing technology that has been transforming global business for years.
Motherhood penalty	• Describes how mothers suffer severe wage and hiring disadvantages in the workplace.
Gig economy	• Refers to a labor market characterized by short-term contracts, freelance work, and temporary positions, as opposed to permanent, full-time jobs.

Chapter 8: Test Your Learning

MCQs

- The report ‘Ageing Well in Asia’ is published by which of the following ?
 - World Economic Forum
 - World Bank
 - Asia-Pacific Economic Cooperation
 - Asian Development Bank



2. Consider the following statements about factories in India:
1. In 2021-22, factories employing less than 100 people constituted nearly 80% of all factories.
 2. Larger factories tend to generate more employment and offer higher wages compared to smaller ones.
- Which of the above statements is/are correct?
- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
3. Consider the following statements regarding labor force trends in India:
1. The majority of new subscribers to the Employees' Provident Fund Organisation (EPFO) are youth between 18-28 years of age.
 2. The Female Labor Force Participation Rate (FLFPR) has shown a consistent increase over the last six years.
 3. The rise in FLFPR in rural areas is primarily due to increased industrial development and job creation.
- How many of the statements given above is/are correct?
- (a) Only one
 - (b) Only two
 - (c) Only three
 - (d) None
4. Consider the following pairs.
- | Scheme/Initiative | Feature/objective |
|---------------------------------|---|
| 1. Pradhan Mantri Mudra Yojana: | Provides loans skill enhancement |
| 2. Stand Up India: | Collateral-free loans up to ₹10 lakh for micro/small businesses |
| 3. Start Up India: | Provides loans to SC/ST and women entrepreneurs. |
- Which of the above statements is/are correct?
- (a) 1 only
 - (b) 1 and 2 only
 - (c) 1, 2 and 3
 - (d) None of the above
5. The PM Vishwakarma scheme, launched in 2023, is primarily aimed at:
- (a) Providing subsidies to large-scale industries
 - (b) Supporting traditional artisans and craftspersons
 - (c) Promoting modern manufacturing techniques
 - (d) Encouraging exports of handmade products

Questions

1. Care work is often invisibilized and undervalued. In the Indian context, discuss the potential of developing a care economy in achieving gender equality and economic growth.
2. Climate change and technological advancements are reshaping the global job landscape. In the context of it discuss the challenges and opportunities arising from this dual transformation.

Chapter 9: Agriculture and Food Management: Plenty of Upside Left If We Get It Right

Introduction

About **89.4%** of farm households own less than 2 hectares of land. The country is the **second largest producer in rice, wheat, cotton**, among other crops, and the **largest producer of milk, pulses and spices**. However, the crop yields in the country are much lower than the other major producers

Chapter Precap

Current status

- **Agriculture**
 - **Livelihood:** Supports **42.3%** of the population.
 - **GDP Contribution:** Accounts for **18.2%** of India's GDP at current prices.
 - **Growth Rate:** Averaged **4.18% per year** over the last five years.
 - **Food grain Stock:** 40% India's food stock is distributed free to two-thirds of the population.
 - **Exports:** More than 7% of food grains are exported.
- **Allied Activities**
 - **Livestock:** Share in agriculture GVA increased from 24.38% in 2014-15 to 30.23% in 2022-23.
 - **Fisheries:** Share in agriculture GVA rose from 4.44% in 2014-15 to 7.25% in 2022-23.
 - **Performance:** Both outperformed traditional crops like cereals

Chart IX.1: Growth of agriculture and allied sectors



Source: National Statistical Office (NSO) M/o Statistics & PI

Initiatives taken

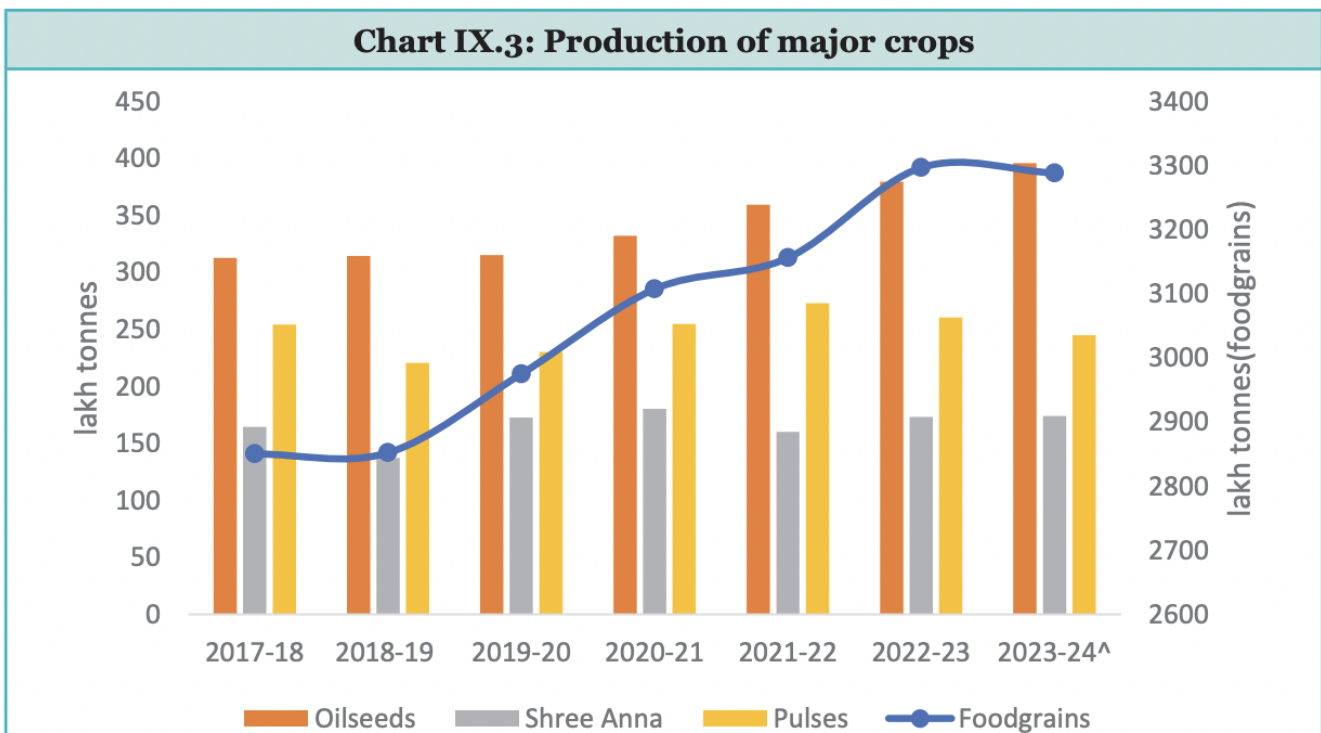
- **Agriculture**
 - **Minimum Support Price (MSP):** In 2018-19 decision was taken to fix **MSP at one and half times the all-India weighted average cost of production**.
 - **Pradhan Mantri Kisan Samman Nidhi (PMKISAN):** Gives the farmer a direct financial benefit of ₹6000/- per year.
 - **Digital Agriculture Mission:** To facilitate the adoption of **smart agriculture technologies**.
 - **e-National Agriculture Market (e-NAM):** Allows better price discovery.

- **Allied sector**
 - **Infrastructure Development Fund (FIDF):** Access to institutional credit, and infrastructure development:
 - **Pradhan Mantri Matsya Sampada Yojana (PMMSY):** Strengthening fisheries infrastructure, enable technology infusion and promote optimal water management.
 - **Other initiatives:** Rashtriya Gokul Mission (RGM), National Digital Livestock Mission (NDLM), and National Programme for Dairy Development (NPDD).

Agriculture Production: Performance and Promoting Crop Diversification

Performance

In 2022-23, foodgrain production hit an all-time high of 329.7 million tonnes, and oilseeds production reached 41.4 million tonnes.



[^]As per third advance estimates

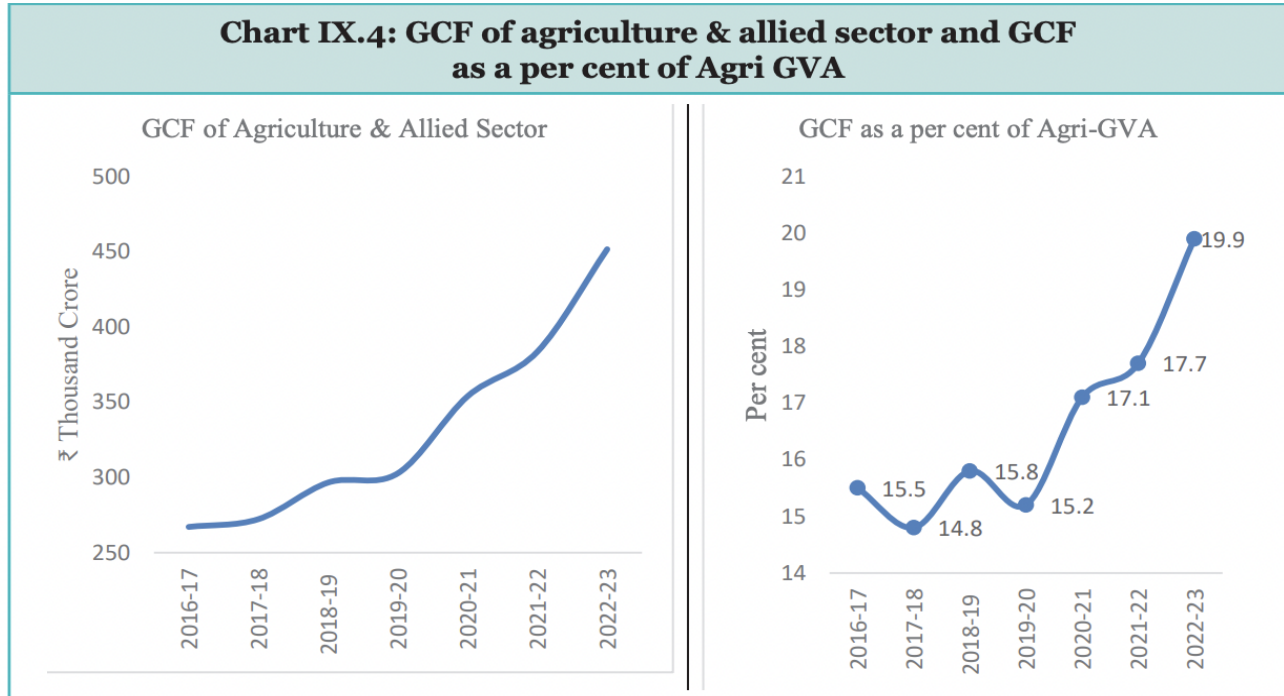
Source: Ministry of Agriculture and Farmers Welfare

Promoting Crop Diversification

- **MSP for pulses and Anna shree:** MSP for pulses and oilseeds has seen a significant rise, with lentils (masur) receiving the highest increase at 89% above production costs for 2023-24.
 - Coarse Anna Shree or cereals/millets like bajra had an MSP 82% above production costs.
- **National Food Security Mission- Oilseeds & Oil Palm (NFSM-OS&OP):** Aims to boost vegetable oil availability through better productivity and expanded cultivation.
 - **Total Area Coverage of All Oilseeds:** Increased by 17.5% from 25.60 million hectares (2014-15) to 30.08 million hectares (2023-24).
 - **Domestic Edible Oil Availability:** Rose from 86.30 lakh tonnes (2015-16) to 121.33 lakh tonnes (2023-24).
 - **Import Share:** Decreased from 63.2% (2015-16) to 57.3% (2022-23).

Promoting Investment and Access to credit in Agriculture and allied sectors

- Rising Public Investment:** The **Gross Capital Formation (GCF)** in the **agriculture** sector and its share as a percentage of **Gross Value Added (GVA)** have been **growing steadily due to increased public investment**.
 - In **2022-23**, the **GCF grew by 19.04%**, and its share of GVA rose from 17.7% in 2021-22 to 19.9% in 2022-23.



Source: Second Advance Estimates of National Income, National Statistical Office (PIB Press release (various issues Office

- Subsidies:** Subsidies have greatly impacted farmer practices, promoting better seeds, correct fertilizer use, and access to farm machinery.
 - From **2011-12 to 2020-21**, **agricultural subsidies more than doubled**, with the biggest increases in fertilizer and power.
 - Public investments** grew at the same rate as subsidies but **remained about one-third of the total subsidy amount**.

Key Initiatives

- Initiatives to crowd in private investments**
 - Agriculture Marketing Infrastructure (AMI):** Since 2014, the government has been implementing the Agriculture Marketing Infrastructure (AMI) sub-scheme under ISAM, providing capital subsidies to improve storage infrastructure.
 - ✓ This **demand-driven, credit-linked scheme offers 25% subsidies in plains and 33.33% in North-East** and hilly regions to **individuals, farmers, FPOs, cooperatives, and state agencies**.
 - Agriculture Infrastructure Fund (AIF):** Launched with a financing facility of ₹1 lakh Crore to be disbursed between FY 2020-21 to FY 2025-26 with support extending till FY 2032-33.
 - ✓ The AIF **provides medium-term debt financing for post-harvest management and community farming projects**, offering interest subvention and credit guarantee support.
 - Pradhan Mantri Kisan SAMPADA Yojana (PMKSY):** Introduced **credit-linked financial assistance through grants-in aid** to build efficient supply chain management from farm to retail to reduce the wastage of perishable produce.



- **Affordable credit:** Government measures have reduced the **share of non institutional credit from 90% in 1950 to 23.40% in 2021-22.**
 - **Kisan Credit Card (KCC):** KCC was extended to meet the working capital needs of fisheries and animal husbandry activities in 2018-19 in addition to agricultural farmers.
 - ✓ Also, the **limit for collateral-free loans** was enhanced to **₹1.6 lakh**. In the case of a Tri-Partite Agreement (TPA) among borrowers, milk unions, & banks, the collateral-free loan **can go up to ₹3 lakh**
 - **Pradhan Mantri Fasal Bima Yojana (PMFBY):** PMFBY is the **largest crop insurance scheme in the world** in terms of farmer enrolment and is the third largest scheme in terms of insurance premiums.
 - ✓ The scheme was launched to ensure **comprehensive risk cover for crops against all non-preventable natural risks** from pre-sowing to post-harvest.

Recent technology interventions in PMFBY

- **Digi-Claim-Payment Module:** Launched to integrate the National Crop Insurance Programme (NCIP) with public financial management system (PFMS) end-to-end
- **Yield Estimation Based on Technology (YES-Tech):** A technology-based yield estimation mechanism
- **Weather Information Network & Data System (WINDS):** It is a pioneering initiative to set up a network of **Automatic Weather Stations & Rain Gauges at Taluk/ Block and Gram Panchayat (GP)** levels for use of all farmer and farming-oriented services.
- **Collection of Real-time Observations and Photographs of Crops (CROPIC):** Collect periodic crop photographs throughout their life cycle to validate sown and insured crops, assess damage from calamities, and support technology-based yield estimation models.

Futures market for agriculture commodities in India

The establishment of a forward market in commodities was driven by the recognition that while **agricultural production is seasonal and risky, consumption is constant**. Futures markets **help stabilize prices and manage risks**.

Key initiatives

- **Setting up national exchanges:** The setting up of national exchanges in 2003 which includes
 - National Commodity and Derivative Exchange (NCDEX),
 - Multi Commodity Exchange (MCX), and
 - National Multi Commodity Exchange (NMCE)
- **Regulatory changes:** In 2015:
 - **Forward Contracts Regulation Act (FCRA), 1952 repealed.**
 - **Commodity derivatives markets** were brought under the **Securities Contracts (Regulations) Act (SCRA), 1956.**
 - **SEBI** took over from the Forward Market Commission as the **commodity market regulator**
- **Electronic online marketplace:** e-NAM was introduced by the Gol in 2016. e-NAM Integrates local markets links buyers and sellers, and ensures transparent price discovery.
- **Expansion of commodities eligible for derivatives trading:** The list of commodities for derivatives trading expanded from **91 to 104**.
 - New commodities include apples, cashews, garlic, skimmed milk powder, white butter, processed timber, and bamboo products.

Challenges

- **Farmer Participation**
 - **Most Indian farmers are small-scale** and cannot effectively participate.
 - Standardized contracts with **specific quality and delivery requirements** hinder farmer participation due to the diverse varieties and qualities of produce from different regions.
- **Periodic Trading Bans:** The government's ban on futures trading to counter food inflation affects traded value and price volume in commodity exchanges.

Way Forward

- **Market Development:** As the market deepens and liquidity increases, banning futures trading may become unnecessary. Regular reviews by the regulator are needed to monitor market fluctuations and impacts.
- **Excluding Sensitive commodities:** The 2008 **Abhijit Sen Committee Report** suggests identifying commodities where futures trading might influence inflation and keeping these essential items out of futures markets.
 - **Sensitive commodities** (e.g., common rice, wheat, most pulses, etc.) may be kept outside the ambit of the futures market until the markets are developed.
 - The agriculture futures market may **focus on less sensitive commodities** like oilseed complex (oilseeds, meals, and oils), feed (maize), cotton, basmati rice, spices, etc.
- **Leveraging FPOs:** Farmer Producer Organisations (FPOs) can play a significant role in effectively linking small and dispersed farmers in India and the Commodity markets eco-system.
 - **Skilling and hand-holding the FPOs** through financial literacy initiatives can go a long way in encouraging the farmers to benefit from the Agri-derivative markets.

Making Agriculture Sustainable

Climate change is projected to reduce wheat yield by 19.3% in 2050 and 40% in 2080 scenarios. Without adaptation:

- Rainfed rice yields may drop by 20% by 2050 and 47% by 2080.
- Irrigated rice yields may reduce by 3.5% by 2050 and 5% by 2080

Key initiatives

- **Irrigation**
 - **National Mission for Sustainable Agriculture (NMSA):** Part of the National Action Plan on Climate Change (NAPCC), NMSA aims to make Indian agriculture resilient to climate change.
 - ✓ **Rainfed Area Development (RAD)** was launched under NMSA to enhance productivity and minimize climate-related risks.
 - **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY):** To promote the extension of areas under irrigation and water efficiency. Consists of two major components, the Accelerated Irrigation Benefit Programme (AIBP) and Har Khet Ko Pani (HKKP).
 - ✓ **Irrigation coverage increased** from 49.3% in 2015-16 to **55% in 2020-21**.
 - ✓ **Irrigation intensity** rose from 144.2% in 2015-16 to **154.5% in 2021-22**.
 - **Micro Irrigation Fund (MIF):** Initial corpus of ₹5,000 crore created with NABARD. Supports states in **expanding micro irrigation**.
 - ✓ **90 lakh hectares covered** under micro irrigation from 2015-16 to 2023-24.
- **Fertiliser Optimisations**
 - **PM-PRANAM:** Incentivises states to reduce chemical fertiliser use.
 - ✓ 50% of the chemical fertilizer subsidy saved by a state in a financial year, compared to the average of the previous three years, will be passed on to that State/UT as a grant.
 - **Other initiatives:** Soil Health Card Scheme and introduction of 'Urea Gold (urea infused with sulphur to address sulphur deficiencies)'.
- **Organic and Natural Farming**
 - **Sikkim became the first state** in the world to become fully organic, and other states, including Tripura and Uttarakhand, have set similar targets.
 - **Paramparagat Krishi Vikas Yojana (PKVY):** Being implemented in a cluster mode (with a minimum of 20 ha size). Financial assistance of ₹31,500 per ha for three years, out of which ₹15,000 is given as an incentive for organic inputs provided directly through DBT.
 - **MOVCDNER:** Mission Organic Value Chain Development for North Eastern Region (MOVCDNER) since 2015 through cluster/ FPO formation.

Fertiliser subsidy in India

Fertiliser consumption in India is imbalanced. **Urea** dominates nitrogenous fertilisers, making up over **82%** of the nitrogenous fertilisers applied to the majority of the crops. **NPK ratio** widened from 4:3.2:1 (2009-10) to **7:2.8:1 (2019-20)**.

Current Subsidy Design

- GOI allocates fertilisers based on each **state's Recommended Dose of Nutrients (RDN)**.
- The **States**, in turn, **sell the fertiliser to the farmers to farmers via dealers and Primary Agriculture Cooperative Societies (PACS)** using POS devices.
- **Based on the quantity of fertilisers sold to farmers** fertiliser subsidies are paid to the fertiliser companies the Department of Fertilisers pays.

Issues with the Current design of fertiliser subsidy in India

- **Lack of Integration with Land Records with PoS devices:** Any person having an Aadhaar, whether a farmer or not, can buy any quantity of fertilisers
- **No Purchase Limits:** No limit on the sale of fertiliser to one person or one family
- **Other issues:** Diversion of subsidised fertiliser for non-agriculture purposes, overuse of fertilisers, **waste of public resources** and health hazards.

Way Forward

- **Agri Stack:** Using Agri Stack to improve the targeting of fertiliser subsidy.
- **E-RUPI:** A seamless one-time payment mechanism can be utilised to provide the necessary subsidy to the farmer directly. This system ensures that the Subsidy can only be used through registered PoS devices at authorised fertiliser outlets.
- **Other key reforms:**
 - **Integration of PoS** devices with farmer's registry in Agri Stack and the farmer's registry will include the Aadhaar number of each farmer, details of all agricultural lands owned by the farmer as per Record of Rights (RoR),
 - **Dynamic land ownership** updates via mutation module.
 - **Future integration** of digital crop survey data.
 - **Dynamic updation of land ownership data** through the mutation module. Crop sown registry based on digital crop survey to be integrated at a later stage.

Cooperative Societies- Empowering farmers by strengthening communities

Cooperatives are **vital in aggregating produce, enhancing bargaining power, and ensuring better market access** to small and marginal farmers, thereby preventing exploitation by middlemen and traders. This was seen in the case of the dairy cooperative's movement, which focused on small rural producers (those with 1-2 hectares of land holding).

Key initiatives

- **New Multistate Cooperative Societies:** At the national level, under the Multistate Cooperative Societies (MSCs) Act 2002, **three new MSCs** have been established to promote exports, facilitate access to improved seeds under a single brand name, and work toward the production, distribution, and marketing of certified and authentic organic products. These are
 - National Cooperative Exports Limited (NCEL)
 - Bhartiya Beej Sahakari Samiti Limited (BBSSL)
 - National Cooperative Organics Limited (NCOL)-.
- **Initiative for efficiency:** PACS/ Large Area Multipurpose Societies (LAMP) are being linked with the NABARD through a single National Software Network.
- **World's largest decentralised storage program:** Under this scheme, agricultural infrastructure, such as godowns, custom hiring centres, processing units, fair price shops, etc., are being created **through the convergence of various existing schemes**.

Agriculture Research and Education: Pushing the frontiers of technology

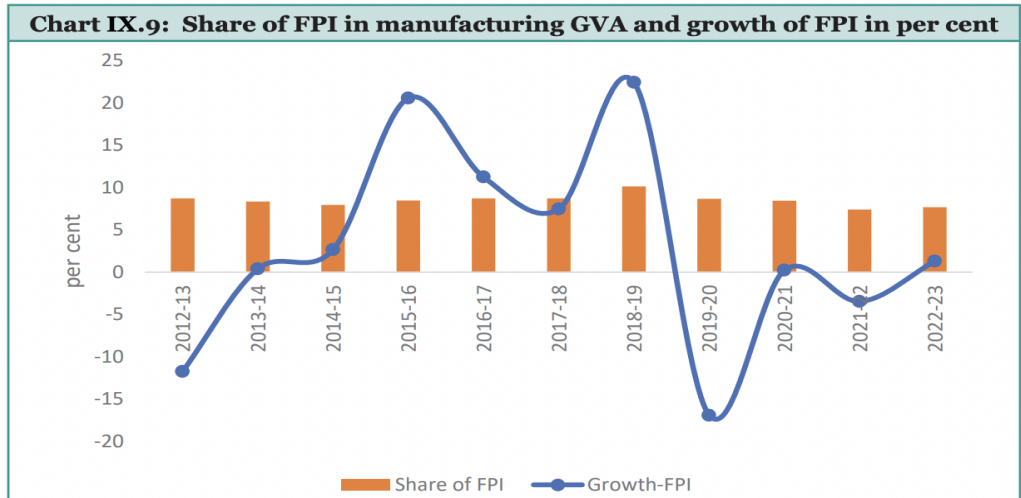
- **Spending and Allocation:** In 2022-23, ₹19.65 thousand crore was spent on agriculture research. This amount is 0.43% of the agricultural Gross Value Added (GVA)
- **High Return:** It is estimated that for every rupee invested in agricultural research (including education), there is a payoff of ₹13.85.
 - Many of the rice varieties that India now exports to the rest of the world came out of research at the International Rice Research Institute. It is a reminder that agricultural research offers one of the highest returns on investment
- **Apex Body:** The Indian Council on Agricultural Research (ICAR), is the apex organisation in agriculture research in the country.

Food Processing Sector (FPI): Processing Potential

It has **strong linkages with the agriculture sector** and can **employ surplus** workforce released from the agriculture sector. During the last eight years ending 2022-23, the food processing industries has been **growing at an average annual growth rate (AAGR) of around 5.35% at 2011-12 prices**. Being labour-intensive, the pandemic adversely affected the sector and it is now recovering.

Key Data

- **GVA Growth:** GVA in the food processing sector has increased from ₹1.30 lakh Crore in 2013-14 to ₹1.92 lakh Crore in 2022-23.
 - The sector constituted **7.66% of GVA in Manufacturing** in 2022-23 at 2011-12 prices.
- **Employment:** the food processing industry in India is **one of the largest employers in organised manufacturing**, with a 12.02% share in the total employment in the organised sector.
- **Export Value:** The value of agri-food exports, including processed food exports during 2022-23, was US\$46.44 Billion (11.7% of India's total exports).
- **Processed Food Export Share:** The share of processed food exports also increased from 14.9% in 2017-18 to 23.4% in 2022-23.



Key initiatives

- **PLI Scheme for the Food Processing Industry (PLISFPI):** Supports the creation of global food manufacturing champions, branding and marketing abroad.
- **PM Formalization of Micro Food Processing Enterprises (PMFME) scheme:** Provides credit-linked subsidy and capacity building, including marketing and branding support.
- **Operation Green:** The coverage of Operation Green has been expanded from 3 crops (tomato, onion & potato) to 22 perishables crops, which include fruits, vegetables (including TOP) and one marine, i.e. shrimp. The scheme's objectives include **enhancing farmers' value realisation**, reducing post-harvest losses, increasing food processing capacities, and adding value. The scheme has two-pronged strategies:

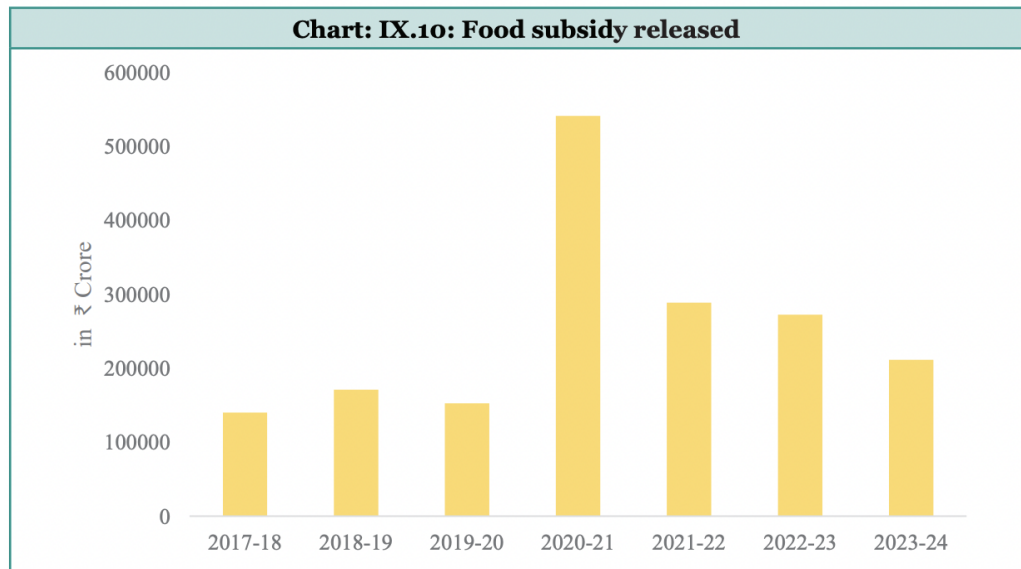
- **Price Stabilization Measures (short-term measures):** Provision of 50% subsidy on the cost of transportation and storage for fruits & vegetables for evacuation of surplus production from production centres during the glut situation.
- **Integrated Value Chain Development Projects (long-term):** Grant-in-aid is provided in the range 35 per cent to 50 per cent for setting up food processing project for eligible crops in the identified production clusters in major producing states.

Food Management: Social Net For Food Security

The main objectives of food management are the **procurement of foodgrains from farmers** at remunerative prices (at MSP), and the **distribution of foodgrains to consumers** through Central Issue Price (CIP). The **nodal agency** that undertakes the procurement, distribution, and storage of food grain is the **Food Corporation of India (FCI)**.

Key Initiatives

- **Decentralized Procurement Scheme:** It is being implemented by the Central Government for prudent management of foodgrain stock and for ensuring adequate availability of wheat and rice in the central pool.
- **National Food Security Act, 2013 (NFSA):** provide for food and nutritional security in human life cycle approach, by ensuring access to adequate quantity of quality food at affordable prices to people to live a life with dignity and for matters connected therewith or incidental thereto.
- **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY):** Free food grains will be provided to **81.35 crore beneficiaries (AAY and PHH households) for five more years starting January 1, 2024.**
 - It is at an estimated total financial outlay of ₹11.80 lakh Crore to be borne by Central Government.



What does the Budget say?

- **Digital Public Infrastructure for Agriculture (DPI):** Government, in partnership with the states, will facilitate the implementation of the DPI in agriculture for coverage of farmers and their lands in **3 years.**
 - Digital crop survey for **Kharif using the DPI** will be taken up in **400 districts.**
- **Land Registration:** Details of 6 crore farmers and their lands will be brought into the **farmer and land registries.**
- **Kisan Credit Card (KCC):** Issuance of **Jan Samarth based Kisan Credit Cards** will be enabled in **5 states.**
- **Natural Farming:** **10,000 need-based bio-input resource** centres to be established.
- **Vegetable production & Supply Chains:** **Large scale clusters** for vegetable production will be developed closer to **major consumption centres.**
 - Government will promote **Farmer-Producer Organizations, cooperatives and start-ups for vegetable supply chains** including for collection, storage, and marketing.

- **Shrimp Production & Export:** Financial support for setting up a network of **Nucleus Breeding Centres for Shrimp Broodstocks** will be provided.
 - Financing for **shrimp farming, processing and export** will be facilitated through **NABARD**.

Glossary

Gross capital formation (GCF)	<ul style="list-style-type: none">• GCF refers to the total investment in physical assets over a specific period.• It includes new and existing fixed assets, such as machinery, buildings, land improvements, equipment purchases, and inventory changes.• This metric is a crucial indicator of investment in modernising agriculture, enhancing productivity, and ensuring sustainability.
Irrigation intensity	<ul style="list-style-type: none">• Ratio of gross irrigated area to net irrigated area
Agri Stack	<ul style="list-style-type: none">• Agri Stack is a database of Indian farmers, which contains their details like landholding, GPS coordinates of plots and the crops grown on them• It is the digital foundation set up by the government to make it easier to bring various stakeholders together to improve agriculture in India.

Chapter 9: Test Your Learning

MCQs

1. Consider the following statements about the Indian Agriculture:
 1. The growth rate of Indian agriculture increased in 2023-24 compared to 2022-23.
 2. Annual growth rate at constant prices over the last five years is around 4%
 3. Livestock and fisheries have performed better than traditional crops.
 4. In 2023-24, food grain production has increased compared to 2022-23.Which of the following statements are correct?
 - a) 1 and 2 only
 - b) 1,2 and 3 only
 - c) 2 and 3 only
 - d) 3 and 4 only
2. Consider the following statements about Agriculture Infrastructure Fund (AIF):
 1. It was launched with a financing facility of ₹10 lakh Crore to be disbursed between FY 2020-21 to FY 2025-26 with support extending till FY 2032-33.
 2. The AIF provides long-term debt financing for post-harvest management and community farming projects, offering interest subvention and credit guarantee support.Which of the following statements are correct?
 - a) 1 only
 - b) 2 only
 - c) Both 1 and 2
 - d) Neither 1 nor 2
3. Consider the following statements about Pradhan Mantri Kisan SAMPADA Yojana (PMKSY):
 1. It introduced credit-linked financial assistance through grants-in aid to build efficient supply chain management to reduce the wastage of perishable produce.
 2. It is a direct benefit transfer scheme for farmers.Which of the following statements are correct?
 - a) 1 only
 - b) 2 only
 - c) Both 1 and 2
 - d) Neither 1 nor 2

4. Consider the following statements about Operation Green:
1. Operation Green has been expanded from 3 crops (tomato, onion & potato) to 22 fruits and vegetables only.
 2. The scheme's objectives include enhancing farmers' value realisation, reducing post-harvest losses, increasing food processing capacities, and adding value.

Which of the following statements are correct?

- a) 1 only
 - b) 2 only
 - c) Both 1 and 2
 - d) Neither 1 nor 2
5. What is 'Urea Gold' ?
- a) Urea infused with vitamin A
 - b) Urea infused with sulphur
 - c) Urea infused with phosphorus
 - d) Urea infused with neem

Questions

1. What are the main challenges for future markets in agriculture in India and suggest measures to overcome these challenges?
2. Critically analyze the current design of fertilizer subsidy in India. How could the prevailing issues in India's fertiliser sector be resolved?

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Chapter 10: Industry: Small and Medium Matters

Introduction

- Manufacturing still has the ability to generate low and semi-skilled jobs and bring development closer to the people. Public policy must do everything it can to increase competitiveness and the **primary course of action is deregulation**. The private sector must plan ahead and invest in quality through R&D spending.
- In this chapter we will examine progress, challenges and policy initiatives in different industrial segments, such as key industrial intermediates and consumer-oriented industries. This is followed by a brief discussion on cross-cutting themes like production-linked incentives (PLIs), micro, small and medium enterprises (MSMEs), central public sector undertakings (CPSEs) and industrial R&D and innovation.

Chapter Precap

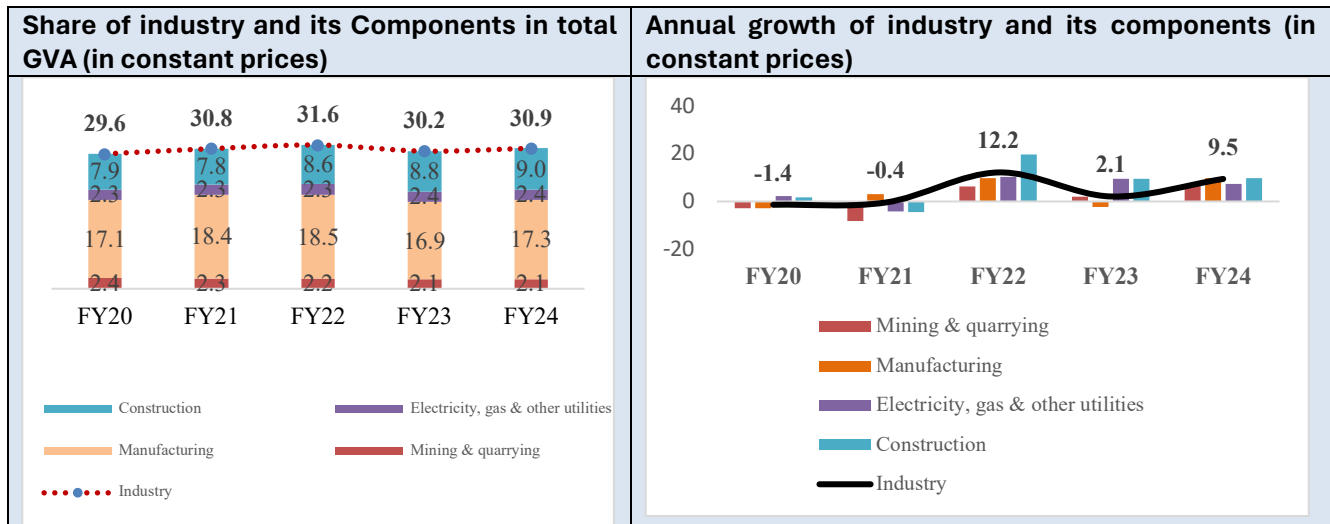
<p>Overview</p> <ul style="list-style-type: none"> • Industrial growth in India (in FY24): 9.5 % • Four sub-sectors of industry, manufacturing and construction achieved close to double-digit growth.
<p>Performance of key sectors</p> <ul style="list-style-type: none"> • Cement: India is the 2nd largest cement producer in the world after China. <ul style="list-style-type: none"> ○ Share of manufacturing in total gross value added at current prices (in FY23): 14.3 %. • Steel sector: Highest levels of production and consumption during FY24. <ul style="list-style-type: none"> ○ India became a net exporter of finished steel over the past decade. • Coal: In FY24, India produced 997.2 million tonnes of coal. • Pharmaceutical: India's pharmaceutical market is the world's 3rd- largest by volume. <ul style="list-style-type: none"> ○ India accounts for 20 % of global generic drug exports by volume produced. • Textile industry: Textiles, including the wearing apparel sector, accounts for 10.6 % of the manufacturing GVA at current prices. <ul style="list-style-type: none"> ○ India is the world's 2nd-largest clothing manufacturer and one of the top five exporting nations • Electronics manufacturing sector: Accounts for an estimated 3.7 % of the global market share in FY22. <ul style="list-style-type: none"> ○ It contributed 4 % to India's total GDP in FY22. • Automobile industry: In FY24, the country produced approximately 49 lakh passenger vehicles
<p>Production Linked Incentive (PLI) Scheme</p> <ul style="list-style-type: none"> • Aim: Scheme for 14 key sectors to enhance India's manufacturing capabilities and exports. • Significance: <ul style="list-style-type: none"> ○ Over ₹1.28 Lakh Crore of investment was reported until May 2024 ○ Production/sales of ₹10.8 Lakh Crore. ○ Boosted export by ₹4 Lakh Crore.
<p>Micro, Small & Medium Enterprises (MSMEs)</p> <ul style="list-style-type: none"> • Share of MSMEs in all-India manufacturing output: 35.4% (FY22) • Share of export of MSME-specified products in all-India exports (in 2023-24): 45.7 %. • Challenges: Issues with formalisation and inclusion, limited access to finance, markets, technology, and digitalisation, infrastructural bottlenecks, and skilling. • Government initiatives for MSMEs <ul style="list-style-type: none"> ○ Udyam Registration portal, launched in 2020, for formalising MSMEs ○ Samadhaan Portal, Sambandh Portal, and Champions Portal, to resolve issue like delayed payment issues, procurement monitoring, and speedy resolution of grievances. ○ Credit Schemes: Prime Minister's Employment Generation Programme; Credit Guarantee Scheme (CGS).
<p>Other cross cutting themes</p> <ul style="list-style-type: none"> • Central Public Sector Enterprises (CPSEs):

- As of March 31, 2023, **254 CPSEs were operational.**
- **The number of profit making CPSEs increased** from 178 to 193 from 2019 to 2023.
- **Industrial credit:**
 - From 2023 to 2024, **credit growth was positive in most industries but negative in Mining and quarrying (including Coal), Petroleum, coal products, and nuclear fuels.**
- **Industrial R&D and Innovation:**
 - **Low public sector presence public in core manufacturing:** Only about 7 %.
 - **Under the GII,** India’s rank improved significantly (40 in 2023).
 - **Concentrated industrial R&D in India:** Top five sectors account for more than 70 %.

- Emerging trends in the Indian industrial landscape**
- Significant realignment of output shares among industrial segments over last decade.
 - Export-import balance of different industrial segments has vastly varied over the last few years.
 - Medium-term outlook on the demand for capital goods and key construction inputs like steel and cement is likely to be positive.
 - Two common requirements across industries relate **to incentivising R&D and innovation and improving the skill levels of the workforce.**

Overview

- **Industrial growth (in FY24):** 9.5 %
- **Performance of subsectors:** Four **sub-sectors of industry, manufacturing and construction achieved close to double-digit growth**, while mining & quarrying and electricity & water supply recorded strong positive growth in FY24.
- **Share of manufacturing in total gross value added at current prices (in FY23):** 14.3 %
 - **Output share** is 35.2% during the same period, indicating that the sector has significant backward and forward linkages that are not fully captured within its value-added share.
- **Average annual growth rate of manufacturing sector in the last decade:** 5.2%



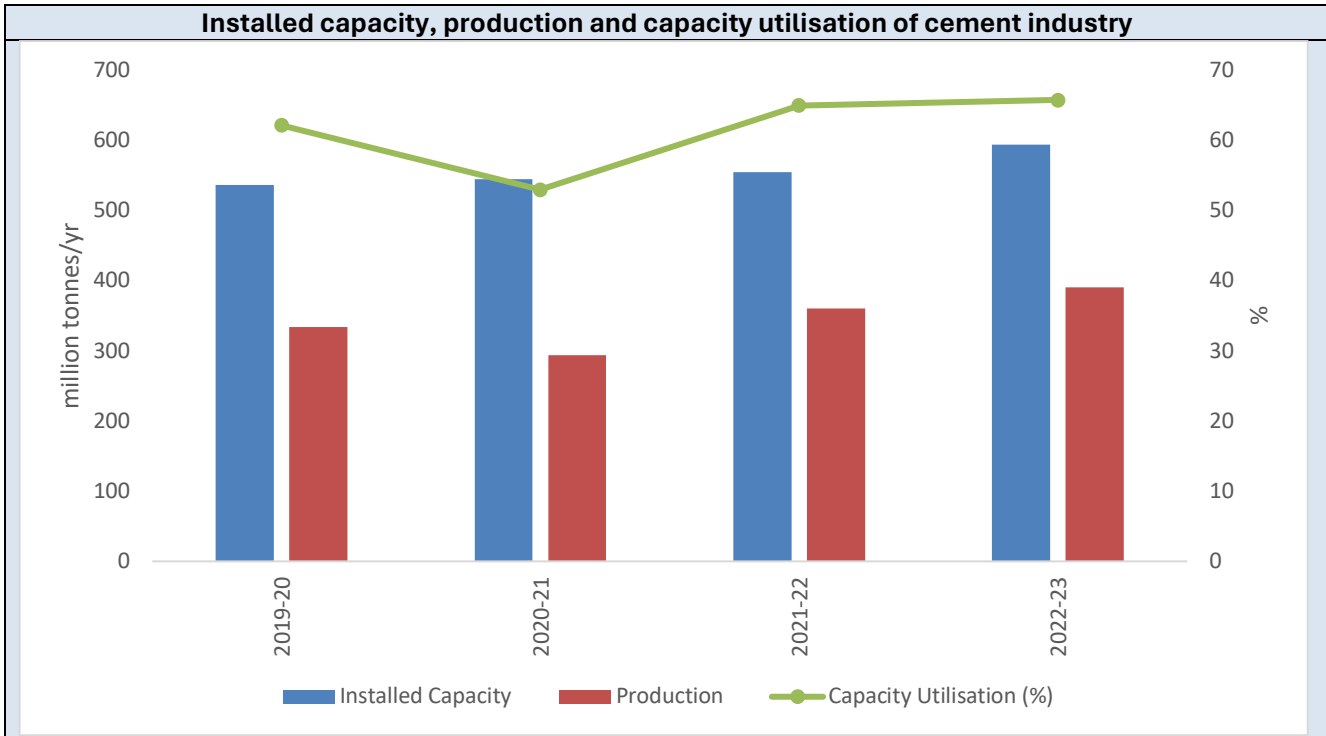
Performance of Key Sectors and Related Issues

Key Industrial Intermediates

Cement: Building the future

- **Status:** India is the **2nd largest cement producer** in the world (after China). It was de-licensed in 1991.
 - Contributes **~11% of the input cost to the construction sector in India.**
- **Current annual installed capacity of India’s cement industry:** About **622 million tonnes** (427 million tonnes production in FY24)

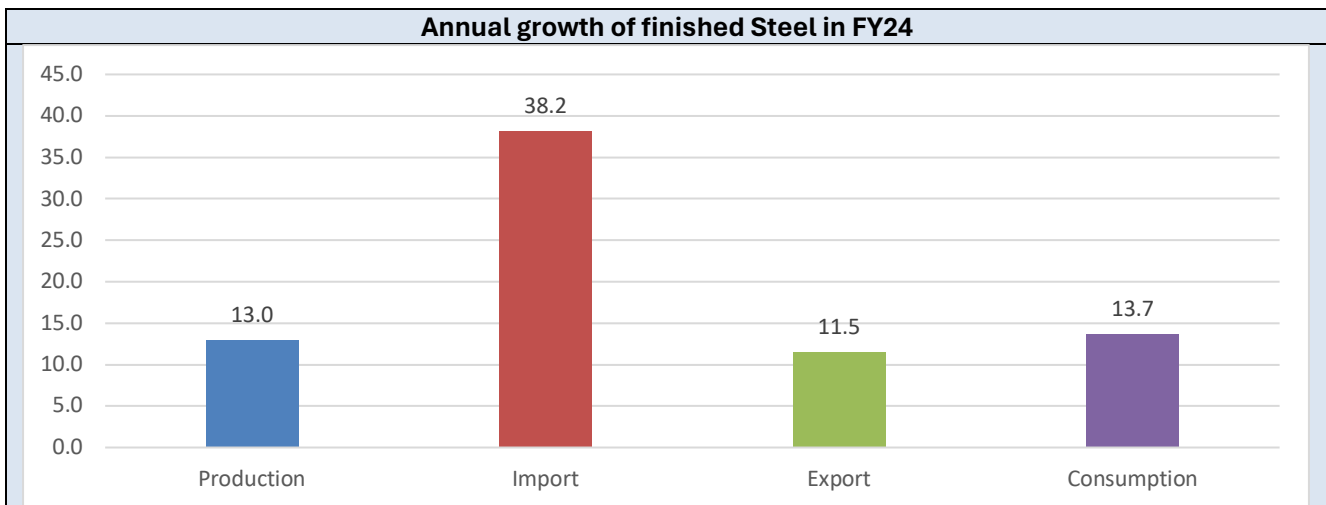
- **Location of production:** About 85 % of the cement industry is concentrated in the States of Rajasthan, Andhra Pradesh, Telangana, Karnataka, Madhya Pradesh, Gujarat, Tamil Nadu, Maharashtra, Uttar Pradesh, Chhattisgarh and West Bengal.
- **Capacity utilisation rate of Industry:** Approximately 60-65 % in recent years. (See below graph)



- **Issues**
 - **Low Per capita consumption:** Domestic cement consumption in India is around 260 kg per capita against a global average of 540 kg per capita
 - **Greenhouse gas emission:** Globally, the cement sector generates about 7 % of the total anthropogenic emissions.
- **Targets:** CO₂ emissions to be reduced to 0.35 t CO₂ per tonne of cement by 2050.

Steel sector on the growth path

- **Status:** Achieved its highest levels of production and consumption during FY24.
 - India became a **net exporter of finished steel** over the past decade.



- **Iron and steel contribution in building and construction:** ~47 % of all inputs.
- **Issues**
 - **Fluctuation in prices** in international market.
 - **Dependence on import of coking coal:** An essential raw material for steel production (56.1 MT in FY23 and 58.1 MT in FY24)
 - **High Energy intensity:** Emission intensity of 2.5 tonnes of CO₂ per tonne of crude steel compared to the global average of 1.9 tonnes of CO₂ per tonne of crude steel.
 - **Emissions:** Accounts for **12% of India's GHG emissions.**

Steel sector initiatives
<ul style="list-style-type: none"> ● Establishment of the Nagarnar Steel plant in Bastar district: To increase India's steel production capabilities ● The Production Linked Initiative (PLI) Scheme for speciality steel: Approved in 2021, it has attracted investment of ₹15,519 Crore till May 24. ● Memorandum of Understanding (MOU) with the 27 selected Companies: To attract total investment commitment of ₹29,531 Crore with capacity addition of 24,780 thousand tonnes.

Coal: Reducing external dependence

- **Status:** In FY24, India produced 997.2 million tonnes of coal, imported 261 MT and consumed 1233.86 MT
- **Energy:** Accounts for more than 55 % of India's primary commercial energy.
 - **Coal-fired power generation** accounts for about **70% of the total power generation.**

Growth in production, consumption and import of coal (CAGR in per cent)			
Source: Ministry of Coal			
Year	Production	Consumption	Import
FY14 to FY19	5.2	5.6	7.1
FY19toFY24	6.5	5.0	2.1
FY24(YoY)	11.7	10.7	9.8

Recent Initiatives	Challenges, opportunities and options
<ul style="list-style-type: none"> ● Target: To gasify 100 MT of coal by 2030 to reduce imports. ● Scheme with an outlay of ₹8500 Crore during 2023-24 to provide viability gap funding to coal/lignite gasification projects. ● Integrated Coal Logistics Policy and Plan in 2024 to develop technologically enabled, integrated and cost-effective logistics for coal evacuation. ● Notified the amended Coal Blocks Allocation Rules, 2017, in 2023. ● Initiatives by Coal India Limited (CIL): <ul style="list-style-type: none"> ○ Venturing to set up 3,000 MW of renewable power capacity for power mining operations by 2025-26. ○ Gradually moving to a high capacity coal evacuation system. ○ Pursuing acquisition of critical mineral assets like lithium and cobalt in India and abroad. 	<ul style="list-style-type: none"> ● Limited availability of modern mining equipment from Indigenous manufacturers. ● Procedural complexities in acquiring forestry and environmental clearances, land acquisition etc for mining projects. ● Increasing demand for coking coal will push coking coal imports up. ● Coking coal beneficiation needs to be scaled up for blending with imported coal under the 'coking coal mission'. ● Coal can be used as a green energy source, such as coal mine methane (CMM), coal bed methane (CBM).

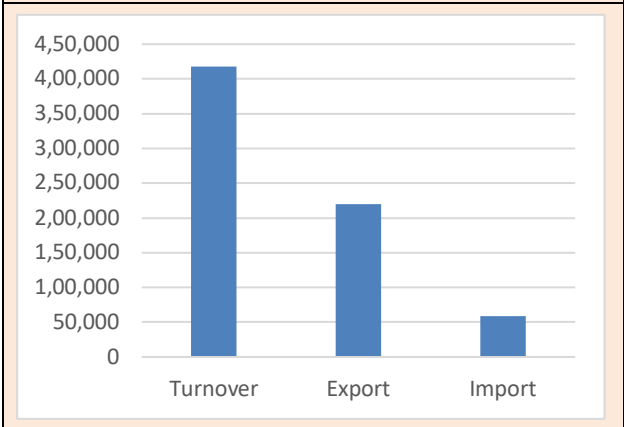
Major Consumer-oriented Industries

Pharmaceuticals: Growing and Global Presence

- **Status:** India's pharmaceutical market currently valued at USD 50 Billion (world's **3rd- largest by volume**).

- **Pharmacy of the world (in generic drugs):** India accounts for 20 % of global generic drug exports by volume produced.
 - **8 of the top 20 global generic companies** are based in India
- **Exports:** India has become a **net exporter of bulk drugs**.
- **High quality compliance:** 703 US FDA- approved facilities (as of April 2023), 386 European GMP-compliant plants (as of November 2022) and 2418 WHO-GMP-approved plants.
- **Recent Initiatives, Challenges and Outlook of the Pharma Sector**

Turnover, export and import of the pharma sector in FY24



Aatmanirbharta Pursuit	Pradhan Mantri Bhartiya Janaushadhi Pariyojana	Challenges and outlook
<ul style="list-style-type: none"> • To boost domestic manufacturing of identified Key Starting Materials (KSMs)/ Drug Intermediates and Active Pharmaceutical Ingredients (APIs). • Under the PLI scheme for bulk drugs, 48 projects have been approved. • Scheme for the Promotion of Bulk Drug Parks to establish 3 bulk drug parks. 	<ul style="list-style-type: none"> • To make quality generic medicines available at affordable prices to all. • More than 12500 Pradhan Mantri Bhartiya Janaushadhi Kendras (PMBJKs) opened. • 12 Lakh people visit Jan Aushadhi Kendras daily. 	<ul style="list-style-type: none"> • Dependency on imports for many antibiotic APIs due to a lack of cost-effective options in domestic API manufacturing. • Pharma industry is expected to reach US\$ 130 billion by 2030. • Requirement: Skill advancement, the use of innovation and technology, and the establishment of a strong supply chain.

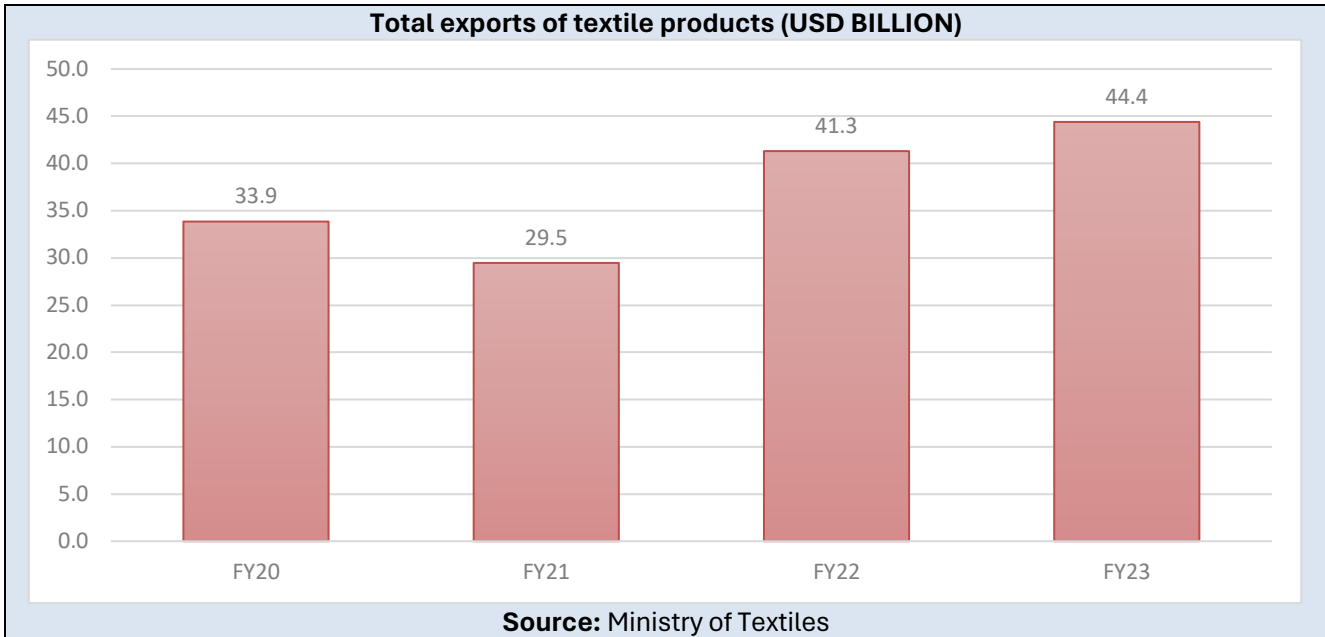
Need to Enhance and Reimagine Pharma R&D
<ul style="list-style-type: none"> • The pharmaceutical industry worldwide can be divided into an innovator or a generic producer. India fall in generic producer category. • The R&D expenditure in the drugs and pharmaceutical sector in India averaged around 5 % of the sales turnover in FY20 and FY21. • The report “Indian pharmaceutical sectorial system of innovation” underscores the need for: <ul style="list-style-type: none"> ○ Fostering joint research amongst industry actors. ○ Bolstering industry-academic interactions for applied research. ○ Reducing the rigidity of communication between knowledge-based institutions, particularly with the inclusion of Tier 2 and Tier 3 institutions. ○ Increasing the channels of funding from venture capital and angel investors. ○ Better knowledge sharing amongst government bodies. • Government measure to promote R&D: Promotion of Research and Innovation in Pharma MedTech Sector, setting up of centres for excellence to promote collaborative research in the pharmaceutical sector, etc.

Textile industry: Navigating challenges

- **Status:** Textiles, including the wearing apparel sector, generated a gross value added of ₹3.77 lakh Crore in FY23 (**10.6 % of the manufacturing GVA** at current prices).
- **Export:** India is the world's **2nd-largest clothing manufacturer** and **one of the top five exporting nations**.
 - In FY24, the export of textiles and apparel, including handicrafts, **increased by 1%**.

- **Diversified Share in exports (FY24):** Readymade garments (41%per cent), cotton textiles (34%) and man-made textiles (14%).

● **Challenges and supportive initiatives in the textile industry**

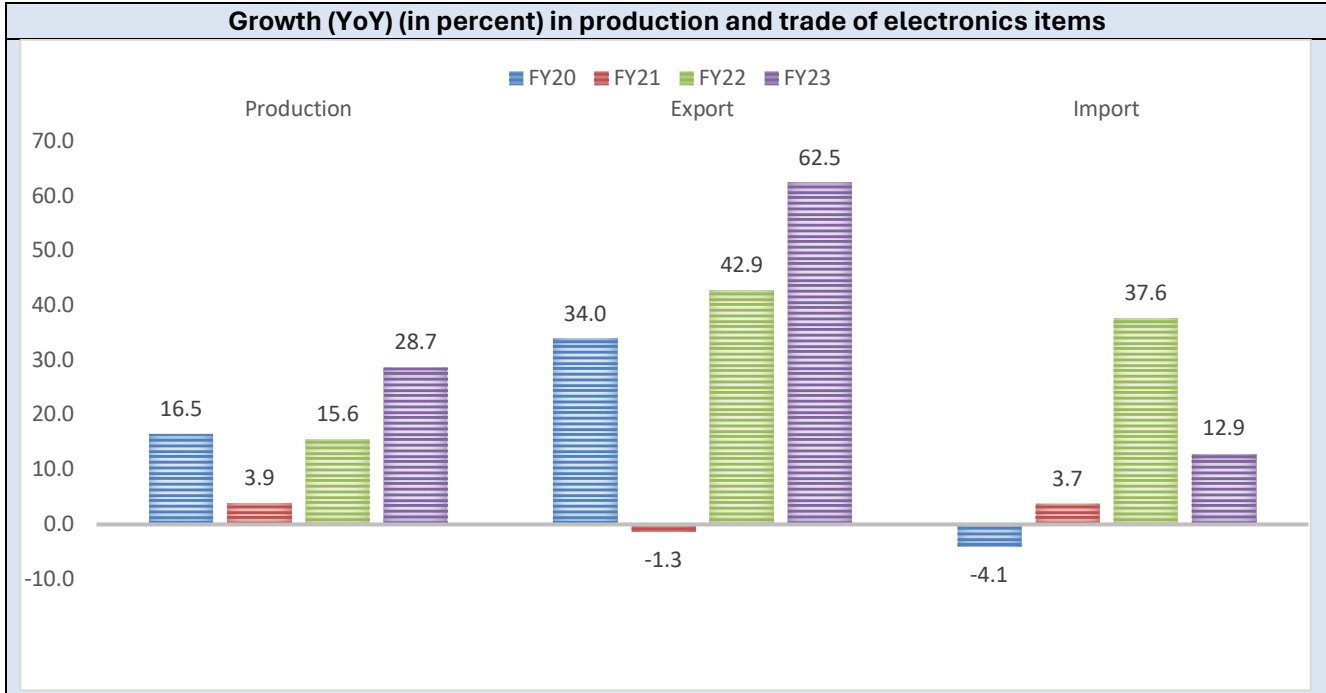


Industry context and challenges	Supportive initiatives
<ul style="list-style-type: none"> ● Efficiency and economies of scale from large-scale modern manufacturing are limited as MSMEs accounts for 80% of India's textile and apparel production capacity. ● Fragmented nature of India's apparel sector leads to higher transportation costs and delays. <ul style="list-style-type: none"> ○ Raw materials sourced predominantly from Maharashtra, Gujarat, and Tamil Nadu, while spinning capacities are concentrated in southern states. ● Other challenges: Heavy dependence on imported machinery, except in the spinning segment; Inadequate availability of skilled manpower; Technological obsolescence, etc. ● NITI Aayog's recommendations: Supporting domestic machine manufacturers through initiatives such as ATUFS, fostering R&D, and promoting innovation. ● Priorities: <ul style="list-style-type: none"> ○ Creating worldclass textile infrastructure with plug and- play facilities; ○ Technological upgradation; ○ Sustainability and circularity; ○ Quality and standards; and ○ Promotion of handloom and handicraft products. 	<ul style="list-style-type: none"> ● Seven PM MITRA Parks, with a budget of ₹4,445 Crore, will be established from FY22 to FY28. ● The Government approved a PLI Scheme with ₹10,683 Crores over five years for man-made fibre apparel and fabrics and technical textiles. ● National Technical Textiles Mission to focuses on increasing the use of technical textiles. ● The National Handloom Development Programme (NHDP) approved for FY22 to FY26 to establish 96 small handloom clusters

Electronics industry: Powering the future

- **Status:** India's electronics manufacturing sector accounts for an estimated **3.7 % of the global market share in FY22.**
 - It contributed **4 % to India's total GDP in FY22.**
- **CAGR in the production of electronics goods** (from FY18 to FY23): 16.19%

- **Increase in exports** (from FY18 to FY23): 35.7%
- **Workforce: Direct workforce** in the production of mobile phones has **more than tripled** between FY17 to FY22.
- **Issue:** Reducing service link costs is crucial for seamless participation in global value chains (GVC), necessitating efforts to lower transaction costs.

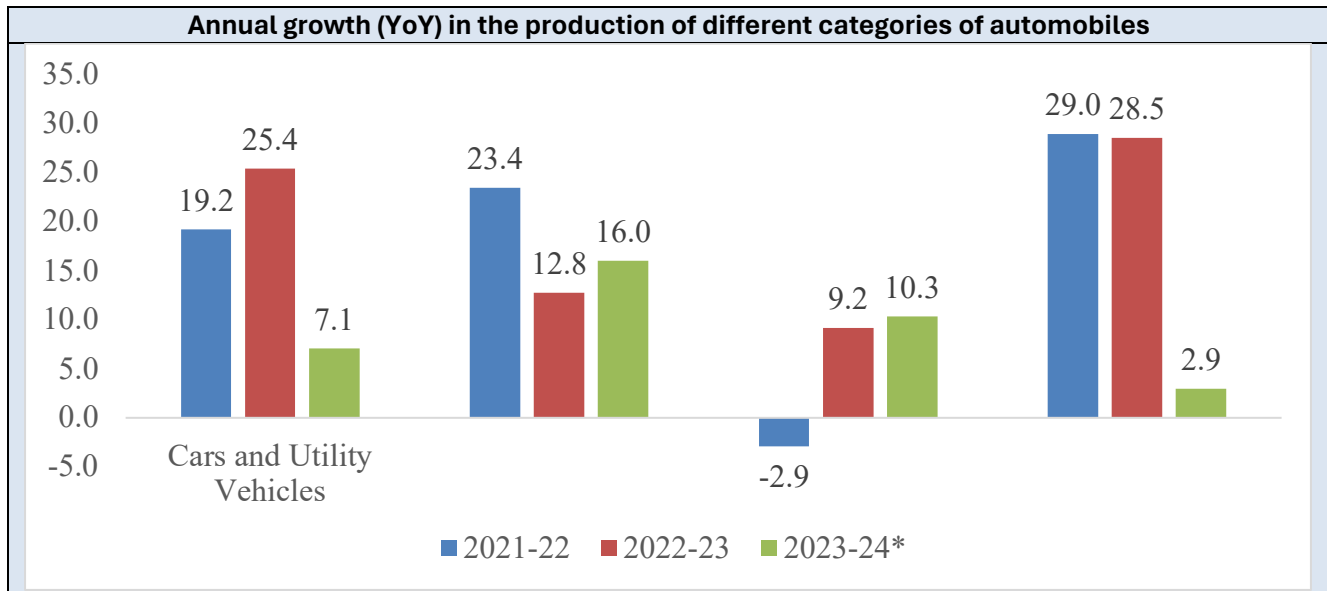


Initiatives to Boost Electronics Industry

- **Production Linked Incentive Scheme (PLI):** For Large Scale Electronics Manufacturing,
- **PLI 2.0 IT Hardware:** To encourage localisation of components and sub-assemblies tied to incremental sales and investment thresholds.
 - Offers an average incentive of **around 5 % on net incremental sales** of eligible goods manufactured in India for six years.
- **Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS):** Offers a substantial financial incentive of 25 % on capital expenditure for a specific list of electronic goods
- **Modified Electronics Manufacturing Clusters (EMC 2.0):** supports EMC projects and Common Facility Centres to attract electronics manufacturing in India.

Automotive industry

- **Status:** In FY24, the country produced ~49 lakh passenger vehicles, 9.9 lakh three-wheelers, 214.7 lakh two-wheelers, and 10.7 lakh commercial vehicles.
- **Issues:** The pandemic affected the automobile sector, it weakened the demand for automotive parts and, hence, their pace of expansion.



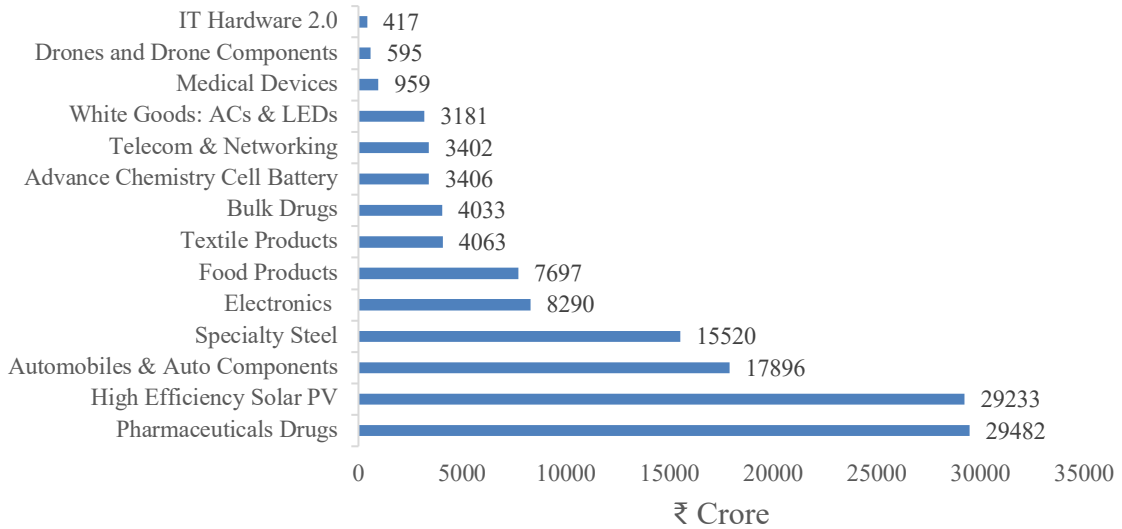
Policy Support for Automobiles and E-mobility		
Under the PLI Scheme	Battery Storage	Phase II of the FAME Scheme
<ul style="list-style-type: none"> • Budgetary outlay of ₹ 25,938 Crore from FY23 to FY27. • Sub-divided into champion original equipment manufacture incentive scheme and component champion incentive scheme. • ₹14,043 Crore has been invested till March 2024. 	<ul style="list-style-type: none"> • National Programme on Advanced Chemistry Cell (ACC) Battery Storage was approved in 2021. • Aims to set up a cumulative ACC manufacturing capacity of 50 GWh. • The first round of the ACC PLI bidding concluded. 	<ul style="list-style-type: none"> • Approved for 5 years during FY20 to FY24. • Aim: To generate demand for electric vehicles by supporting 7000 e-buses, 5 Lakh e-3 wheelers, 55000 e4 wheeler passenger cars and 10 Lakh e-2 wheelers. • Scheme to Promote Manufacturing of Electric Passenger Cars in India (SPMEPCI) was approved in 2024. • Electric Mobility Promotion Scheme 2024 (EMPS 2024)

Cross-Cutting Themes

Production Linked Incentive (PLI) Scheme

- **Aim:** Scheme for 14 key sectors to enhance India’s manufacturing capabilities and exports.
- **Significance**
 - Over **₹1.28 Lakh Crore** of investment was reported until May 2024.
 - **Production/sales of ₹10.8 Lakh Crore.**
 - **Employment generation (direct & indirect)** of over 8.5 Lakh.
 - **Boosted export** by ₹4 Lakh Crore.

Actual sector-wise investment under the PLI scheme



Micro, Small & Medium Enterprises (MSMEs)

- **Role in the economy**
 - **Share of MSMEs in all-India manufacturing output:** 35.4% (FY22)
 - **Share of export of MSME-specified products in all-India exports** (in 2023-24): 45.7 %.
- **Government initiatives for MSMEs**
 - **Udyam Registration portal**, launched in 2020, for formalising MSMEs
 - **4.69 Crore MSMEs are registered** on the Udyam Registration portal .
 - Udyam-registered MSMEs are also eligible for priority sector lending from banks.
 - Union Budget 2023-24 allocated ₹9,000 Crore to the **Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)**.
 - **Samadhaan Portal, Sambandh Portal, and Champions Portal**, to resolve issue like delayed payment issues, procurement monitoring, and speedy resolution of grievances.
 - **Credit Schemes**
 - **Prime Minister’s Employment Generation Programme:** During FY23, facilitated assistance to 85,167 micro-units with a subsidy.
 - **The Credit Guarantee Scheme (CGS):** To alleviate the credit constraints faced by MSMEs by offering collateral- free loans of up to ₹5 Crore, with a guaranteed coverage of up to 85 %
 - ✓ Administered by the CGTMSE.
- **Challenges and opportunities:**
 - **Challenges:** Issues with formalisation and inclusion, limited access to finance, markets, technology, and digitalisation, infrastructural bottlenecks, and skilling.
 - **Digital economy offers** MSMEs significant new opportunities.
 - 70 % of total e-commerce sales in 2020-21 were from MSME.
 - Research shows that **rationalisation of regulations on the usage of factory space** will likely augment the manufacturing capacity of MSMEs.

Reimagining building regulations to augment manufacturing capacity

The report titled State of Regulation: Building Standards Reforms for Jobs and Growth illustrates how land remains unutilised

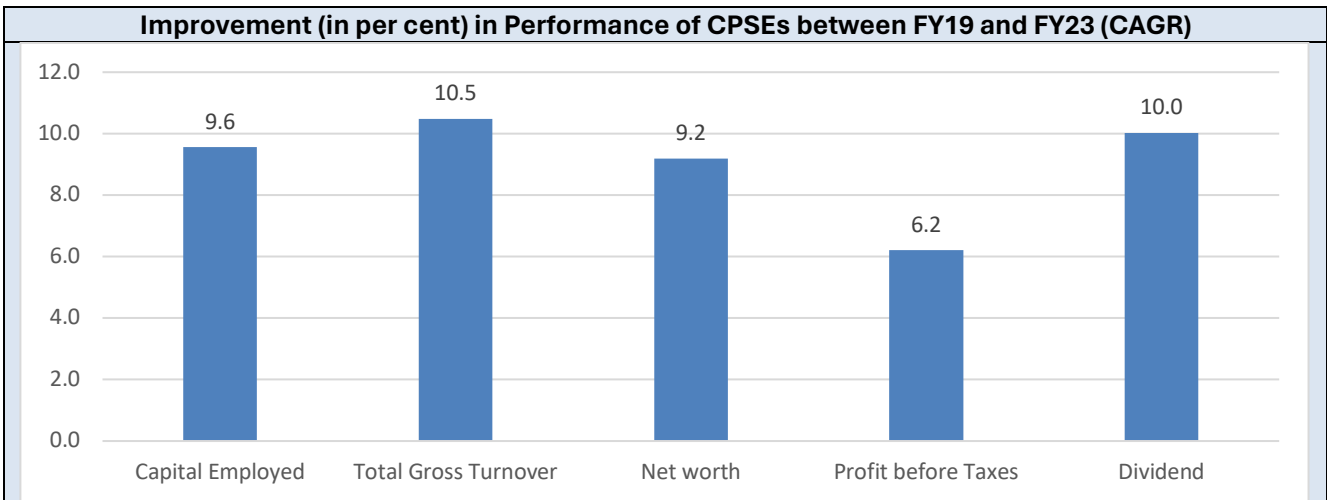
- **and lost due to Ground Coverage:** A factory building can cover no more than 40–60 % of the plot, under the ground coverage regulations on factory plots.
- **Land lost due to Setbacks:** The factories end up losing even 60–90 % of their land to comply with regulations related to fire risk, ventilation and light.

- **Land lost due to Parking Regulations:** India lose ~12–70 % of their land to parking.
 - **Land lost due to Floor Ratio:** On average, factories across states are only allowed to create floor space up to 1.3 times the plot size.
- Solution**
- **Examine and rationalise building regulations** to augment manufacturing capacity.
 - **Study international best practices:** E.g., With a 1000 sqm plot, an office building in Mumbai can be built up to 5000 sqm, whereas in Japan, it can go up to 13,000 sqm and 15,000 sqm in Singapore and Hong Kong.

- One District One Product (ODOP): Crafting regional pride and economic empowerment**
- **Aim:** To identify, brand, and promote the unique strengths of each district through a single, iconic product produced in that district.
 - **Progress:** Identified 1102 products from 761 districts across the country till now.
 - **Government initiatives to promote ODOP**
 - “PM-Ekta Malls” to link the artisans of ODOP and consumers.
 - ‘ODOP Sampark’ to facilitate collaboration between the Centre and local sellers and revive indigenous industries.
 - Success stories
 - Pack sheds and irrigation arteries resulted in a **20% surge in the production of Shopian apples in Kashmir.**
 - NGOs, local administration, and over 700 farmers in the Uttarkashi district of Uttarakhand have been **empowered with organic farming skills.**
 - Nearly 1,50,000 tribal families in **Araku Valley, Andhra Pradesh, have boosted coffee output by 20%.**

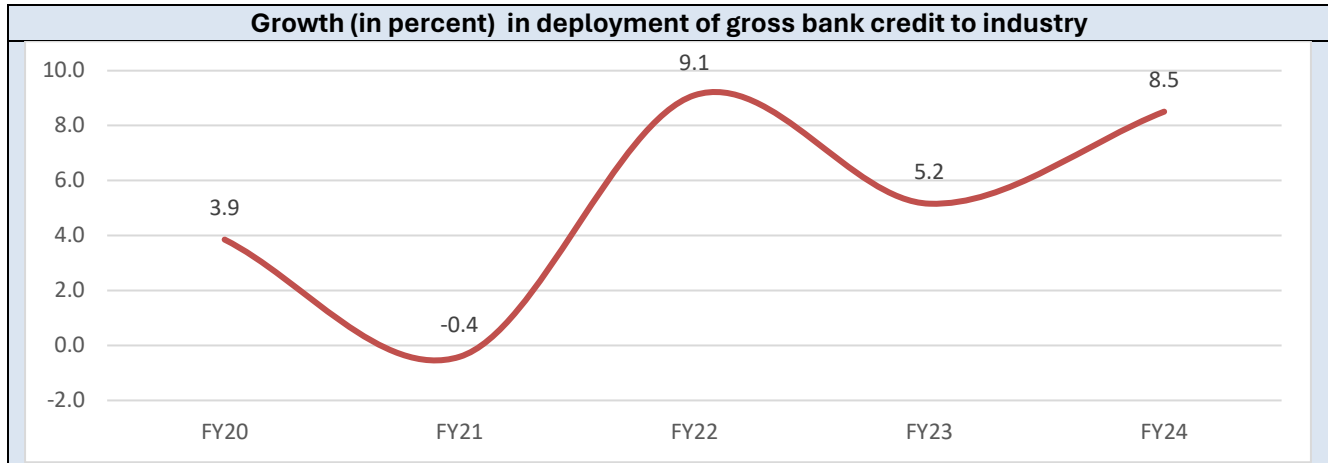
Central Public Sector Enterprises (CPSEs)

- **Status:** As of March 31, 2023, **254 CPSEs were operational.**
 - Around **66 % of the CPSEs operated in the service sector.**
- **Health of CPSEs**
 - **The total Market Capitalisation (M-cap)** of 63 CPSEs traded on stock exchanges of India was ₹16.69 Lakh Crore as of March 31, 2023
 - **The overall net profit** of operating CPSEs in FY23 was ₹2.12 Lakh Crore.
 - **The number of profit making CPSEs increased** from 178 to 193 from 2019 to 2023.



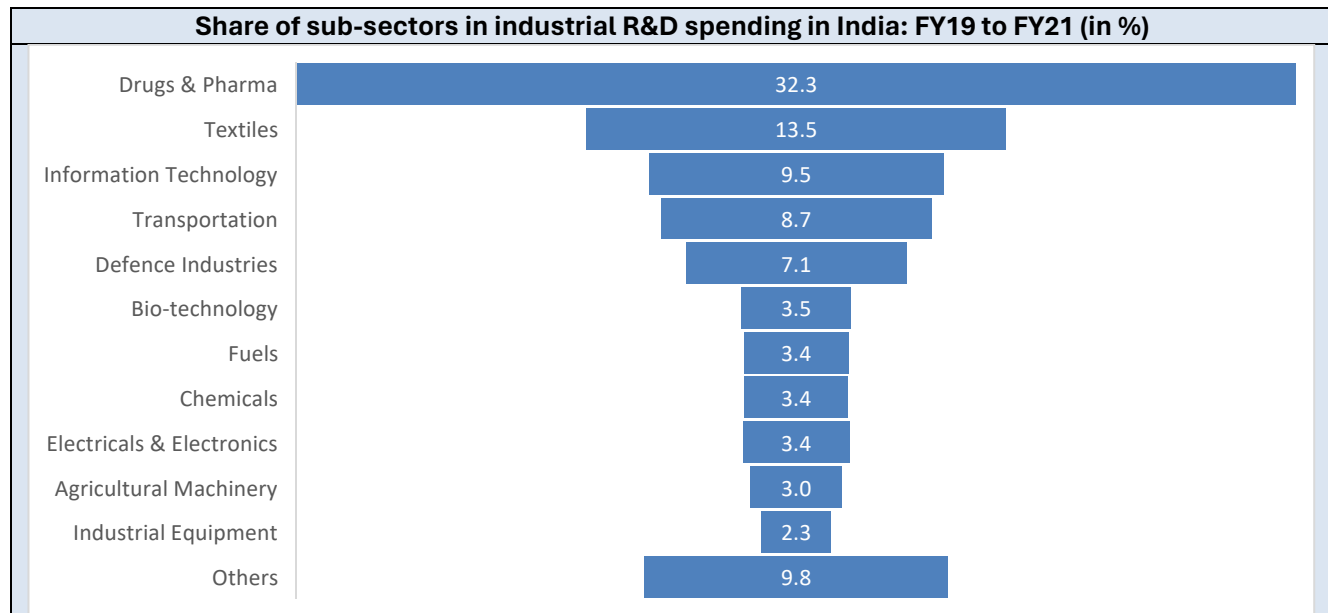
Industrial Credit

- In FY23, credit growth was **mainly driven by large industries**.
 - Its growth depends on factors like cyclical nature of economic activity, relative availability and cost of bank funds and other market options, and the banking system's risk-taking ability.
- From 2023 to 2024, **credit growth was positive in most industries but negative in Mining and quarrying (including Coal), Petroleum, coal products, and nuclear fuels**.



Industrial R&D and Innovation

- Low public sector presence public in core manufacturing:** Only about 7 %.
- Corporate R&D:** According to Global Innovation Index (GII) 2023, U.S. is leading in corporate R&D, followed by China and Germany.
- Concentrated industrial R&D in India:** Top five sectors account for more than 70 %.
 - Industrial R&D spending in India (₹ Crore) 44720 (FY 19 to FY 21).



Efforts to promote startups and innovation culture in India		
Patents and research	Start-ups	Innovation
<ul style="list-style-type: none"> Patent Rules, 2024 was notified, simplifying patent acquisition and management. 	<ul style="list-style-type: none"> The number of DPIIT-recognised start-ups are more than 1.25 Lakh by end-March 2024. 	<ul style="list-style-type: none"> Under the GII, India's rank improved

<ul style="list-style-type: none"> ○ Granted patents increased seventeen-fold from 2014-15 to 2023-24. ○ Registered designs rose from 7147 in 2014-15 to 30672 in 2023-24. ● Anusandhan National Research Foundation (ANRF) bill 2023 was passed. ● ANRF will act as an apex body to provide high-level strategic direction for scientific research. 	<ul style="list-style-type: none"> ● More than 45 % of the recognised start-ups are emerging out of Tier 2/3 cities. ● More than 47 % of the recognised start-ups have at least one woman director. ● Fund of Funds for Start-ups, committed more than ₹10,500 Crore to more than 135 Alternative Investment Funds. ● Bharat Startup Knowledge Access Registry aims to bring together diverse stakeholders in the startup ecosystem. 	<p>significantly (40 in 2023).</p> <ul style="list-style-type: none"> ○ India ranks 1st in the lower middle-income countries and among central and southern Asian economies. ● India holds the top rank globally in the domestic market scale indicator.
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Conclusion and Outlook

Emerging trends in the Indian industrial landscape

- **Significant realignment of output shares** among industrial segments over **last decade**.
 - Sectors like chemicals, wood products and furniture, pharmaceuticals, transport equipment, steel and machinery and equipment gained in strength.
 - Sectors like textiles, food products, beverages and tobacco and petroleum products and leather lost their relative positions.
- **Export-import balance of different industrial segments has vastly varied** over the last few years.
 - Major net exporters include industries such as steel, pharmaceuticals, and automobiles, while **import dependency in key sectors like coal, capital goods and chemicals** continue.
- **Medium-term outlook on the demand for capital goods and key construction inputs** like steel and cement is **likely to be positive**.
 - **Global uncertainties** may impact export demand and the domestic cost of production due to **dependence on critical imported inputs** like coal, petroleum, steel and machinery.
- Two common requirements across industries relate to **incentivising R&D and innovation and improving the skill levels of the workforce**.

Action recommended for MSMEs in a cooperative federalism mode:

- **Ensuring support systems and adequate financing** to develop MSME projects and their bankability.
- **Targeted facilitation and incentivisation of employment-intensive** MSME segments.
- **Progressively easing the compliance requirements** with a single-window mechanism.
- **Providing grassroots-level facilitation** to ensure market access to MSME products.
- **Government-industry-academia collaboration** to upskill the workforce.

Recommendations for upgrading the statistics on industry to aid policymaking:

- **Updated index of industrial production**.
- **Regular indicators of the dynamics of production and employment** in MSMEs
- **Information on industry-wise gross disbursement of bank credit** (as opposed to the data on outstanding credit currently available), industry-wise monthly gross financial flows etc.

What does the budget say?

Manufacturing & Services

- **Credit Guarantee Scheme for MSMEs in the Manufacturing Sector**
 - A credit guarantee scheme without collateral or third-party guarantee in term loans to MSMEs for purchase of machinery and equipment.

- **Credit Support to MSMEs during Stress Period**
 - New mechanism to facilitate continuation of bank credit to MSMEs during their stress period.
- **Mudra Loans**
 - The limit of Mudra loans under ‘Tarun’ category to be enhanced to 20 lakh from 10 lakh for those who have successfully repaid previous loans.
- **Enhanced scope for mandatory onboarding in TReDS**
 - Turnover threshold of buyers for mandatory onboarding on the TReDS platform to be reduced from 500 crore to 250 crore..
- **MSME Units for Food Irradiation, Quality & Safety Testing**
 - Financial support to set up 50 multi-product food irradiation units in the MSME sector.
- **E-Commerce Export Hubs**
 - E-Commerce Export Hubs to be set up under public-private-partnership (PPP) mode for MSMEs and traditional artisans to sell their products in international markets.

Innovation, Research & Development

- **Anusandhan National Research Fund** for basic research and prototype development to be operationalised.
 - Financing pool of 1 lakh crore for spurring private sector-driven research and innovation at commercial scale.
- **Space Economy**
 - **Venture capital fund of 1,000 crore** to be set up for expanding the space economy by 5 times in the next 10 years.

Glossary

Term	Meaning
Floor ratio	It is the measurement of a building’s floor area in relation to the size of the lot/parcel that the building is located on.
Market capitalisation (M-cap)	It is the aggregate valuation of the company based on its current share price and the total number of outstanding stocks.
Energy intensity	It is defined as the amount of energy used to produce a given level of output or activity.
Active Pharmaceutical Ingredient (API)	Any substance or mixture of substances intended to be used in the manufacture of a drug (medicinal) product and that, when used in the production of a drug, becomes an active ingredient of the drug product.
Drug Intermediate (DI)	A material produced during intermediate steps in the synthesis of an API that must undergo further molecular change or processing before it becomes an API.
Key Starting Material (KSM)	A raw material, intermediate or an API that is used in the production of an API and that is incorporated as a significant structural fragment into the structure of the APL.

Chapter 10: Test Your Learning

MCQs

1. Which of the following sub-sectors of industry achieved close to double-digit growth in FY24?
 1. Manufacturing
 2. Construction
 3. Mining & Quarrying
 4. Electricity & Water Supply

Select the correct answer using the code given below:

 - a) 1 and 2 only
 - b) 2 and 3 only



- c) 1, 2 and 3 only
d) 1, 2, 3 and 4
2. Which of the following country is the highest producer of cement?
a) China
b) India
c) USA
d) Australia
3. Consider the following statement about the Indian pharmaceutical sector:
1. It is the world's largest market by volume.
2. It accounts for 20% of global generic drug exports by volume.
3. It is a net exporter of bulk drugs.
How many of the above statements are correct?
a) Only one
b) Only two
c) All three
d) None
4. According to the Global Innovation Index (GII) 2023, which country is leading in corporate R&D?
a) China
b) Germany
c) India
d) United States
5. Consider the following statements
Statement 1: The number of DPIIT-recognised start-ups in India exceeded 1.25 Lakh by end-March 2024.
Statement 2: More than 45 % of the recognised start-ups are emerging out of Tier 2/3 cities.
Which of the following is correct in respect to the above statements?
a) Both Statement 1 and Statement 2 are true, and Statement 2 is the correct explanation of Statement 1.
b) Both Statement 1 and Statement 2 are true, but Statement 2 is not the correct explanation of Statement 1.
c) Statement 1 is true, but Statement 2 is false.
d) Statement 1 is false, but Statement 2 is true.

Questions

1. Examine the role of the Production Linked Incentive (PLI) Scheme in boosting India's manufacturing capabilities and exports. (150 words)
2. Critically examine the performance of Micro, Small & Medium Enterprises (MSMEs) in India. What reforms are needed to improve their efficiency and contribution to the economy? (250 words)

Chapter 11: Services: Fuelling Growth Opportunities

Introduction

India's services sector is **classified into contact-intensive services** like trade, hospitality, transportation, real estate, social, community, and personal care, and **non-contact-intensive services** which include financial, IT, professional, communication, broadcasting, and storage services.

Chapter Precap

Current status

- **Share in Indian Economy:** In Fiscal Year 24, the services sector accounted for around **55% of the economy**.
- **Decadal Growth Rate:** Experienced **real growth rates of more than 6%** in each of the **last ten years** (except for pandemic-affected FY21)
- **Share in world export:**
 - India ranked **fifth in services exports** and accounted for **4.4% of global commercial service exports in 2022**.
 - India's share in **digitally delivered services exports** globally increased to **6.0% in 2023** from **4.4% in 2019**.
 - The **rise in services exports**, coupled with a **fall in imports** helped **cushion India's current account deficit**.

Chart XI.1: Increasing trend of GVA in the services sector (in constant prices)

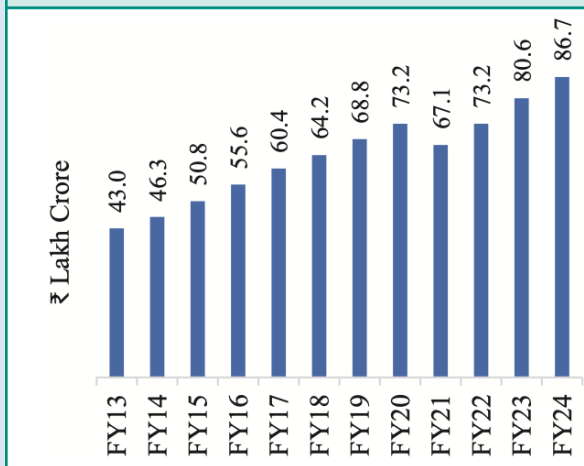
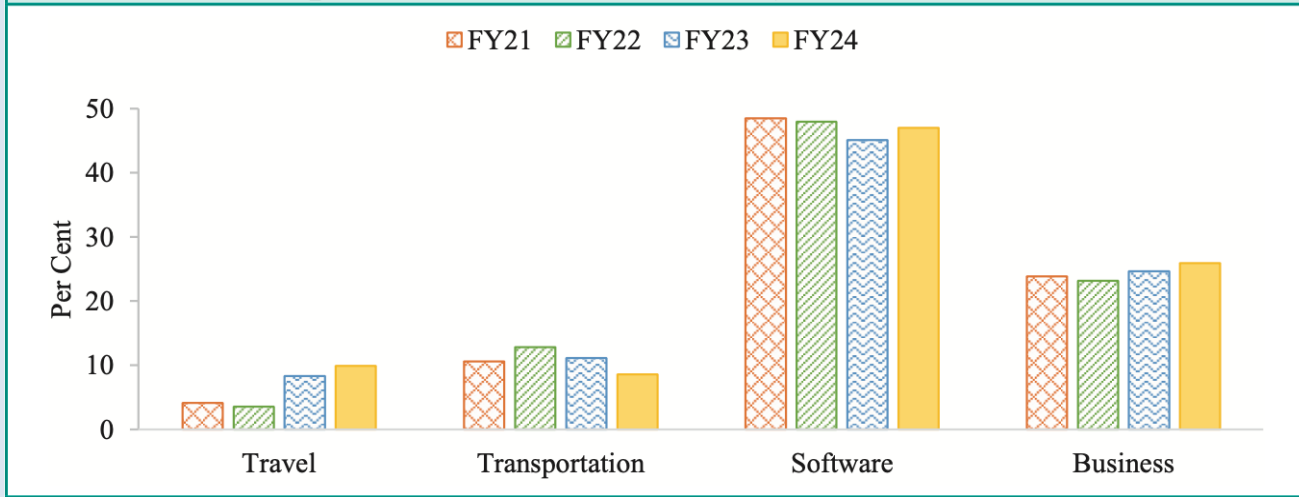


Chart XI.7: Export contributions of four key sub-sectors within services



Challenges

- **AI could slow India's services export growth**, emphasizing the importance of boosting the tourism sector for employment.
- **A gap in the availability of workers** with relevant digital and high-tech skills

Initiatives taken

- **Skill development initiatives** through programs like Skill India and the National Education Policy to equip the workforce with the necessary skills.

<ul style="list-style-type: none"> • Accessing finance can pose difficulties, particularly for small and medium enterprises operating in the services sector • Data privacy and cybersecurity have become critical concerns with the increasing digitisation of services. • Tentative global economic outlook and commodity price uncertainties present a serious challenge to input costs and demand for service. 	<ul style="list-style-type: none"> • Regulatory reforms like GST simplification and sectorspecific policies such as the Real Estate (Regulation and Development) Act are fostering a more conducive business environment.
<p>Way ahead</p> <ul style="list-style-type: none"> • To further embrace technology with confidence, ensuring the adoption of strong security measures, compliance with privacy regulations, and fostering innovation in security technologies are essential. • India's skilling programs must focus on blockchain, AI, IoT, cybersecurity, cloud computing, big data, AR, VR, 3D printing, and web/mobile development. • Public policy should focus on enhancing tourism, with collaboration between government and private sectors. • Adopting strategies similar to Kerala's backwater use and the Netherlands' inland waterways can enhance India's water transport system, support sustainable growth, and reduce congestion. 	

Financing Sources for Services Sector Activity

- **Bank credit:** In FY24, **credit inflows to the services sector increased**, with YoY growth rates above 20% each month since April 2023.
- **External Financing:** According to the **World Investment Report 2024 (WIR 2024)** of UNCTAD, India is the **2nd largest host country for international project finance deals** and **4th largest for Greenfield project announcements.**
 - **Foreign Direct Investment (FDI):** FY24 witnessed a **decline in the FDI equity inflows** to the services sector due to **higher interest rates, geopolitical conflicts, and rising protectionism.**
 - **External Commercial Borrowings (ECBs):** The services sector accounted for a **53% share** of total external commercial borrowing (ECB) inflows in FY24.

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HIGHLIGHTS OF THE PROGRAMME

<ul style="list-style-type: none"> Highly experienced and qualified team of mentors Scheduled group sessions for strategy discussions, live practice, and peer interaction Well-structured revision and practice plan for GS Mains, Essay & Ethics Access to Daksha Mains Practice Tests 	<ul style="list-style-type: none"> Emphasis on score maximization and performance improvement Personalized one-to-one sessions with mentors Subject-wise strategy documents based on thorough research Continuous performance assessment, monitoring and smart interventions
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Sector-Wise Performance

Hospitality & Tourism

- **Current Status**
 - **Global Ranking:** India is 39th in the World Economic Forum's Travel and Tourism Development Index 2024.
 - **Foreign Exchange Earnings:** Increased from 1.38% in 2021 to **1.58% in 2022**.
- **Initiatives**
 - **PRASHAD Scheme:** Pilgrimage Rejuvenation and Spiritual Augmentation Drive.
 - **Swadesh Darshan 2.0:** Focuses on integrated tourism destination development.
 - **Incredible India Tourism Facilitator Certificate Programme:** Trains and develops skilled tourist facilitators through online courses.
- **Other Initiatives:** 11th International Tourism Mart Bharat Parv 2023 E-Marketplace National Integrated Database of Hospitality Industry (NIDHI) portal SAATHI (System for Assessment, Awareness, and Training for Hospitality Industry).

Real Estate

- **Current status**
 - **GVA Contribution:** Real estate has accounted for over **7% of the GVA in the past decade. Housing loans as a percentage of GDP increased from FY12 to FY24.**
 - **Financing:** Traditionally, banks have dominated housing finance, but **Housing Finance Companies (HFCs)** have also **played a significant role** over the years.
- **Factors contributing to growth:** Rapid urbanization Rising incomes Increase in nuclear families New market entrants Desire for home ownership, reinforced during lockdowns Improved financial options for developers and buyers.
- **Initiatives**
 - **Pradhan Mantri Awas Yojana-Urban (PMAY-U):** PMAY(U)-Credit Linked Subsidy Scheme interest subvention has been a primary demand-side driver.
 - **Real Estate (Regulation & Development) Act, 2016 (RERA):** Enhances transparency, accountability, and financial discipline.
 - **Digitization of Land Records:** Improves transaction transparency and reduces ownership conflicts.
 - **Residential Mortgage-Backed Securities (RMBS):** By NHB to address funding limitations.
 - **Investment Fund:** Affordable Housing Fund and Special Window for Affordable and Mid-Income Housing (SWAMIH) Investment Fund, co-lending models, and the Urban Infrastructure Development Fund. Policy Reforms: GST and Insolvency and Bankruptcy Code (IBC).
 - **Policy Reforms:** GST and Insolvency and Bankruptcy Code (IBC).

Information Technology Services

- **Current status:**
 - **Growth Rate:** Information and computer-related services have grown significantly in India's GDP, rising from **3.2% in FY13 to 5.9% in FY23**. Despite the pandemic, these services achieved a **10.4% growth rate in FY21**.
 - **India's tech start-up ecosystem**
 - ✓ **Ranks third globally**, surpassing the USA and UK.
 - ✓ **With 16% of the world's AI talent**, India is an innovation hub.
- **Factors contributing to growth**
 - Demand for **Software as a Service (SaaS) start-ups**
- **Initiatives**
 - **Global Partnership on Artificial Intelligence (GPAI):** It is an **international initiative** established to **guide the responsible development and use of artificial intelligence** in a manner that respects human rights and the shared democratic values of its members.

- ✓ **India is a founding member.**
- **Draft National Deep Tech Start-up Policy (NDTSP)** is a comprehensive framework to tackle deep tech start-ups' challenges.
- **₹10,000 crore Fund of Funds** for Start-ups to support early-stage, seed, and growth stages of start-ups.
- **Drone Shakti Program** and **custom duty exemptions** for EV-related capital goods and machinery.
- **'Future Skills PRIME'**, a MeitY and NASSCOM initiative to facilitate the continuous enhancement of skills of IT professionals in line with their aspirations and aptitude.
- **Pradhan Mantri Kaushal Vikas 4.0 (PMKVY 4.0)** for training in cutting-edge fields such as Industry 4.037, AI, robotics, mechatronics, Internet of Things, and drones.
- **AI Research Analytics and Knowledge Dissemination Platform (AIRAWAT)**: It is an AI Supercomputer, installed at C-DAC, Pune has secured **75th position in the top 500 global supercomputing list** declared at the International Supercomputing Conference 2023 in Germany
- **Digital Skilling program**: Initiated in 2015 to transform India into a digitally empowered society and knowledge economy
- **GI Cloud - 'MeghRaj'**: The objective of the initiative is to deliver information and communications technology (ICT) services over the Cloud to all the Departments/Ministries at the Centre and States/ UTs to ensure the proliferation of Cloud ecosystem in the country.

Telecommunications

- **Current Status:** Tele density increased from 75.2% in 2014 to 85.7% in 2024. Internet density reached 68.2% in March 2024. India is among the fastest-growing 5G networks in the world.
- **Factors Contributing to Growth:** Significant decline in data costs. Increased average wireless data usage per subscriber.
- **Initiatives:**
 - **5G Test Bed:** Launched in 2022, provides testing facilities for R&D in academia and industry. **Bharat 5G Portal:** Supports innovation, collaboration, and knowledge-sharing in the telecom sector.
 - **Bharat 6G Vision:** Launched in March 2023, aims to develop and deploy 6G technologies. **Bharat 6G Mission:** Apex Council established to define phase-wise objectives.
 - **Structural and Procedural Reforms:**
 - ✓ **Rationalized definition of AGR** (Adjusted Gross Revenue).
 - ✓ **Spectrum-related reforms**, including sharing, trading, and rationalizing usage charges.
 - ✓ **100% FDI** allowed in the telecom sector under the automatic route, subject to safeguards. **Telecommunications Act 2023** consolidates telecommunication laws, including spectrum assignment.
 - ✓ **Allocation of 5% of annual collections from the USOF** (Universal Services Obligation Fund) for telecom sector **R&D funding**.
 - ✓ **Telecom Technology Development Fund:** Established in 2022, with significant participation from startups, MSMEs, academia, and industry.

E-Commerce

Current status:

- **Growth:** The Indian e-commerce industry is expected to cross **US\$ 350 billion by 2030**.
- **Largely unorganised:** Currently, the retail market is largely unorganised. **Modern retail**, including e-commerce, is projected to increase to **30-35% of total retail in the next 3-5 years**.
- **Factors Contributing to Growth:**
 - Technological advancements and evolving business models.
 - Government initiatives like Digital India, UPI, ODOP, ONDC,
 - New **Foreign Trade Policy (FTP)**
 - Relaxed **FDI limits**



Initiatives

- **Consumer Protection (E-Commerce) Rules, 2020**, to safeguard consumers from unfair trade practices in e-commerce
- **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021**, ensuring digital platform accountability.
- **The Digital Personal Data Protection Act, 2023** provides a comprehensive data protection framework, further safeguarding consumer information.

What does the budget say?

- **Employment:** ‘Employment Linked Incentive’ based on enrolment in the EPFO has been announced
- **Skilling:** 1000 new ITIs and scheme providing internships for students has been announced
- **Tourism:** Comprehensive development of **Vishnupad Temple Corridor, Mahabodhi Temple Corridor and Rajgir.**

Glossary

Term	Meaning
Greenfield	A project that is started from scratch, with no prior infrastructure, construction, or development.
SaaS	Software as a Service: A software licensing and delivery model in which software is licensed on a subscription basis and is centrally hosted.
AGR	Adjusted Gross Revenue: The usage and licensing fee that telecom operators are charged by the Department of Telecommunications (DoT).
RMBS	Residential Mortgage-Backed Securities: A type of mortgage-backed debt obligation whose cash flows come from residential debt.

Chapter 11: Test Your Learning

MCQs

- 1) What is the primary purpose of the Real Estate (Regulation & Development) Act, 2016 (RERA)?
 - a) To increase foreign investment in real estate
 - b) To provide housing subsidies
 - c) To enhance transparency and accountability in the sector
 - d) To nationalize the real estate industry

- 2) Residential Mortgage-Backed Securities (RMBS) aim to benefit the real estate sector by providing an additional funding source for the sector. It has been launched by
 - a) National Housing Bank (NHB)
 - b) Small Industries Development Bank of India (SIDBI)
 - c) National Bank for Agriculture and Rural Development (NABARD)
 - d) None of the above

- 3) Consider the following statements with reference to India’s service sector:
 - 1) It contributes more than half to the GVA.
 - 2) It has experienced growth rates of more than 6% in each of the last ten years.
 Which of the above statements is/are correct?
 - a) 1 only
 - b) 2 only
 - c) Both 1 and 2
 - d) Neither 1 nor 2

- 4) World Investment Report is released by
- a) World Bank
 - b) IMF
 - c) WEF
 - d) UNCTAD
- 5) Which of the following statements with respect to India's tech start-up ecosystem is/ are correct?
- a) Ranks third globally
 - b) India has 16% of the world's AI talent
 - c) ₹10,000 crore Fund of Funds will support startups in early-stage
 - d) All of the above

Questions

1. Discuss the current status of India's services sector, highlighting its contribution to the economy and global exports. Examine the challenges faced by the sector and suggest measures to overcome them. (150 words)
2. Analyze the role of various financing sources in supporting India's services sector. How have recent global economic conditions affected these financing channels? (250 words)

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Chapter 12: Infrastructure: Lifting Potential Growth

Introductions

India's policy strategy aims to become **ViksitBharat @ 2047** by focusing on the development of **resilient, world-class infrastructure** in physical, social, financial, and digital sectors. The Union Government's main response to the **pandemic-driven economic slowdown** was to **increase capital spending**.

Chapter Precap

Current status

- India's investment in infrastructure was **largely funded by the public sector**. Between fiscal year **2019 and 2023**, the **Central and State Governments contributed to 49% and 29% of the total investments**, respectively, while the private sector contributed 22%.

Major Sector

- Road Transport:** In the last ten years, **national highways have grown 1.6 times**.
- Rail Transport:** **Indian Railways is the world's fourth largest network**.
- Water Transport:** India's rank in the International Shipments category improved to **22nd in the 2023 World Bank Logistics Performance Index**, up from 44th in 2014.
- Civil Aviation:** India is amongst the **fastest-growing aviation markets globally**. The Government has a **capital expenditure plan of more than ₹26,000 crore** for the period **FY20 to FY25**.
- Power Sector:** Power transmission in India is emerging as **one of the largest unified electricity grids in the world**.
- Renewable Sector:** India aims to achieve **500 Giga Watt (GW) of installed electricity capacity from non-fossil sources by 2030**.

Challenges

- Land related:** Delays in land acquisition, land clearances and slow on-boarding of digital land records.
- Skill demands:** The lack of specialized technical skilled personnel in various aspects of infrastructure project development, feasibility assessment, financial return analysis, etc.
- Low private participation due to following issues:** Lumpy capital investment and long payback period, project structuring issues related to risk estimation, inadequate arrangements for dispute resolution, etc.
- Lack of aggregation of financial flows into infrastructure:** Different reporting formats and sectoral splits in financing sources lead to discrepancies in detailed information.
- No single source that gives an inventory of infrastructure projects in the country.**
- Climate and environmental sustainability:** Compliance with Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) for aviation sector.

Key initiatives

National Infrastructure Pipeline (NIP) Portal: Provides opportunities for Ministries and States/UTs to collate all major infrastructure projects at a single location.

Project Monitoring Group (PMG): An institutional mechanism for expeditious resolution of issues and regulatory bottlenecks in projects with an investment of ₹500 crores and above.

PM GatiShakti National Master Plan (PMGS-NMP): A whole-of-government approach adopted to facilitate integrated planning of multimodal infrastructure through collaboration among the Ministries concerned.

National Logistics Policy (NLP): Launched in 2022 to complement PMGSNMP i.e., to drive business competitiveness through an integrated, efficient, sustainable, and cost-effective logistics network by leveraging best-in-class technology, and processes.

Way forwards

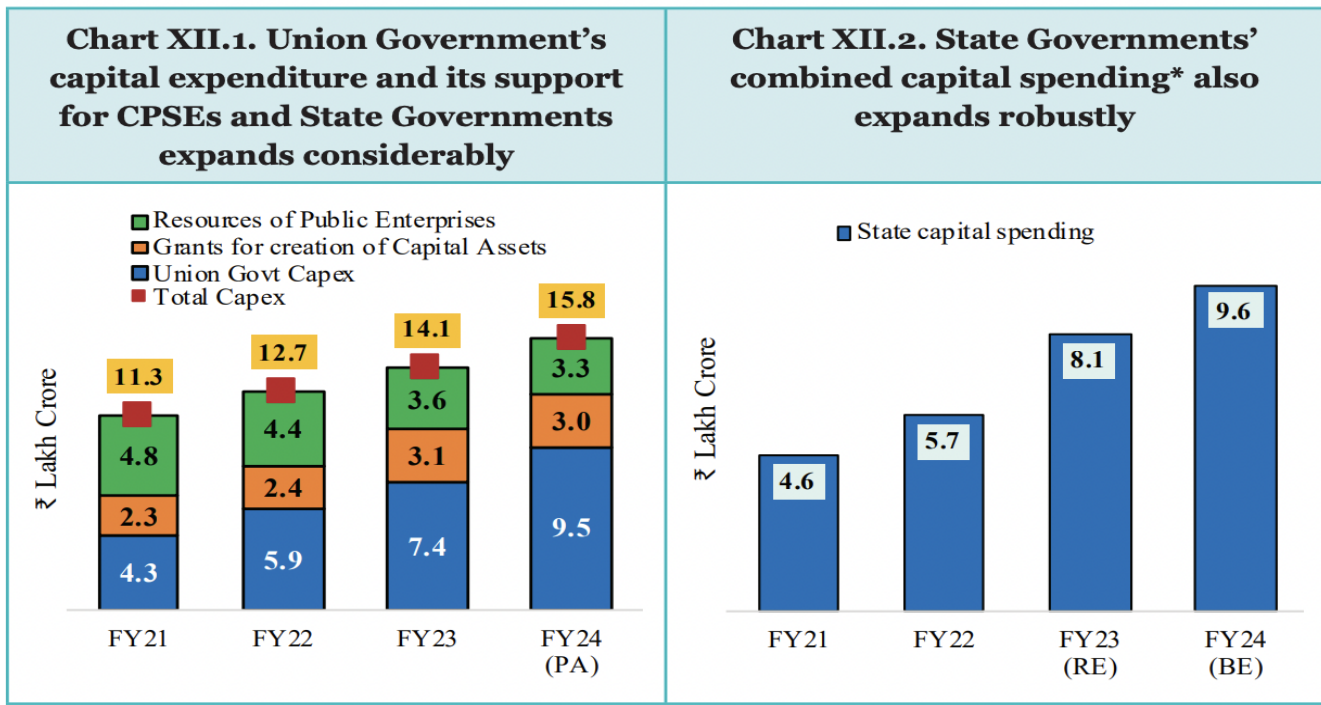
- Enhancing Private Sector Financing:** Policy and institutional support from the Central Government whereas State and Local Governments can facilitate resource mobilisation through:
 - pooled financing mechanisms for municipal projects,
 - specialised municipal intermediaries,

- asset recycling programs,
- tax increment financing and
- land sales and development rights.
- **Data Capture and Reporting:** Consolidate infrastructure development and financial flow data under a single access point, regularly updated as per the HML (Harmonized List) classification.

Infrastructure Financing

The Public Expenditure Push

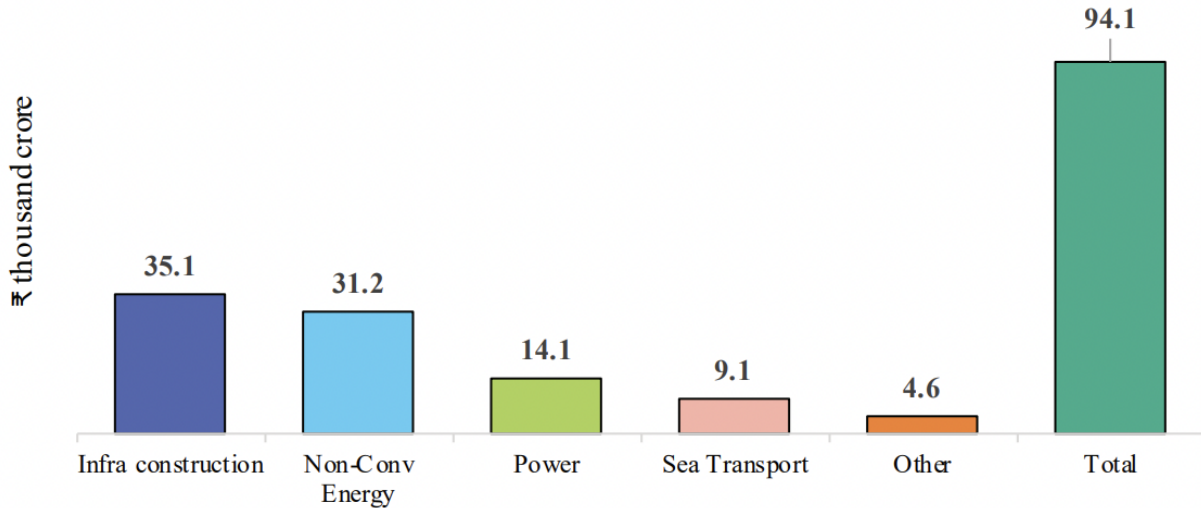
- **Growth in Government’s Capital Expenditure:** The **Union Government's** capital expenditure **increased 2.2 times** between FY21 and FY24 (PA), whereas the **State governments'** expenditure increased **2.1 times** during the same period.
- **Primary Components of Union Government Capital Expenditure**
 - **Line Departments:** Direct spending by various government departments.
 - **Gross Budgetary Support (GBS):** Financial support provided to **Central Public Sector Enterprises (CPSEs)**.
 - ✓ In addition to GBS, the aggregate investible resources of the CPSEs also consist of resources raised by CPSEs themselves.



Non-government sources of funding

- **Bank credit:** Bank credit to infrastructure sectors from March 2023 to March 2024 was about ₹79,000 crore, significantly less than the Union Government's GBS for railways or roads.
- **Gross Inflow of ECB:** ECB for infrastructure sectors rose to US\$ 9.05 billion in FY24, up from an average of US\$ 5.91 billion during FY20 to FY23.
- **Debt and Equity:** In **FY24**, infrastructure sectors raised over **₹1,00,000 crore** through debt and equity in the capital market.
 - From 2019 to 2024, REITs (Real Estate Investment Trusts) raised ₹18,840 crore, while InvITs (Infrastructure Investment Trusts) raised ₹1,11,294 crore.
 - **FDI equity inflows** to infrastructure sectors during **FY24** was **₹ 94.1 thousand crore**

Chart XII.9. FDI equity inflows to infrastructure sectors during FY24



Major Mechanisms for fostering Public Private Partnership (PPP)

- **Public Private Partnership Appraisal Committee (PPPAC):** Apex body for appraisal of central sector PPP projects
- **Viability Gap Funding (VGF):** Assistance to financially unviable but socially/economically desirable PPP projects.
 - Total VGF approval of ₹5,813.6 crore (both Union Government & State share) from FY15 to FY24.
- **India Infrastructure Project Development Fund Scheme:** Financial support for project development of PPP Projects.
 - Notified in November 2022 with a total outlay of ₹150 crore for three years from FY23 to FY25. **28 proposals have been approved.**
- **National Monetisation Pipeline (NMP):** Announced in 2021, the NMP aims to attract private sector investment for new infrastructure by monetizing government core assets. The estimated **monetisation potential is ₹6.0 lakh crore from FY22 to FY25.**
 - **2021-22 to 2022-23:** Transactions worth ₹2.3 lakh crore were completed.
 - **2023-24:** Transactions worth ₹1.51 lakh crore were completed, 1.55 times those in 2021-22.

Developments Across Infrastructure Sectors

Physical Connectivity Infrastructure

Road Transport

- **Current status:**
 - In the last ten years, **national highways have grown 1.6 times.**
 - The **Bharatmala Pariyojana** expanded the network, increasing the **length of high-speed corridors by 12 times and 4-lane roads by 2.6 times** from 2014 to 2024.
- **Key initiatives**
 - **Pradhan Mantri Gram Sadak Yojana (PMGSY)**
 - ✓ **PMGSY-I:** Launched in 2000 for all-weather rural connectivity.99.6% of targeted habitations have received connectivity.
 - ✓ **PMGSY-II:** Launched in 2013 to upgrade 50,000 km of selected routes and major rural links (MRLs).
 - ✓ **PMGSY-III:** Launched in 2019 for consolidation of 1,25,000 km for connecting to agricultural markets, higher secondary schools, and hospitals.



- **National Industrial Corridor programme:** The government is developing 11 industrial corridors to offer multi-modal connectivity and "plug and play" infrastructure for future-ready, sustainable cities.
- **Parvatmala Pariyojana:** To boost last-mile religious and tourist connectivity, six ropeway projects have been awarded.
- **Sustainable raw materials:** Highway development now uses sustainable materials and modern construction techniques. This includes using landfill materials for certain roads and recycling bitumen and asphalt in NH upgrades.
- **Digitization:** Digitization has **cut toll plaza waiting times by nearly 16 times** since 2014.
 - ✓ Free-flow tolling with **Automatic Number Plate Recognition** and **Global Navigation Satellite System** has also been introduced.

Rail Transport

- **Current status:**
 - **Indian Railways**, with over 68,584 route km and 12.54 lakh employees, is the **world's fourth largest network**.
 - **Capital spending has risen by 77% in the past 5 years**, reaching ₹2.62 lakh crore in FY24, focusing on new lines, gauge conversion, and doubling tracks.
- **Initiatives for Railway Enhancement**
 - **Mission 100 per cent Electrification Programme:** 96.4% of Indian Railways has been electrified.
 - **Amrit Bharat Station Scheme:** Launched in 2023 for the development of stations continuously. 1,324 stations have been identified for upgradation so far.
 - **Mumbai-Ahmedabad High Speed Rail (MAHSR) project:** 508 Km project, executed with **cooperation from Govt. of Japan**, land acquisition and civil conduct award have been completed.
 - **Dedicated freight corridors (DFCs):** The Eastern and Western DFCs are under implementation, with 96.1% of the total route length completed by the end of FY24.
 - **GatiShakti Multi-Modal Cargo Terminal (GCT):** Being developed by private players on the railway and non-railway land, based on demand from industry and the potential of cargo traffic.
 - **Electrical/electronic interlocking systems:** They are being used for replacing mechanical signalling.
 - ✓ Electronic interlocking (EI) system, Kavach as automatic train protection (ATP) system, and Automatic Block Signalling (ABS) are being used.

Water Transport

- **Current status:**
 - India's rank in the International Shipments category improved to **22nd in the 2023 World Bank Logistics Performance Index**, up from 44th in 2014.
 - Union **capital expenditure** for ports, shipping, and waterways **grew by 27% between FY23 and FY24**.
- **Key initiatives**
 - **Island Development:** Under the **Maritime India Vision 2030**, **Andaman & Nicobar islands and Lakshadweep Islands** are planned to be developed for tourism and other initiatives
 - **Sagarmala Programme:** Launched in 2015, a total of 839 projects worth ₹5.8 lakh crore have been undertaken **for Port modernisation & fresh development**.
 - ✓ Five focus areas include connectivity enhancement, port-led industrialisation, coastal community development and coastal shipping and inland water transport
 - **Major Port Authorities Act, 2021:** Focusing on **decentralised decision-making**, professionalism, and PPP models has enhanced efficiency and improved governance of major ports.
 - **National Maritime Heritage Complex:** Being built at **Lothal** to showcase a vast collection of maritime artefacts and India's rich maritime history
 - **Major Port at Vadhavan:** The Cabinet has approved the development of **an all-weather greenfield deep draft major port** at Vadhavan in Maharashtra.
 - **Ship building, repair and recycling:**
 - ✓ **Shipbuilding financial assistance policy scheme** was launched to offer financial support to Indian shipyards for shipbuilding contracts signed from FY beginning in 2017 to FY 2025-2026.

- ✓ **The Recycling of Ships Act, 2019 and Rules thereunder:** sets international standards for safe and eco-friendly ship recycling, in line with the **Hong Kong International Convention**.
 - It designates the **Directorate General of Shipping** as the **National Authority** for Ship Recycling, responsible for overseeing all related activities.
- **Harit Sagar:** Green Port guidelines were launched in 2023 under which four major ports are

Civil Aviation

- **Current status:**
 - India is amongst the **fastest-growing aviation markets globally**.
 - The Government has a **capital expenditure plan of more than ₹26,000 crore** for the period **FY20 to FY25** to develop, upgrade and modernise airports to meet international standards
- **Initiatives:**
 - **Airports**
 - ✓ **Ude Desh ka Aam Nagrik (UDAN):** In the last seven years, 579 RCS routes connecting 85 unserved and underserved airports have been operationalized.
 - ✓ **21 Greenfield airports** were accorded in-principle **approval**, out of which **12 airports have been operationalised**.
 - **Drones:** Government introduced **liberalized drone rules in 2021**, published **drone airspace maps**, implemented a **PLI scheme**, and introducing a **drone certification scheme**.
 - **Leasing:** Government is promoting aircraft leasing through the **International Financial Services Centre (IFSC) at GIFT City**.
 - **Maintenance, Repairs and Operations (MRO) industry:** The Government has introduced policies to align India's MRO sector with global standards.
 - ✓ **MROs have expanded into new areas** such as engines in collaboration with global OEMs.
 - ✓ Since the **National Civil Aviation Policy (NCAP 2016)**, the number of MROs has grown from 114 to 147
- **Challenges:** From 2027, the aviation sector must comply with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).
 - As an ICAO member, India must either use sustainable aviation fuel (SAF) or offset emissions by purchasing carbon credits. However, **India lacks ICAO-approved emissions unit programs, and SAF is 3 to 5 times more expensive** than fossil aviation fuel.



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Performance and Progress Analysis



Energy Infrastructure

Power Sector

- **Current status**
 - Power transmission in India is emerging as **one of the largest unified electricity grids in the world.**
 - The **peak electricity demand increased by 13%** to 243 GW in FY24.
 - Between FY23 and FY24, the **maximum rise in electricity generation** was recorded in **renewable energy resources** for utilities.
- **Initiatives**
 - **One Sun, One World, One Grid Initiative:** A task force is studying the feasibility of interconnection of regional grids viz. Southeast Asia, South Asia, Middle East, Africa and Europe for exchange of renewable power.
 - **Revamped distribution sector scheme (RDSS):** Launched in 2021 to help distribution companies improve operational efficiencies and financial sustainability by providing result-linked financial assistance.
 - ✓ RDSS has an outlay of around ₹3.04 lakh crore from **FY22 to FY26.**
 - **UJALA Scheme:** Unnat Jyoti by Affordable LEDs for ALL (UJALA), launched in 2015.
 - ✓ LED bulbs, LED tube lights and energy-efficient fans are sold **to replace conventional and inefficient variants.**
 - **SAMARTH:** Sustainable Agrarian Mission on Use of AgriResidue in Thermal Power Plant (SAMARTH) was launched in 2021.
 - ✓ Biomass co-firing in NCR thermal power plants has reached 1.68%, efforts are underway to take it up to 5%.
 - **Street Lighting National Programme (SLNP):** This programme was launched in 2015 to replace conventional streetlights with smart and energy-efficient LED streetlights.

Renewable Sector

- **Current status:**
 - India submitted its updated nationally determined contributions (**NDCs**) to the UNFCCC and committed to achieve about **50% cumulative electric power** installed capacity **from non-fossil fuel by 2030.**
 - The Ministry of New and **Renewable Energy** is working towards achieving **500 Giga Watt (GW) of installed electricity capacity from non-fossil sources by 2030.**
 - As of March 31, 2024, **India's wind power capacity has increased 2.1 times** in the past **10 years to about 45.89 GW.**
 - ✓ According to REN21, **India is fourth in the world for wind power capacity.**
- **Initiatives**
 - **PM - Surya Ghar Muft Bijli Yojana:** Aimed to install **rooftop solar plants in one crore households** and to be implemented until FY27.
 - **Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM):** Aims to decentralize solar capacity by **solar agricultural pumps.**
 - **PLI Scheme for National Programme on High Efficiency Solar Photovoltaic (PV) Modules:** To achieve manufacturing capacity of GW scale in High Efficiency Solar PV modules.
 - **Solar Parks Scheme:** To provide solar power developers with a plug and play model.
 - **Green Energy Corridor (GEC) projects:** Initiated to facilitate renewable power evacuation and reshaping of the grid for future requirements.
 - **National Green Hydrogen Mission:** The mission targets to achieve about 5 million metric tonne (MMT) of annual Green Hydrogen production capacity by 2030.
 - **New Solar Power Scheme for PVTG Habitations/Villages:** Launched under (PM JANMAN for electrification of one lakh un-electrified PVTG households.
 - **CPSU Scheme Phase-II (Government Producer Scheme):** Aimed at setting up gridconnected solar PV power projects by PSUs and the Government organisations.



○ **Policies**

- ✓ **National Framework for Promoting Energy Storage Systems (ESS):** ESS can be used for storing energy available from RE sources to be used at other times of the day.
- ✓ **Guidelines to promote development of Pumped Storage Projects (PSP):** Pumped storage projects (PSPs) are clean, MW-scale, domestically available, and internationally accepted for storage and ancillary services.

Social and Economic Infrastructure

Sports Sector

● **Key initiatives**

- **National Sports University, Imphal:** Being developed to enhance sports infrastructure and provide world-class sports education, training, and research facilities.
- **Khelo India programme:** Development of sports infrastructure projects are being carried out.
- **Sports Authority of India:** Nine infrastructure projects were approved for different centres in FY24.
- **Model Concession Agreement (MCA):** To promote private participation on in the development of sports infrastructure.
 - ✓ It was drafted for developing integrated multi-sports arenas on a **Design, Build, Finance, Operate, and Transfer (DBFOT)** basis in PPP mode.

Water & Sanitation Sector

● **Key initiatives:**

- **Swachh Bharat Mission – Grameen (SBM-G)**
 - ✓ **10-Year Milestone:** 2024 marks 10 years since the launch of SBM-G, which aimed to make India open defecation free (ODF) with **financial incentives for household latrines and community sanitary complexes.**
 - ✓ **Phase II Goals:** Launched to sustain ODF status, manage solid and liquid waste by 2024-25, and transform all villages from ODF to ODF Plus.
 - ✓ **Model example:** Steel (Barthan) Bank in Siddhipet district in Telangana.
 - **Concept:** Addresses plastic waste management by providing steel utensils like plates and glasses, stored at the Gram Panchayat Office.
 - > Raises awareness of plastic's health risks, and provides income for community operations.
 - **Benefits:** Reduced plastic waste collection, dumping, and burning, with an expected reduction of 6-8 kilograms of plastic waste per event and 28 quintals per month.
- **Jal Jeevan Mission (JJM):**
 - ✓ **Launch and Goal:** Launched in August 2019 to provide tap water to every rural household by 2024, with a total budget of ₹3.6 lakh crore.
 - ✓ **Progress:** At inception, only 17% of households had tap water; now, over 76.12% have connections.
 - ✓ **Model example: Sailam village (Mizoram),**
 - **Transformation:** Under JJM, Sailam went from water-scarce to water-sufficient, becoming a 'Har Ghar Jal' village with a 24x7 community-managed water supply.
 - **Community Initiatives:** Villagers installed water meters, pay based on usage, and protect 30 acres of forest to ensure long-term water sustainability.
 - > Some donated land for watershed development. Local A trained local pump operator manages the water supply system.

Water Resource Management Sector

- **Global River Cities Alliance:** Led by National Mission on Clean Ganga (NMCG), involves over 275 river cities from 11 countries, along with international funding agencies and knowledge partners, focusing on river conservation and sustainable water management.
- **Namami Gange Programme:** Launched by NMCG in 2014-15 for integrated conservation mission



focusing on pollution abatement, conservation, and rejuvenation of river Ganga.

- The budget for the programme has increased from ₹20,000 crore (2014-2020) to ₹22,500 crore (2021-2026).
- Namami Gange is using the widely popular Hybrid Annuity Model (HAM) for the sewage treatment plants being set up under this initiative
- **Dam Rehabilitation and Improvement Project (DRIP):** DRIP is being implemented with financial assistance from the World Bank to improve the safety and operational performance of selected existing dams along with dam safety institutional strengthening with system-wide management approach.
 - **DRIP phase-I (2012-21):** 223 dams were rehabilitated
 - **DRIP Phase II (2021-31):** Envisage improving the safety and operational performance for rehabilitation of 736 dams.
- **Atal Bhujal Yojana: World Bank aided Central Sector Scheme** which is being implemented from 1st April 2020 for five years. **Only program targeting demand side groundwater management**, focusing on behavioural change of the community. GPs (Gram Panchayats) are equipped with instruments for **monitoring water level, water quality, rainfall, and groundwater extraction.**
- **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY):** Launched in 2015-16 to enhance physical access to water on farms and expand cultivable areas under assured irrigation, improve on-farm water use efficiency and introduce sustainable water conservation practices.
 - It is an umbrella scheme with two major components: the **Accelerated Irrigation Benefit Programme (AIBP) and Har Khet Ko Pani (HKKP).**
- **Interlinking of Rivers Project**
 - **Overview:** 30 links (16 Peninsular and 14 Himalayan) identified under the National Perspective Plan (NPP).
 - **Priority Projects:** Five key links include the Ken Betwa Link Project, Modified Parbati-Kalisindh-Chambal link, and the Godavari-Cauvery link (three segments).
 - **Ken Betwa Link Project:** Approved in 2021 with central support of ₹39,317 crore, to be implemented by Madhya Pradesh, Uttar Pradesh, and the Union Government.
- **Dam Safety Act 2021:** To provide for surveillance, inspection, operation, and maintenance of the specified dam for prevention of dam failure-related disasters and to provide for institutional mechanisms to ensure their safe functioning.
- **Groundwater Management & Regulation (GWMR) scheme:** The groundwater regime at the national level is monitored through groundwater monitoring stations spread across the country.
 - Many of these stations are **equipped with digital water level recorders with telemetry for real-time monitoring.**
 - Around 300 demonstrative **artificial groundwater recharge structures** have been created in different parts of the country
- **Census of water bodies:** The **first census of water bodies in the country** was completed and published in 2023.
- **PRAYAG:** An online dashboard for continuous monitoring of river quality and sewage treatment has been launched.

Urban Sector

- **Outlook:** By 2030, **over 40% of India's population will live in urban areas.**
 - To transform cities into economic growth centers, collaboration among central, state, and urban local bodies is crucial. Key strategies include:
 - ✓ Efficient urban planning
 - ✓ Developing robust project frameworks
 - ✓ Strengthening urban local bodies (ULBs)
 - **Project-based funding** models with **secure revenue streams** can attract **viability gap funding**, market borrowings, and credit enhancements.
 - ULBs and implementing agencies should use **value-for-money analysis** and the **waterfall mechanism to optimize project implementation.**



- **Key Initiatives**

- **Pradhan Mantri Awas Yojana-Urban (PMAY-U):** Launched in 2015 to provide pucca houses with basic amenities to all eligible beneficiaries in urban areas.
- **Atal mission for rejuvenation and urban transformation (AMRUT):** Launched in June 2015 in 500 cities focused primarily on providing safe and assured drinking water supply universally.
- **AMRUT 2.0 launched in 2021** for five years focuses on making the cities self-reliant & water secure and providing universal coverage of sewerage & septage management in 500 AMRUT cities.
 - ✓ Notification of **property tax and user charge, enhancing financial sustainability and water security of urban local bodies, reuse of 20% treated used water, double entry accounting system and efficient town planning** etc.
- **Smart Cities Mission (SCM):** SCM launched in June 2015 to promote cities that provide **core infrastructure, clean and sustainable environment and give a decent quality of life** to their citizens through the application of ‘smart solutions’.
- **Swachh Bharat Mission Urban (SBM-U):** Launched to make the **urban areas open defecation free (ODF)** and achieving **garbage free status for all cities through 100 per cent source segregation**, door to door collection and scientific management of all fractions of waste. **Model examples include:**
 - ✓ **Indore’s 500 tonnes per day (TPD) Bio-methanation Plant** Set up in PPP Model.
 - ✓ **Indore Bio CNG** plant boasts a processing capacity of 400 metric tons per day, operating under a Public Private Partnership.
 - ✓ **Black Soldier Flies (BSF)** being used in Mangalore (Karnataka) for treatment of wet waste
 - ✓ **Waste to Electricity** in Pimpri-Chinchwad municipal corporation (Maharashtra)

Strategic Infrastructure

Space sector

- **Space assets:**
 - India currently has satellites for communication, meteorological, Earth observation satellites.
 - ✓ Navigation satellites (Indigenous satellite navigation constellation (**NavIC**) series was completed and operationalised in 2016)
 - ISRO’s launch vehicles includes the **Polar Satellite Launch Vehicle (PSLV)** and **Geosynchronous Satellite Launch Vehicle (GSLV), Launch Vehicle Mark-3 (LVM3)** and the **Small Satellite Launch Vehicle (SSLV)**.
 - ✓ **New Space India Limited (NSIL)** has successfully executed its contract to launch **72 satellites of OneWeb to Low Earth Orbit through LVM3, M2 and M3 missions**, establishing LVM3 as a reliable Launch Vehicle in the global commercial launch services market.
- **Recent Space exploration missions**
 - Mars Orbiter Mission (2014),
 - ASTROSAT (2015),
 - Chandrayan-2 Orbiter (2019) a
 - Chandrayaan-3 landing on the Moon (2023)
 - Aditya – L1 mission (2023)
- **Private participation in the Space sector**
 - **IN-SPACE:** The Indian National Space Promotion and Authorisation Centre (IN-SPACE) is a single-window agency promoting and authorizing space activities, inaugurated in June 2022.
 - **Private Launches and Infrastructure**
 - ✓ **Vikram-S (Prarambh Mission):** A suborbital launch vehicle from Skyroot Aerospace Pvt. Ltd., Hyderabad.
 - ✓ **India’s first private space vehicle launchpad:** Agnikul Cosmos Pvt. Ltd. established the first private launchpad and mission control center on the ISRO campus at the Satish Dhawan Space Centre, Sriharikota (Andhra Pradesh).



- **Industry Partnerships:** HAL and L&T consortia has been selected as the Indian industry partner for the end-to-end production of five PSLVs.
- **Private Sector Developments:** Several private entities, including **PixelSpace, Digantara, Dhruva Space, Azista BST Aerospace, and Tata Advanced Systems Limited**, have developed satellites and functional payloads for operations in outer space.
- **Key challenges**
 - **Developmental Gaps:** Major technological challenges include development of indigenous capability for the realisation of carbon fibres, dedicated captive semiconductor fab for space applications, availability of major alloying elements, etc.
 - **Commercialization:** Challenges related to the commercialisation of technologies include the presence of a very niche and/or competitive marketplace, pricing constraints, typically limited demand that inhibits large-scale commercialisation, lack of visibility of long-term demand, etc.

What does the budget say?

- **Infrastructure investment by Central Government: 3.4 % of GDP** to be provided for capital expenditure.
- **Infrastructure investment by state governments:** Provision of **Rs.1.5 lakh crore** for **long-term interest free loans** to support states in infrastructure investment.
- **Private investment in infrastructure:** Investment in infrastructure by **private sector will be promoted through viability gap funding** and enabling policies and regulations.
 - A market-based financing framework will be brought out.
- **Pradhan Mantri Gram Sadak Yojana (PMGSY):** Launch of **phase IV of PMGSY** to provide all-weather connectivity to **25,000 rural habitations**.
- **Urban Housing:** Under the PM Awas Yojana Urban 2.0, housing needs of 1 crore urban poor and middle-class families will be addressed with an investment of Rs. 10 lakh crore.
- **Trade facilitation:** By promotion of domestic aviation and boat & ship **MRO** (Maintenance, Repair and Overhaul)

Glossary

GBS	Gross Budgetary Support, the financial assistance provided by the central government to public sector enterprises.
HAM	Hybrid Annuity Model, a PPP model for infrastructure development where the government pays 40% of the project cost during construction and the remaining 60% over 15 years as annuity payments.
IN-SPACE	Indian National Space Promotion and Authorisation Centre, a single window agency to promote and authorize space activities in the private sector.
NSIL	New Space India Limited, a public sector enterprise under the Department of Space to commercially exploit the research and development work of ISRO.

Chapter 12: Test Your Learning

MCQs

- 1) Which of the following statement is correct about India’s investment in infrastructure?
1. It is largely funded by the public sector
 2. State Governments funding is more than share of Central government funding
- Which of the above statement is correct?
- a) 1 only
 - b) 2 only
 - c) Both 1 and 2
 - d) Neither 1 nor 2



- 2) Logistics Performance Index is released by which of the following
- World Bank
 - WEF
 - UNCTAD
 - IMF
- 3) Which of the following are being used in India for constructions/ upgradation of roads?
- Landfill materials
 - Bitumen
 - Asphalt
 - All of the above
- 4) Consider the following statements about India's renewable energy sector:
- India has committed to achieve about 50% cumulative electric power installed capacity from non-fossil fuel by 2030.
 - India's wind power capacity has increased 2.1 times in the past 10 years.
 - India is fourth in the world for wind power capacity.
 - PM - Surya Ghar Muft Bijli Yojana aims to install rooftop solar plants in 10 crore households.
- How many of the above statements is/are correct?
- 1 only
 - 2 only
 - 3 only
 - All 4
- 5) Which of the following best describes the main goal of the National Monetisation Pipeline (NMP)?
- To sell off government assets
 - To tap private sector investment for new infrastructure creation
- Which of the above statement is correct?
- 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2

Questions

- What are the main hurdles India faces in infrastructure sector in achieving the vision of Viksit Bharat by 2047, and what strategies can be implemented to overcome these challenges? (250 words)
- India is among the fastest-growing aviation markets globally. What initiatives have been taken to achieve this milestone, and what further challenges exist in India's civil aviation sector? (150 words)

Chapter 13: Climate Change And India: Why We Must Look At The Problem Through Our Lens

Introduction

- As the world's most populous country and currently globally the **5th largest economy, India is headed to become the 3rd largest by 2030**. Naturally, this means that India's energy needs are expected to grow - about 1.5 times faster than the global average in the next 30 years. However, India continues to be labelled as one of the largest polluters in the world and is frequently called out for not doing enough.
- This chapter examines whether the **current strategy adopted to fight climate change is optimum and in everyone's interest**. It also discusses the negative environmental implications of adopting certain Western Practices by the developing world and highlights how sustainable living is built into the Indian lifestyle and its Mission Life (Lifestyle for Environment).

Chapter Precap

Issues with the current global approaches to addressing Climate Change

- Little principled understanding of laws of Life**
- Ignorance of the interconnected nature of existence:** Lack of **research** on how much the end-to-end lifecycle costs of renewable energy.
- Insufficient energy for the intended goal.**
- Overconsumption:** Current Climate Change strategy does not focus on imbibing sustainable practices in the way we live.
- Focus on energy intensive technologies:** E.g., a single Chat-GPT search consumes **10 times more energy than a similar query on Google**
- Lack of focus on per-capita emitters:** 85% of the current largest emitters live in advanced economies like the US, Europe, and China and developing countries only account for 10%.
- Lack of focus on historical data:** India contributed only about **4% of the global cumulative greenhouse gas emissions** between 1850 and 2019.
- Inadequate climate financing:** developing countries require ~USD 6 trillion by 2030 to achieve just about half of their existing NDC targets.

Negative Environmental Implication for developing world by adopting Western Practices

- Market economy has limitations in achieving emissions mitigation.**
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Mission Life (Lifestyle For Environment)

- Announced by:** Indian Prime Minister, at the **2021 UN Climate Change Conference (UNFCCC COP26)**.
- Aim:** To bring **individual responsibility** to the forefront of the global climate narrative
- Five fundamental principles of LiFE that can doctrine for the world**
 - Individual action is the core of Climate Responsibility.
 - Collective policy reflective of Individual pro-planet choices
 - Incorporation of local and sustainable geography and culture
 - Public Policy and not the Market at the helm of undertaking the 'right' decision.
 - Mindful consumption of resources, based on need and not greed

Climate Change and The Global Approach

- The world has adopted a strategy that comprises a set of pathways, popularly called ‘**climate adaptation**’ and ‘**climate mitigation**’.
- It mostly includes shifting to energy sources other than fossil fuels, enhancing energy efficiency, adopting regenerative and environmentally sensitive agricultural practices, etc.

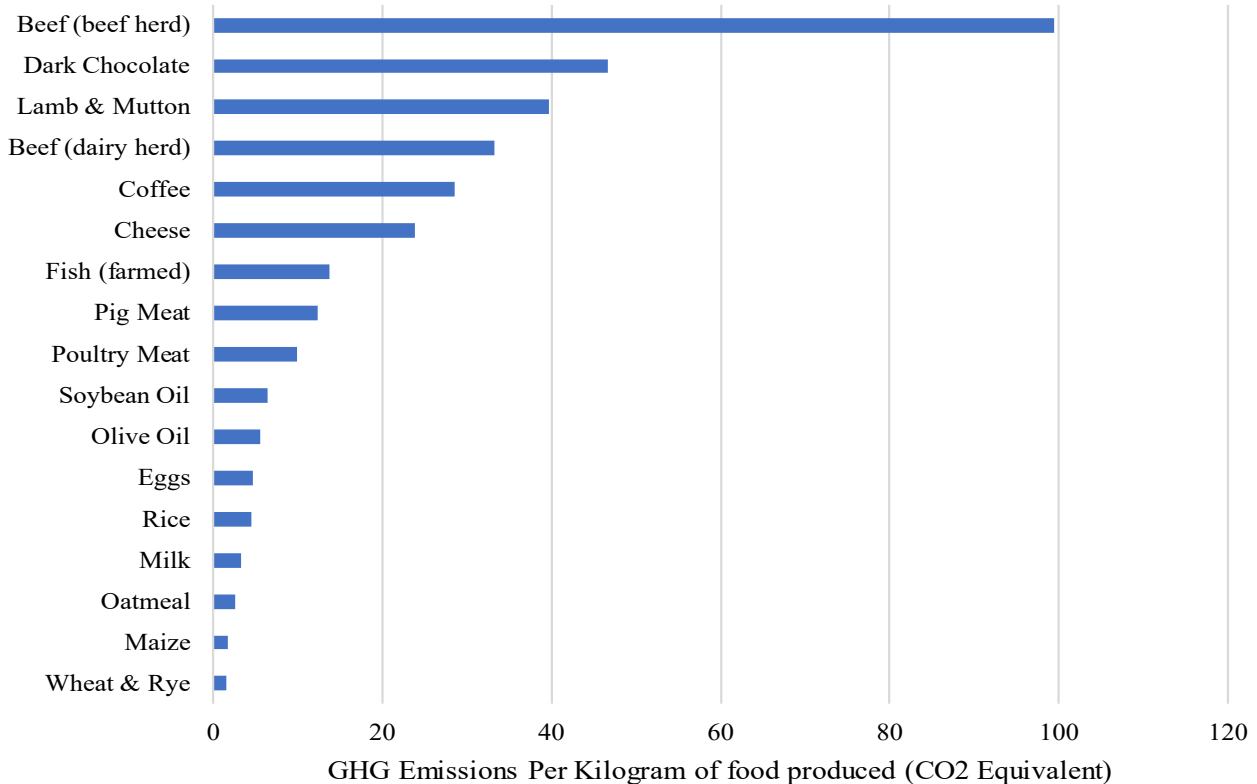
Five Key Pillars of WEO-2023 proposed global strategy for getting the world on track by 2030

- **Tripling global Renewable Energy Capacity.**
- **Doubling the rate of Energy Efficiency** improvements.
- **Slashing methane emissions** from fossil fuel operations by 75%.
- **Innovative, large-scale financing mechanisms** to triple clean energy investments in emerging and developing economies.
- **Measures to ensure an orderly decline** in the use of fossil fuels, including an end to new approvals of unabated coal-fired power plants.

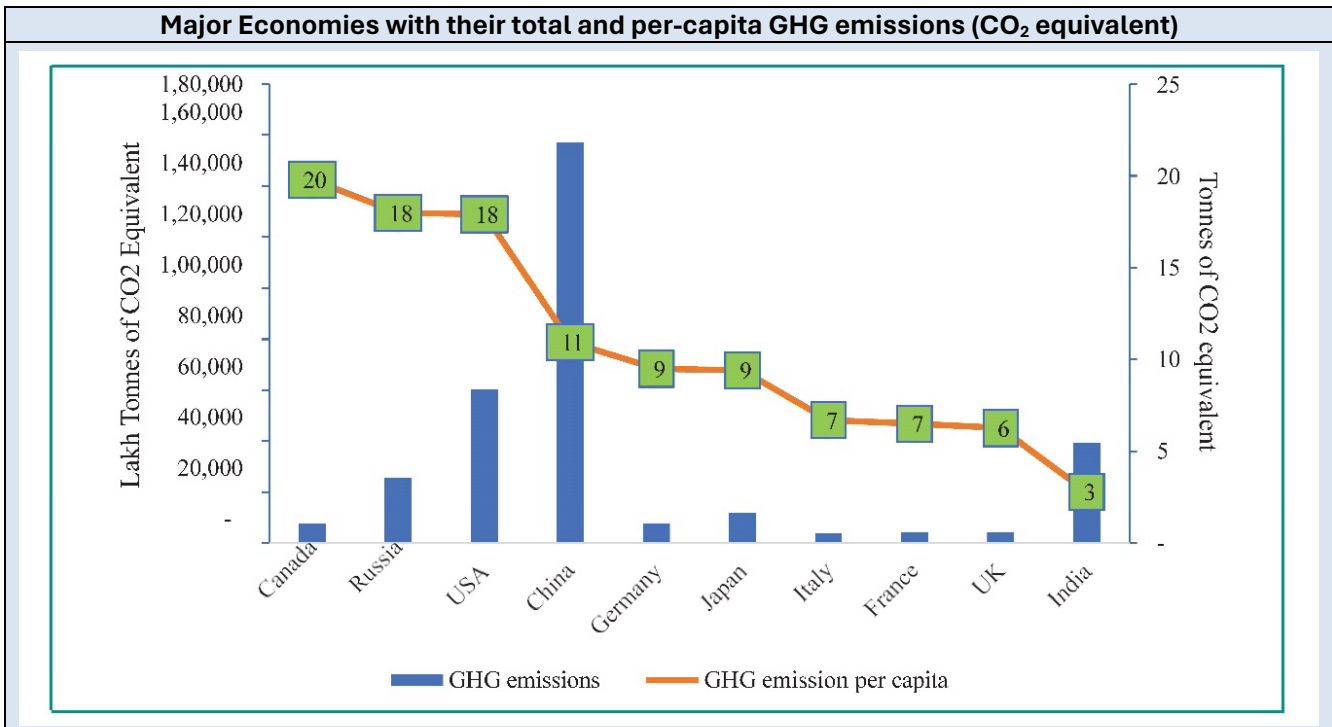
Why is the current approach flawed?

- **Little principled understanding of laws of Life:** Man-made actions as entire solutions are short-sighted in nature.
 - Climate change policies continue to be prescriptive in terms of suitable mandates for countries with **varying geographical, economic, and climatic characteristics.**
 - ✓ Many natural ideas relevant to sustainable development, **such as consumption patterns, lifestyles, plant vs meat-based diet, etc., are not factored in.**
 - ✓ **For e.g. Beef production has the highest emissions per kilogram** of food product. Despite this, there is not even a call for change. (See infographic).

Greenhouse gas emissions across the supply chain for various food products (2018)



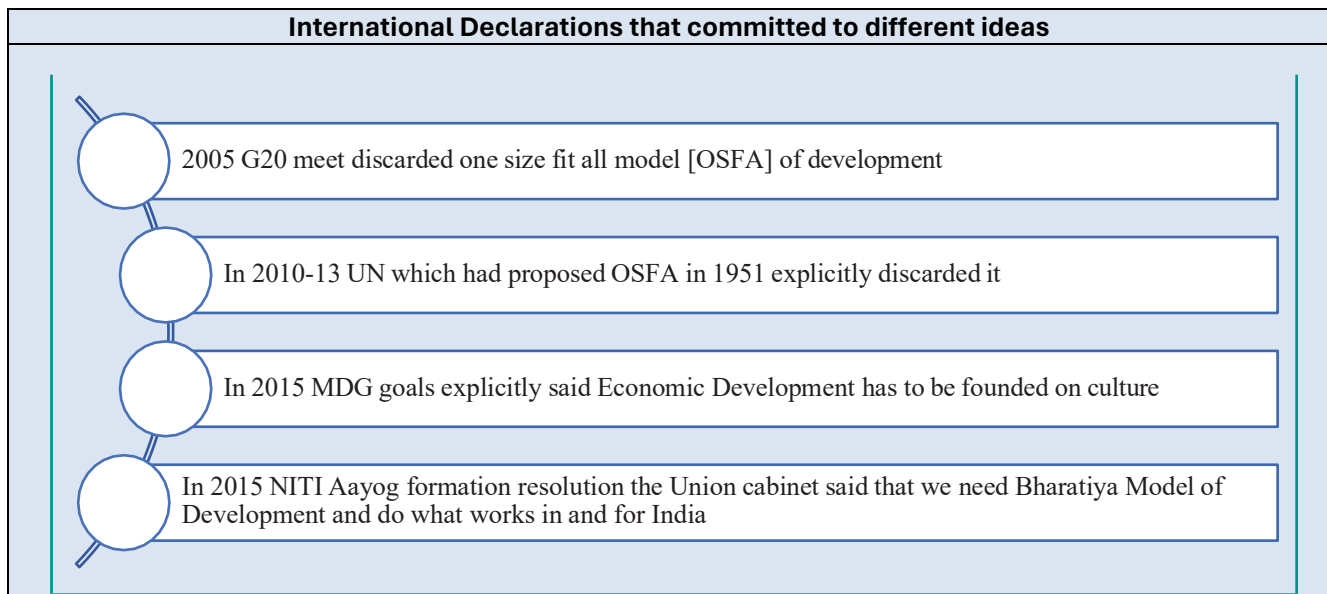
- **Ignorance of the interconnected nature of existence:**
 - **Accepted pathways seem to focus on siloed solutions** and ignore that **nature is inherently interconnected in many ways**. Examples-
 - ✓ Solar panels may generate renewable energy, but solar batteries are formed of materials extracted from the earth’s crust, which requires **substantial water extraction**, releasing about **15 tonnes of CO₂ per tonne of mineral**.
 - ✓ Extraction requires heating at very high temperatures, which can, ironically, be cost-effectively brought out by **only burning fossil fuels**.
 - There is **not enough research** on how much the end-to-end lifecycle costs of renewable energy.
 - ✓ For e.g. Solar can need **300 times as much space as nuclear**, and **biomass more than 8,000 times**, turbine blades and solar panels have to be replaced every couple of decades, etc.
 - ✓ Studies show that a 100% solar and wind system would need **a large storage capacity, which is impossibly expensive. (See below infographic)**.
- **Insufficient energy for the intended goal:** Energy and power, often used interchangeably, are different.
 - E.g.- in terms of final energy uses and specific energy converters, transition would need to replace combustion (gasoline and diesel) engines in vehicles; convert all agricultural and crop processing machinery; find new sources of heat, hot air, and hot water used in a wide variety of industrial processes like iron smelting etc.
- **Overconsumption:** Current Climate Change strategy focus on replacing conventional fuel with renewables and clean energy with increasing energy need.
 - It does not focus on imbibing **sustainable practices in the way we live**.
- **Focus on energy-intensive technologies:** Developed countries are focussing on technologies such as cloud storage facilities, crypto mining, and AI, which are all expected to increase energy demand exponentially.
 - As per a broad estimate by the **International Energy Agency**, a single Chat-GPT search consumes **10 times more energy than a similar query on Google**.
- **Lack of focus on per-capita emitters:** India is the **3rd largest GHG emitter** after the US and China and, therefore, is repeatedly asked to accept a greater share of responsibility.
 - **85% of the current largest emitters** live in advanced economies like the US, Europe, and China and developing countries only account for 10%.



- **Lack of focus on historical data:** There is a lack of recognition by developed nations of their historical contribution to environmental degradation.
 - Despite being home to more than 17% of the global population, India contributed only about **4% of the global cumulative greenhouse gas emissions** between 1850 and 2019.
 - It is unfair to have a **single deadline for zero emissions** across countries.
- **Inadequate climate financing:** Research shows that developing countries require **~USD 6 trillion by 2030 to achieve just about half of their existing NDC targets.**
 - **Against this, only USD 100 billion was** pledged by developed countries till 2020, of which only USD 83.3 billion was provided.

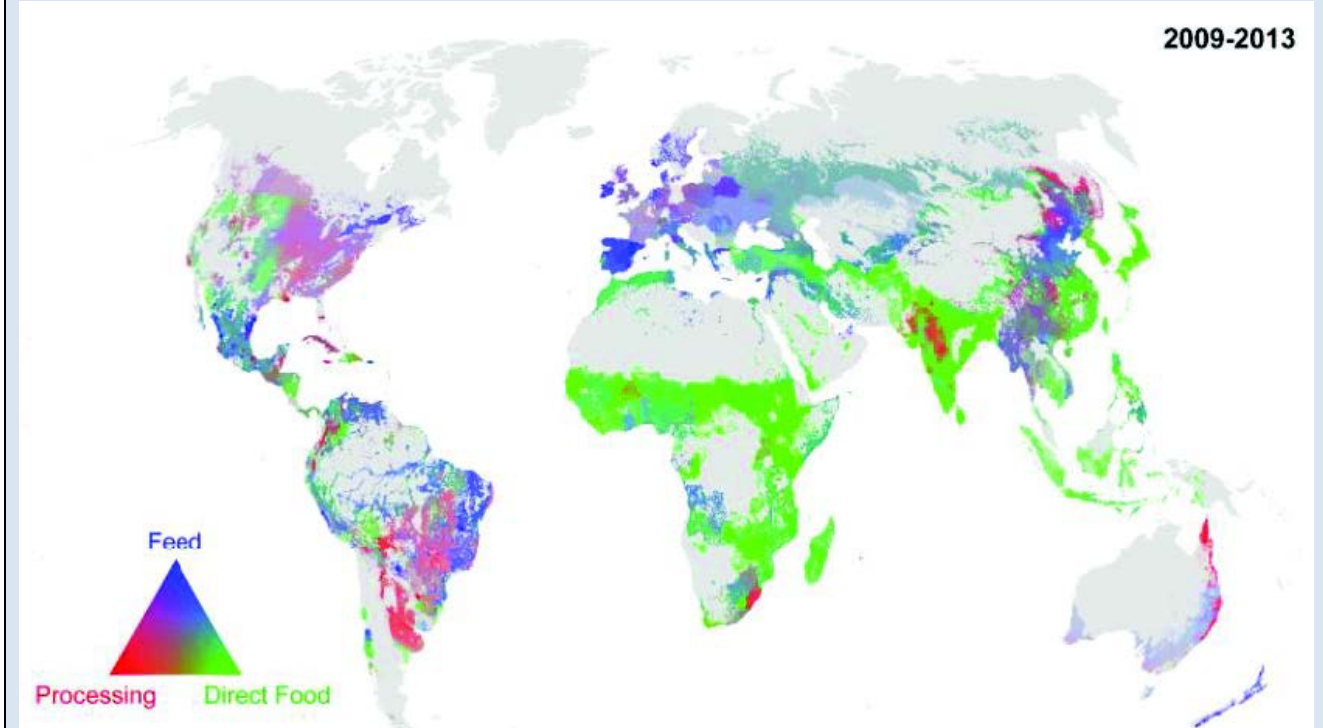
Negative Environmental Implication for developing world by adopting Western Practices

- **India is not a market society:** India has a unique society where our culture, economy, societal norms, and environment are interlinked in a circuitous manner.
 - India wants to become an efficient **Market Economy, but not a Market Society.**
- **Market economy has limitations in achieving emissions mitigation:** It rarely rewards a ‘good choice’ principally, but always the good choice financially.
- **Disregarding One-Size-Fits-All (OSFA) approach:** Market economics should not follow a universally-designed golden mean and must adapt to local conditions



- **Destruction of the food-feed balance:** Feed industry for meat account for **33% of the total arable land** on the planet that is now utilised for feed crop production. This has led to issues like-
 - **Food-feed competition:** More than one-third of the global cereal produced is utilised as animal feed.
 - **Land squeeze:** Just feeding the growing population would require an additional 600 million hectares (nearly twice the size of India) by 2050.
 - **Environmental impacts:** Industry standard practices of growing feed are depleting farmland of its nutrients permanently, causing soil erosion and degrading the water quality.

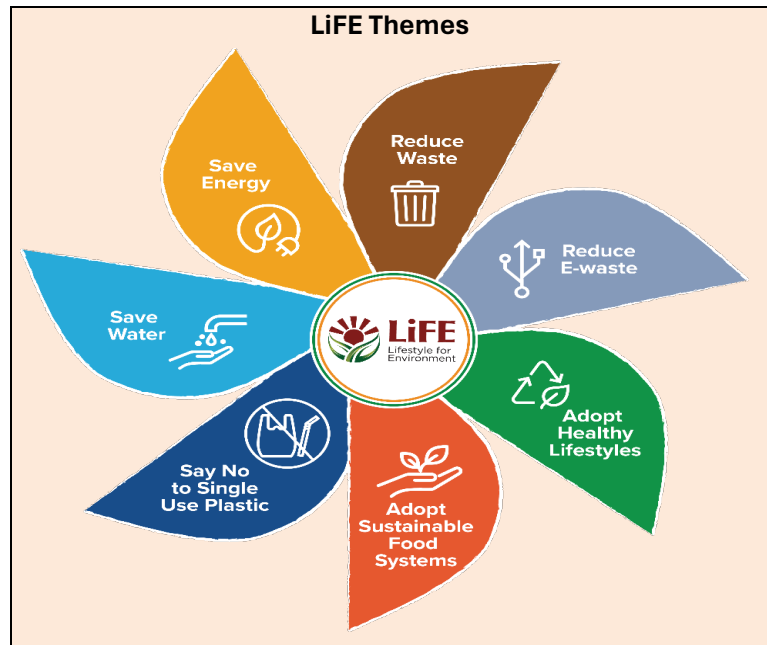
Average fraction of harvest used for Direct food, feed, and processing (2009-2013)



- **Solution to food-feed debate**
 - ✓ **Traditional farming practices from the developing world**, where several agricultural activities are integrated with livestock rearing.
 - ✓ **Recycling farm waste and byproducts** from other agricultural activities to serve as inputs for another activity (human inedible sources of feed such as grass and weeds plucked from fields, etc.)
 - ✓ **Changes need to be brought** about to the meat production processes.
- **Changes in Housing:**
 - **Adoption of Western model of living**, i.e., nucleated **families and single-person residences**: It is estimated today that nearly **50% of all households in India are nuclear** (1-4 members), up from 38% in 2008.
 - ✓ This is a major shift from our older societal norms of multi-generational living with Hindu undivided families (HUF) living under the same roof.
 - **Tendency of urban sprawl**: Due to the increasing number of high-income urban nucleated settlements.
 - ✓ It is linked to **higher energy consumption, elevated pollution levels, and increased traffic congestion** causing significant negative environmental externalities.
 - **Mimicking a universalised model of living**: It is dominated by concrete, closed spaces, less ventilation, and a higher need for air conditioning.
 - **Issues with ‘sustainable housing’**:
 - ✓ **Requirement of reengineering of the entire building and construction ecosystem** which is difficult in a resource-constrained environment
 - ✓ **Impact of small measures is overcalculated in place of the lifecycle cost** of higher-density, non-nucleated living with traditional building homes.
 - **Solution-Traditional Indian living spaces: They have sustainable features like-**
 - ✓ a **central courtyard** that allowed for ventilation, natural lighting and cooling, and more co-habitation,
 - ✓ **usage of local building materials** that prevented the need for transporting the high amount of concrete over long distances,
 - ✓ **building practices that did not require highly mechanised environments** and had local labour filling in the gap.

The Indian Way: A Sustainable Lifestyle

- **Learnings from India:**
 - Indian have deep, spiritual, and philosophical understanding of the concept of cycles of creation and destruction.
 - Global environmental and sustainability strategy must be in accordance with the cyclic temperament of Nature rather than forcing nature to change.
 - Each person contributes to both emission generation as well as emission reduction should be taken into account while forming policies.



Mission Life (Lifestyle for Environment)

- **Announced by:** Indian Prime Minister, at the **2021 UN Climate Change Conference (UNFCC COP26)**.
- **Aim:** To bring **individual responsibility** to the forefront of the global climate narrative and steer individual actions and collective demand towards **pro-planet choices**.
- It encompasses a **comprehensive but non-exhaustive list of 75 LiFE Actions** for adoption by individuals to live more sustainably.
- **Benefits:** As per International Energy Agency, the adoption of the kinds of actions and measures targeted by the LiFE initiative worldwide would-
 - **reduce annual global CO₂ emissions by more than 2 billion tonnes (Gt) in 2030** (20% of the emissions reductions needed by 2030) and
 - **lead to consumer savings of about USD 440 billion.**
- LiFE should have a doctrine for the world, resting on **5 fundamental principles-**
 - **Individual action at the core of Climate Responsibility:** Individuals, especially in the developed world, need to alter their lifestyle in favour of simple behavioural changes. Examples of individual-led sustainable behaviours in India-
 - ✓ **Using a cloth for kitchen cleaning** instead of tissue papers
 - ✓ **Using leaves instead of disposable plates** and packaging material
 - ✓ **Water-based toilet cleaning systems**
 - ✓ **Reuse and upcycling** of household items
 - ✓ **Digital consciousness** in the form of accepting e-bills rather than paper bills, purchase of energy-efficient products etc.
 - ✓ **Give It Up' LPG Subsidy Scheme**
 - **Collective policy reflective of Individual pro-planet choices:** Small but consistent actions have a **large compounding effect** observable across time. Examples of small actions-
 - ✓ Using air-conditioning and thermostats at **more optimum and sustainable temperatures.**
 - ✓ **Reducing the need** to carry disposable plastic bags and **replacing them with reusable fabric bags.**
 - ✓ **Building a culture of water reuse** through individual behaviour change and **mandated design specifications** in favour of structures like rainwater harvesting.
 - ✓ **Practicing sustainable agriculture** through the use of local seeds and natural farming practices.
 - ✓ **Fiscal Incentives for large households** rather than single or two-person households.

- ✓ **Policy on Circularity in Textiles in India:** Currently, less than 50% of textile waste in India undergoes any kind of reuse, repair, or remanufacture.
 - As per UNEP, the fashion industry is the **second-biggest consumer of water** and is responsible for 2-8% of global carbon emissions.
- **Incorporation of local and sustainable geography and culture:** Indian cuisine is **based on local geography** which not only provides a medicinal value to food but also reduces ecological footprint and reduces energy requirements.
 - ✓ **India practised Ayurveda**, which emphasises existence in accordance with nature can be followed for sustainable living.
 - ✓ **Follow Golden Principle of sustainable ingestion- eat local, eat fresh, eat sustainably:** E.g., More plant-based diet; Use of fermented products; Growing medicinal herbs such as Tulsi, around us; Eating seasonally and locally – e.g. more millets than quinoa etc.
- **Public Policy and not the Market at the helm of undertaking the ‘right’ decision:** It focuses on influencing **individual behaviours through policy approaches** with a role for governments, community leaders, and media.
 - ✓ **E.g.**, under Ujala program, people were incentivised to adopt LED lights by bringing down buying costs for people.
- **Mindful consumption of resources, based on need and not greed:** Countries must look at **encouraging sustainable lifestyles** to overcome the negative externalities of excess materialism.

Conclusion

- The most important human factor in enlivening these principles to life is contentment that comes with Equanimity. It’s time to rebuild societies with equanimity. The hunger to consume more should be curtailed so that we can move toward sustainability.
- Internal equanimity contributes to more acceptance of others and, therefore to better human relations. Our conscious and unconscious choices should not be separated from the drivers of life on earth. Hence, the global movement on climate change must be accommodative of sovereign choices and economic needs but centred on individual behaviour - ‘LiFE’.

What does the budget say?

- **Transit Oriented Development**
 - To implement and finance **14 large cities above 30 lakh population**.
- **Urban Housing**
 - Investment of 10 lakh crore, including the central assistance of ` 2.2 lakh crore in next 5 years, under PM Awas Yojana Urban 2.0.
- **Plastics**
 - Basic Custom Duty on PVC flex banners increased from 10 to 25 per cent.
- **Solar Energy**
 - Capital goods for use in manufacture of solar cells and panels exempted from customs duty.

Glossary

Term	Meaning
Market society	<ul style="list-style-type: none"> • Market society is often the culmination of a long-standing culture of market economics, whereby the social mores become heavily permeated by market values, leading to the commodification of areas that were traditionally governed by non-market norms. <ul style="list-style-type: none"> ○ A market economy is centred on the notion that supply and demand drive the production of goods and services.



Chapter 13: Test Your Learning

MCQs

- Which of the following are themes of India's Mission Life (Lifestyle For Environment)?
 - Say no to single plastic use
 - Adopt healthy lifestyles
 - Save waterSelect the correct answer using the code given below.
 - Only one
 - Only two
 - All three
 - None
- Arrange the following countries in decreasing order of their per-capita GHG emissions (CO₂ equivalent).
 - India
 - USA
 - JapanSelect the correct answer using the code given below.
 - 1-3-2
 - 2-3-1
 - 3-2-1
 - 1-2-3
- Consider the following statements:
 - India is the 3rd largest GHG emitter after the US and China.
 - India contributed only about 4% of the global cumulative greenhouse gas emissions between 1850 and 2019.Which of the statements given above is/are correct?
 - 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2
- Consider the following statements with reference to 'Mission Life (Lifestyle For Environment)':
 - It was announced by India at the 2023 UN Climate Change Conference (UNFCC COP28).
 - It aims to steer individual actions and collective demand towards pro-planet choices.Which of the statements given above is/are correct?
 - 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2
- Arrange the following food products in increasing order of Greenhouse gas emissions across their supply chain.
 - Beef
 - Coffee
 - RiceSelect the correct answer using the code given below.
 - 3-2-1
 - 1-3-2
 - 3-1-2
 - 1-2-3

Questions

1. The current global strategy to tackle climate change has some fundamental issues, especially for developing countries. Elucidate. (150 words)
2. What is India’s Mission Life (Lifestyle for the Environment), and how can it help contribute to global climate action? (250 words)

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Answers to MCQs

Chapter 1 Answers:

1) D	2) D	3) D	4) B	5) A
------	------	------	------	------

Chapter 2 Answers:

1) D	2) B	3) C	4) C	5) A
------	------	------	------	------

Chapter 3 Answers:

1) D	2) B	3) B	4) C	5) A
------	------	------	------	------

Chapter 4 Answers:

1) A	2) D	3) A	4) C	5) B
------	------	------	------	------

Chapter 5 Answers:

1) A	2) A	3) B	4) C	5) C
------	------	------	------	------

Chapter 6 Answers:

1) C	2) B	3) D	4) B	5) A
------	------	------	------	------

Chapter 7 Answers:

1) B	2) A	3) A	4) C	5) A
------	------	------	------	------

Chapter 8 Answers:

1) D	2) C	3) B	4) D	5) B
------	------	------	------	------

Chapter 9 Answers:

1) C	2) D	3) A	4) B	5) B
------	------	------	------	------

Chapter 10 Answers:

1) B	2) A	3) B	4) D	5) B
------	------	------	------	------

Chapter 11 Answers:

1) C	2) A	3) A	4) D	5) D
------	------	------	------	------

Chapter 12 Answers:

1) A	2) A	3) D	4) C	5) B
------	------	------	------	------

Chapter 13 Answers:

1) C	2) B	3) C	4) B	5) A
------	------	------	------	------

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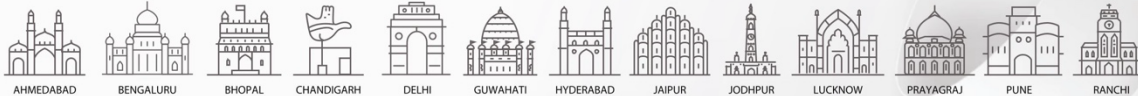
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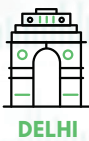


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