

Introduction

The Economic Survey presents a **comprehensive analysis of India's growth trajectory including the global optimism towards nation**, focus on infra, growth in agriculture, industries and emphasis on futuristic sectors. It is presented a day before the presentation of the Union Budget.

The Economic Survey 2023-24 highlights the domestic and global scenario and how Indian Economy is faring in this climate. In the climate of global uncertainty, **Indian macroeconomic indicators have been stable**. This can be primarily attributed to the broad-based reforms, focus on capital expenditure and inclusive growth among others.



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

Global Economic Scenario

- **Growth:** Global Economy registered a growth of 3.2% in 2023, marginally lower than in 2022.
- **Challenges to global growth:** Higher inflationary pressures, rising geopolitical tensions, cross-border restrictions, high borrowing costs and slower growth in advanced economies.

A Resilient Domestic Economy

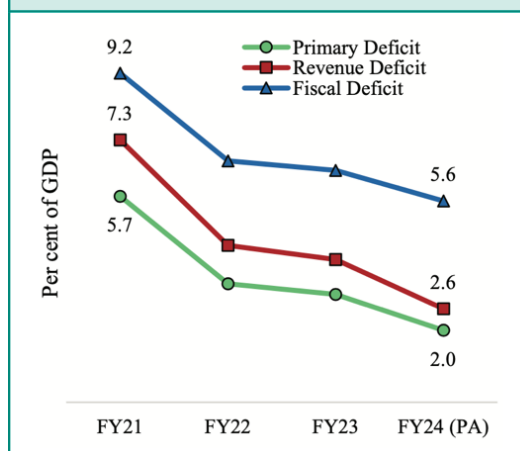
- **Resilient Growth:** Despite global challenges, **India's real GDP grew by 8.2% in FY24**, driven by stable consumption demand and steadily improving investment demand.
- **Sectoral Share:** The shares of **agriculture, industry and services sectors** in overall GVA at current prices were **17.7%, 27.6% and 54.7%** respectively in FY24.
- **Capital Formation:** Share of Gross Fixed Capital Formation (GFCF) in nominal GDP is **rising** with uptake in private capex and households' investment in real estate.

Macroeconomic Stability Safeguards Growth

Improving Public Finances

- **Fiscal Deficit:** 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.
- **Revenues:** Growth in **Gross Tax Revenue (GTR)** was estimated to be 13.4% in FY24, translating into **tax revenue buoyancy of 1.4**.
 - Broadly, **55%** of GTR accrued from **direct taxes** and the remaining **45%** from **indirect taxes**.
- **Capital Expenditure:** Capital expenditure for FY24 stood at ₹9.5 lakh crore, 2.8 times the level of FY20.
- **Revenue Expenditure:** Budgeted expenditure on interest payments stands at 30.4% of revenue expenditure in FY24.
- **State Government Finance:** 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%.
- **Sovereign Credit Rating:** 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.

Chart I.33: Steadily declining deficit ratios



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

Monetary Developments

- **Monetary Policy:** After the cumulative **policy repo rate hike of 250 basis points (bps)**, between May 2022 and February 2023, Monetary Policy Committee (MPC) kept the **repo rate unchanged at 6.5%**.
- **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:** 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.

Performance of the Banking Sector and Credit Availability

- **Credit Growth:** Credit disbursal by **Scheduled Commercial Banks (SCBs)** stood at **₹164.3 lakh crore**, growing by 20.2% at the end-March 2024.
 - Agricultural credit increased **nearly 1.5 times** from FY21 to **₹20.7 lakh crore in FY24**.
- **Asset Quality of Banks:** The Gross Non-Performing Assets (GNPA) ratio of SCBs reached a **12-year low of 2.8%** (March 2024) from its peak of 11.2% in FY18.
- **Measures taken for Distressed Assets:**
 - Strengthening banking regulatory framework, amending recovery laws, establishing **National Asset Reconstruction Company Ltd. (NARCL)** etc.
 - Insolvency and Bankruptcy Code (IBC): Since FY18, IBC has enabled over **₹3 lakh crore recoveries for the SCBs**.

Financial Inclusion

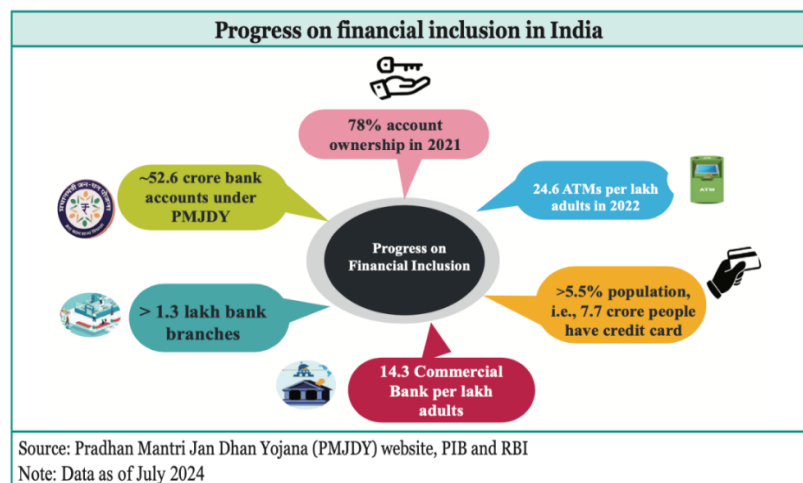
- **Progress:** The **number of adults** with an account in a **formal financial institution** increased from 35% in 2011 to **77% in 2021**.
- **Financial Inclusion Strategy:** Shift in focus from 'every household' to 'every adult'

Microfinance Institutions

- **Present Status:** Globally, **Indian microfinance sector is second largest after China** in terms of number of borrowing customers in India.
- **Rural Orientation:** MFIs are oriented more towards **rural areas in India (74%)**.
- **Gender progress:** Women constitute **98% of the total clients** of MFIs.

Trends in the Indian Capital Markets

- **Primary Market:** Primary markets **facilitated capital formation of ₹10.9 lakh crore** compared to ₹9.3 lakh crore in FY23.
- **Public Debt Issuances:** During FY24, number of corporate bonds public issues in FY24 was the **highest**.
- **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**.
- **Secondary Markets:** Indian stock market was **among best-performing markets (fifth in the world by market capitalization)**, with India's Nifty 50 index ascending by 26.8% during FY24.



Chapter 3: Prices and Inflation: Under Control

Introduction

- **Inflation management:** India managed to keep retail inflation at 5.4% in FY24, the lowest level since the Covid-19 pandemic period. India's inflation rate was lower than the global average 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, stable currencies etc.

Domestic Retail Inflation

- **India's Inflation:** In 2023, India's inflation rate was within its target range of 2 to 6 per cent.
- **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.
- **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 May 2022 to February 2023.
- **Headline Inflation:** Low fuel and core inflation ensured a downward trajectory for headline inflation, despite volatility in food prices in FY24.

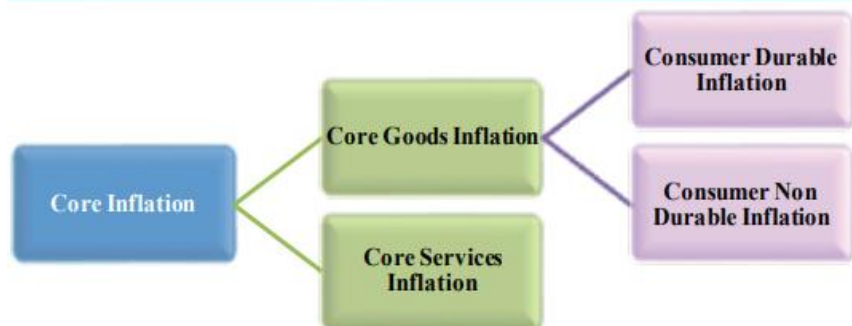
Core Inflation Dynamics in the Post-pandemic World

- **Core Inflation:** Core services inflation eased to a nine-year low in FY24 i.e. 3.8, while core goods inflation also declined to a four-year low i.e. 4.9.

Food Inflation

- In FY23 and FY24, agriculture sector was affected by extreme weather events that adversely affected farm output and food prices.
 - **Consumer Food Price Index (CFPI)** increased from 3.8 % in FY22 to 7.5 % in FY24.
- **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.
- **Administrative measures to contain food inflation in FY24:**
 - Placing of export of food items such as wheat flour, broken rice, onion etc. under prohibited category, fixing Minimum Export Price for basmati rice and imposition of export duty.
 - Imposition of stock limits on wheat to prevent hoarding.
 - Introduction of Bharat Atta, Bharat Rice, Bharat Dal at subsidised prices.
 - Offloading of wheat and rice periodically from central pool under open market sale.

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



Inter-State Variations in Retail Inflation

- **General trend:** Inter-state variation is higher in rural than urban inflation & states with higher overall inflation tend to exhibit a wider rural-to-urban inflation gap, with rural inflation exceeding urban inflation.
- **Rural Inflation:** The inflation rate was less than 6 % in 29 out of the 36 States and UTs. States that witnessed elevated food prices also experienced higher rural inflation.



Chapter 4: External Sector: Stability Amid Plenty

Introduction

- India's external sector remained **strong despite geopolitical headwinds and inflation**. India is benefitting from Prevailing Global dynamics.

India's Overall Trade

- Exports increased by 0.23%, while imports declined by 4.9% in FY24.** The merchandise trade deficit narrowed to USD 238.3 billion in FY24.
- 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.
- Diversification of Export Destination:** Post-FY2000, **Asian, African & Middle Eastern nations have emerged as export destinations**, replacing traditional destinations like UK, Germany, etc.

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%).**
- Share in global exports:** Increased from 0.5 % in 1993 to 4.3 % in 2022. **India is now 7th largest services exporting country globally.**
 - Global Capability Centers**, growing at 18% annually since FY20, has significantly contributed to services exports.

India's Global Value Chains (GVC) participation:

- India's GVC participation:** Rising (**40.3% in 2022**), however, it's **still lower than USA (47.3%), UK (47.8%), South Korea (56.2 %) and Malaysia (60 %).**
- GVC related trade:** Increased nearly four times from USD 62.9 billion in 2010 to USD 233.1 billion in 2022.

India's global Trade Arrangements

- India signed four FTAs (Mauritius, UAE, Australia, and EFTA) between 2021 and 2024. Except EFTA all these FTAs have come into force.**

Favorable Current Account Balance

- India's **current account deficit (CAD) shrank to 0.7% of GDP in FY24 from 2% in FY23.**
- Invisibles**
 - Net Services Receipts:** Increased to **USD 162.8 billion in FY24** from USD 143.3 billion in FY23.
 - Remittances:** Increased to **USD 106.6 billion in FY24**. Remittances are **India's second-largest external financing source and its top remittance recipient country** (USD 120 billion in 2023).

Capital Account Balance

- CAD's Net Capital Flows:** Increased to **USD 86.3 billion in FY24.**
- Net Foreign Portfolio Investment (FPI) flows in FY24:** Reached **USD 44.1 billion**, highest level since FY15.

Foreign Direct Investment (FDI)

- 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.
- Investment intentions in new and futuristic sectors:** Such as renewables, artificial intelligence, green hydrogen, and semiconductors, have increased over time.

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.**

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.**

Exchange Rates

- Indian Rupee **showed the lowest volatility** against US Dollar due 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.**

International Investment Position (IIP)

- As of March 2024, **Indian residents' overseas financial assets increased by 11.9 %** and India's international liabilities increased by 8.1% to USD 1,390 billion.
- Share of debt liabilities in total external liabilities was 51.1%.

Challenges to Indian Economy	
Fall in demand from major trading partners	Commodity Price Volatility
Rise in Trade Cost	Trade policy changes

Stable External Debt Position

- India has **managed its external debt prudently**, keeping the **CAD within sustainable limits** and encouraging non-debt creation of external finance.
- External debt to GDP ratio declined to 18.7%**, and share of short-term debt in total external debt decreased to 18.5%.

Outlook

India's **trade deficit** is expected to decline further as the PLI scheme expands and India creates a **competitive manufacturing base.**

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

Medium Term Outlook

- India aims to become a **developed nation by 2047**, a decade ahead of China's growth.
- India is set to become the world's third-largest economy, with a **medium-term growth rate of over 7%**.
 - World Economic Outlook**, IMF has raised India's growth **forecast for 2024-25 to 6.8 %** from 6.5 %.

India's medium-term growth outlook is premised on the following key tenets					
Goeconomic Fragmentation & Resource Nationalism	Climate Change Strategies	Technology	Limited Policy Space and Trade-offs	Collaborative Implementation of Reforms	Bottom-up Reform

Key Areas of Policy Focus in the Short to Medium Term

- Generating Productive Employment:** India requires creating **78.51 lakh jobs** non-farm jobs annually to meet demand.
- Skill gap challenge:** About **51.25% of the youth are not yet employable**.
- Tapping the full potential of the agriculture sector** that is facing structural issues among others.
- Easing compliance requirements & financing bottlenecks confronting MSMEs:** **Excessive regulations, complex compliance, and limited access to finance** hinder MSMEs potential.
- Managing India's green transition:** 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.
- Chinese conundrum:** India faces questions about integrating into the global supply chain without affecting China's supply chain and balancing goods and capital imports.
- Tackling inequality:** India's top 1% accounting for 6-7% of total incomes.
- Improving quality of health of India's young population:** 56.4% of India's disease burden is due to unhealthy diets.

Six pronged Growth Strategy for Amrit Kaal

- Boosting private sector investment:** In machinery and intellectual property to create quality jobs.
- Growth and Expansion of India's Mittelstand:** By **deregulation, state dialogue, physical and digital connectivity, infrastructure upgrades, technology** etc.
 - India's MSME sector is contributing 30% of GDP, 45% of manufacturing output, and providing employment to 11 crore of its population.
 - Mittelstand:** 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.
- Removing the growth impediments in the agricultural sector**
- Secure the financing of green transition in India:** by **addressing investment barriers**, fostering a sustainable finance ecosystem, etc.
- Bridging the education-employment gap:** To harness its demographic dividend by nurturing a workforce equipped with employable skills.
- Building state capacity and Capability:** Mission Karmayogi launched to **enhance state capacity using the 'Workforce to Work-Workplace' framework**.



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

Present Status of India's Climate Action

- India's Nationally Determined Contribution (NDC) targets achieved well in advance i.e. 9-11 years before target year 2030
- Updated NDC (August 2022)
 - Target to **reduce the emissions intensity of India's GDP enhanced to 45%** by 2030 from the 2005 level.
 - ✓ **Sector wise anthropogenic emissions:** Energy sector (75.81 %), agriculture sector (13.44 %), Industrial Process & Product Use (IPPU) (8.41 %), and waste (2.34 %).
 - Target on **cumulative electric power installed capacity from non-fossil fuel-based energy resources increased to 50%**.

Why adaptation is critical for India?

- The **welfare-equivalent income loss** due to a 2.5°C warming is **significantly higher for lower-income countries**.
- India's Total **adaptation-relevant expenditure** was **5.60% of the GDP in 2021-2022** (Initial Adaptation Communication of India).
- Steps taken by the government for adaptation
 - **National Action Plan on Climate Change (NAPCC)**
 - **Eighth cycle of Perform Achieve and Trade (PAT) scheme** notified
 - Promotion of micro irrigation under the **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)**
 - **National Innovations on Climate Resilient Agriculture**
- Challenges of Energy Transition
 - Renewable energy faces **intermittency and discontinuous supply**
 - Many **technologies required for global Net Zero are currently commercially unavailable**
 - **Increase in demand for land & water**
 - **Renewable waste recycling**
 - **Concentration of rare earth and critical minerals** in mining and processing

Low Carbon Development and Energy Composition

- Three 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 (85 % of which is imported).
 - **Coal accounts for nearly 70 % of the total electric generation.**
- **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, National offshore wind energy policy, Green Hydrogen Mission etc.

Steps taken to improve Energy Efficiency

- **Building sector:** Energy Conservation Building Code, Net Zero Energy Building, Net Positive Energy Buildings, Standards and Labelling (S&L) program, etc.
- **Lifestyle for Environment (LiFE)** initiative: Adopting worldwide LiFE actions would reduce **one- fifth of the emissions reduction needed by 2030.** (IEA analysis)
- **Transport sector:** Fuel consumption standards and norms have been set for cars, heavy-duty vehicles (HDVs) etc.

India's steps to access critical minerals

- **Joined the Mineral Security Partnership (MSP)**
- Government released a list of **30 critical minerals for India**.

India's measures for Financing Sustainable Development

- **Sovereign Green Bonds (SGBs):** Issued SGBs amounting to **₹36,000 cr** in 2023.
- SEBI issued new sustainability reporting requirements under **Business Responsibility and Sustainability Report (BRSR)**.
- RBI implemented **Framework for Acceptance of Green Deposits for Regulated Entities**.
- **RBI's Priority Sector Lending (PSL)** rules covers renewable sector.

Indian Carbon Market

Carbon Credit Trading Scheme (CCTS)

- **Objective:** To allow the **determination of a price for one tonne of carbon dioxide equivalent emissions**.
- **Mechanism: Obligated entities (registered entities)**, achieving greater than notified target notified can get **Carbon Credit Certificates (CCC)** and these CCCs can be sold in carbon market.

Voluntary Carbon Market (VCM)

- VCM is **worth over USD 1.2 billion**, and **India is the second-largest supplier** of carbon offsets.
 - **Carbon Offsetting:** Process that allows entities to compensate for their emissions through emission reduction/ removal/avoidance achieved in projects elsewhere or by other entities
- **Concerns: Double counting** - when sellers and buyers can claim the carbon reductions.

Climate Finance: India's estimated finance needs

- **Tens of trillions of dollars required by 2050** for India's transition towards a low-carbon development pathway.
- **As per 1st Adaptation Communication submitted to UNFCCC** Cumulative need for expenditure for adaptation is **₹56.68 trillion by 2030**.

Outcome of CoP 28 and Global Stocktake (GST)

- **Operationalization of the Loss and Damage Fund** and its funding arrangements.
- **Finalization of Emirates Framework for Global Climate Resilience**.


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Chapter 7: Social Sector: Benefits That Empower

Social Expenditure

- Government Spending on social services has seen a rising trend since FY 2016. 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%**.
- Annual CSR spending has been increasing (FY2017-18 to FY2021-22).**
 - Sector wise CSR:** Education (32.4%), Healthcare & Sanitation (38.4%), Rural Development (6.9%) etc.

Pillars of new Welfare Approach						
Increasing the impact per rupee spent	Goal Oriented Approach for Budget	Acceleration in Capital expenditure	Data governance	Targeted reforms for last-mile service delivery	Increasing private sector participation	Affordable social security schemes

Overall Progress and Outcomes

- Poverty Reduction:** 24.82 crore people have escaped multidimensional poverty between 2013-14 and 2022-23 (NITI Aayog). Largest decline in Uttar Pradesh and Bihar.
- Inequality reduced:** Gini coefficient (indicator of inequality), has declined for the rural as well as urban sector. Rural-urban divide also declined.
- Other:** 52.6 crore Jan Dhan Account have been opened. 3.47 pucca houses have been built for poor people under PM AWAS Yojana

Healthcare

- Government health Expenditure:** risen from **28.6%** (2013-14) to **41.4%** (2019-20) as percent of total health expenditure.
- Rising Mental Health Issues: 10.6% of adults & 1 in 7 (10-19 years)** experience a mental disorder in India. **Treatment gap** for mental disorders ranged between **70 to 92%**.
- Progress:** Out-of-pocket expenditure 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)**
- Key Initiatives:** Ayushman Bharat Yojana, PM Jan Aushadhi Kendras, eSanjeevani, Ayushman Bharat Digital Mission, National Mental Health Policy (2014) etc

Education

- New Education Policy (2020)** encompass SDG goal 4 (quality education) and prepare youth for Knowledge driven economy.
- Key Initiatives: New Education Policy (2020),** NISHTHA (for teachers training), Digital Infrastructure for knowledge sharing (DIKSHA), PM POSHAN etc.
- Progress:** Enrolment in **higher education has witnessed 26.5% increase since FY15.**
 - Female enrolment grew by 31.6% (between FY15 and FY22).
- Use of Digital public infrastructure:** National Credit Framework, Automated Permanent Academic Account Registry (APAAR), Academic Bank of Credits, SWAYAM platform etc.

R&D

- Expenditure on R&D: Consistently increasing over years & has** more than doubled (FY2011-2021), however it's still lower than china, US etc & **Private sector contributes only 36.4%**
- Achievements:** India ranked **40th** in **Global Innovation Index (GII)** in 2023. **~1 lakh patents in FY24.**

- **Initiatives:** 'Anusandhan (National Research Foundation), 1 lakh crore (interim Budget FY25) has been allocated adopting slogan "Jai Jawan, Jai Kisan, Jai Vigyan, Jai Anusandhan".

Empowerment of Women

- **New Approach:** India is shifting from women's development to **women-led development**.
- **Steady Rise in Gender Budget:** **38.7% rise in Gender Budget Statement vis-à-vis FY24 BE.**
- **Initiatives for Social Empowerment:** "Beti Bachao, Beti Padhao", , Saksham Anganwadi & Poshan 2.0 programme.
 - **Institutional delivery** has increased from 78.9% (2015-16) to 88.6% (2019-21)
- **Education and Skilling:** Gender parity has been achieved at school with help of Sarva Shiksha Abhiyan (2000) & Right to Education Act 2009.
- **Women in Science:** Graduate female in STEM is at 42.7% (World Bank 2018). Scheme 'Women in Science and Engineering- **KIRAN (WISE KIRAN)**' launched.
- **Political Empowerment:** **Nari Shakti Vandan Abhiniyam, 2023 (NSVA)** is a leap towards women's political participation.
- **Economic Empowerment:** Female LFPR rose to 37% (2022-23) from 23.3%(2017-18).
- **Financial Inclusion:** 55.6% bank accounts under PM Jan Dhan Yojana are of women.
- **Entrepreneurship:** **68% of the total loans** sanctioned to women under **PM Mudra Yojana** & **77.7% of the beneficiaries under Stand-Up India** are women.

Rural Economy: Driving the Growth Engine

Strengthening MGNREGA

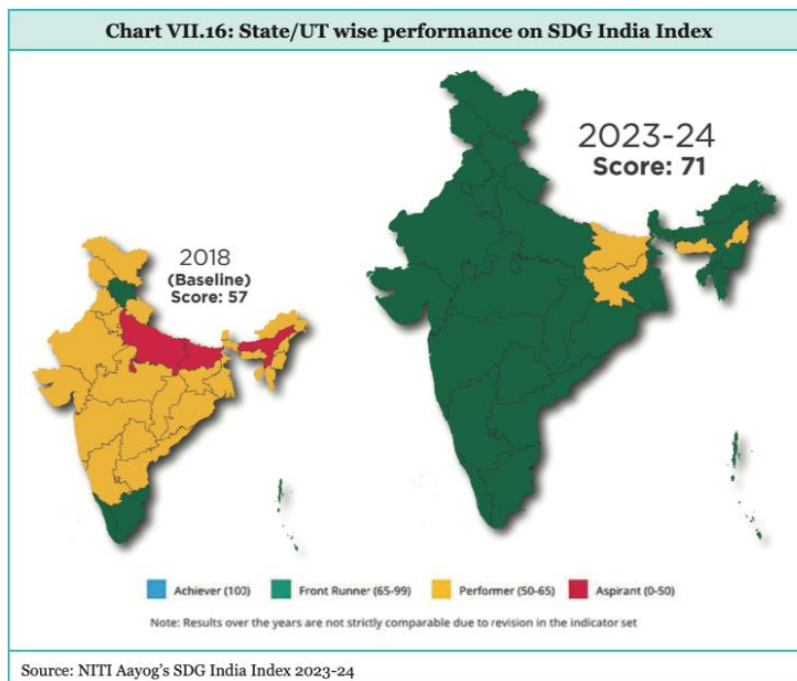
- **Insights from MGNREGS Data showcases differences in MGNREGA work demands across states**
 - Bihar and UP, with about 45% (20% and 25% respectively) of the poor population, accounted for only 17% (6% and 11% respectively) of MGNREGA funds.
- **Multiple efficiency reforms have been introduced to fully utilize the scheme:**
 - **E.g. Geo-tagging** of works, **Direct Benefit Transfer**, **Setting up of Social Audit** units.

Towards Sustainable Development

- According to **NITI Aayog's SDG India Index progress report**, India has made significant strides in achieving the SDGs despite global challenges.

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

- 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.



Chapter 8: Employment and Skill Development: Towards Quality

Current Employment Scenario

- **Annual unemployment rate declining:** Since **COVID-19 pandemic**, with rise in labour force participation rate & worker-to-population ratio (Periodic Labour Force Survey).
- **India's workforce:** Estimated to be nearly **56.5 crore in 2022-23** of which more than **45 % of workforce is employed in agriculture**, followed by service (28.9%) and manufacturing (11.4 %).

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.
- **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.

Initiatives to Foster Job Creation & worker's welfare

- **Aatmanirbhar Bharat Rojgar Yojana (ABRY):** By 31 March 2024, it benefited 60.5 lakh individuals.
- **Prime Minister's Employment Generation Programme (PMEGP):** Estimated employment generated are 37.46 lakhs.
- **Deendayal Antyodaya Yojana – National Urban Livelihoods Mission (DAY-NULM):** 5.48 lakhs are beneficiaries since 2018-19.
- **Pradhan Mantri Mudra Yojana (PMMY):** 47.7 crore loan sanctioned under it for MSMEs.

The Evolving Landscape of Jobs in India

Fourth industrial revolution (4th IR):

- 4th IR characterized by advanced connectivity, analytics, AI, machine learning etc is transforming job markets in India and rest of the world.
- About **40 % of global employment is exposed to AI** & about half of these may be negatively affected (IMF).
- **Initiatives undertaken by India:** Future Skills Prime, 'YUVAi: Youth for Unnati and Vikas with AI', 'Responsible AI for Youth, India AI Mission etc.

Shift towards gig economy

- 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**.
 - **Gig Economy:** Refers to a labor market characterized by short-term contracts, freelance work, and temporary positions, as opposed to permanent, full-time jobs.
- **Code on Social Security (2020)** expands 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**.
- However **India's green transition & 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.

Flexi job market in India

- India employs **5.4 million formal contract staff** or flexi workers through contract/temporary staffing companies.
- 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

- Indian food processing market is expected to reach **USD535 billion by 2025**, growing at a CAGR of 15.2%.
- 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.

Care Economy in India

- **Need for a well-developed care economy:** India would need to care for 64.7 crore (children and aged population) in 2050 compared to 50.7 crore in 2022.
 - **CARE ECONOMY:** Includes paid and unpaid work through which care is provided for others
- **Opportunity for females:** Direct public investment equivalent to 2 % of GDP in care economy has potential to generate 11 million jobs, nearly 70 % of which will go to women.
- **Elderly Care:** 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.
 - **India's elderly care sector** (sized USD 7 billion), **is underdeveloped.**

Progress of Skilling

- According to 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**.
- **Various schemes for skilling**

Schemes	Progress
Pradhan Mantri Kaushal Vikas Yojana (PMKVY)	<ul style="list-style-type: none"> • Since its launch in 2015, 1,42,67,888 persons have been trained.
Craftsmen Training Scheme at Industrial Training Institutes (ITIs)	<ul style="list-style-type: none"> • 1.24 lakh persons enrolled in long-term training between 2014 and 2023.
Jan Shikshan Sansthan (JSS)	<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"> • 32.38 lakh apprentices engaged between FY17 and FY24.
Skill India Digital Hub platform Convergence platform	<ul style="list-style-type: none"> • Registration of 60 lakh learners and 8.4 lakh app downloads
PM Vishwakarma	<ul style="list-style-type: none"> • 4.37 lakh candidates have been trained/undergoing training under the programme.



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

Introduction

- India 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. About **89.4% of farm households own less than 2 hectares of land**.

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.

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.
- **National Food Security Mission- Oilseeds & Oil Palm (NFSM-OS&OP):** Aims to boost vegetable oil availability and resulted in decrease in import share from 63.2% (2015-16) to 57.3% (2022-23).

Promoting Investment and Access to credit in Agriculture and allied sectors

- **Rising Public Investment:** In 2022-23, **Gross Capital Formation (GCF) in agriculture sector grew by 19.04%**, and its share of GVA rose from 17.7% in 2021-22 to 19.9% in 2022-23.
- **Subsidies:** From 2011-12 to 2020-21, **agricultural subsidies more than doubled**, with the biggest increases in fertilizer and power.

Key Initiatives

- **Initiatives to crowd in private investments:** Agriculture Marketing Infrastructure (AMI) sub-scheme, Agriculture Infrastructure Fund (AIF), and Pradhan Mantri Kisan SAMPADA Yojana (PMKSY).
- **Affordable credit:** Kisan Credit Card (KCC), and Pradhan Mantri Fasal Bima Yojana (PMFBY) with technological interventions including YES-Tech, WINDS, CROPIC etc.
 - Such measures have reduced **share of non-institutional credit from 90% in 1950 to 23.4% in 2021-22**.

Futures market for agriculture commodities in India

- Futures markets **help stabilize prices and manage risks**.
- **Key initiatives**
 - **Setting up national exchanges:** Including National Commodity and Derivative Exchange (NCDEX) and Multi Commodity Exchange (MCX).
 - **Regulatory changes:** Repealing of Forward Contracts Regulation Act (FCRA) and SEBI replacing Forward Market Commission as commodity market regulator.
 - **Electronic online marketplace (e-NAM) and expansion of commodities eligible** for derivatives trading.

Making Agriculture Sustainable

- **Climate change Impact:** Climate change is projected to reduce wheat yield by 19.3% in 2050 and 40% in 2080 and rice yields may drop by 20% by 2050 and 47% by 2080.
- **Fertiliser:** Fertiliser consumption in India is imbalanced with **urea** dominating nitrogenous fertilisers.
 - **Issues with fertiliser subsidy: Lack of Integration with Land Records, no purchase limits,** diversion of subsidised fertiliser for non-agriculture purposes, overuse of fertilisers, and health hazards.
 - **Way Forward:** Using Agri Stack to improve subsidy targeting, E-RUPI to provide subsidy etc.
- **Key initiatives**
 - **Irrigation:** National Mission for Sustainable Agriculture (NMSA), Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), Micro Irrigation Fund (MIF).
 - **Irrigation coverage increased** from 49.3% in 2015-16 to **55% in 2020-21 while irrigation intensity** rose from 144.2% in 2015-16 to **154.5% in 2021-22.**
 - **Fertiliser Optimisations:** PM-PRANAM, Soil Health Card Scheme, Introduction of Urea Gold etc.
 - **Organic and Natural Farming:** Paramparagat Krishi Vikas Yojana (PKVY), MOVCDNER etc.

Cooperative Societies- Empowering farmers by strengthening communities

- **Key initiatives**
 - **Three new Multistate Cooperative Societies:** Established under the Multistate Cooperative Societies (MSCs) Act 2002: National Cooperative Exports Limited (NCEL), Bhartiya Beej Sahakari Samiti Limited (BBSSL), and National Cooperative Organics Limited (NCOL).
 - Linking PACS/Large Area Multipurpose Societies (LAMP) with NABARD and **world's largest decentralised storage program** 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, amounting to 0.43% of 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.

Food Processing Sector (FPI): Processing Potential

- **GVA Growth:** GVA in the sector has increased from ₹1.30 lakh Crore in 2013-14 to ₹1.92 lakh Crore in 2022-23 and it constituted **7.66% of GVA in Manufacturing** in 2022-23.
- **Employment:** It is **one of the largest employers in organised manufacturing**, with a 12.02% share.
- **Export Value:** value of agri-food exports during 2022-23 was US\$46.44 Billion (11.7% of total exports).
- **Key initiatives:** PLI Scheme for the Food Processing Industry (PLISFPI), PM Formalization of Micro Food Processing Enterprises (PMFME) scheme, Operation Green.

Food Management: Social Net for Food Security

- **Key Initiatives:** Decentralized Procurement Scheme, National Food Security Act, 2013 (NFSA), and Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY):
 - **Under PMGKAY, free food grains will be provided to 81.35 crore beneficiaries for five more years starting January 1, 2024** at an estimated total financial outlay of ₹11.80 lakh Crore.

Chapter 10: Industry: Small and Medium Matters

Overview

- Industrial growth (in FY24): 9.5 %.
- Share of manufacturing in total gross value added at current prices (in FY23): 14.3 %.
- Average annual growth rate of manufacturing sector in the last decade: 5.2%

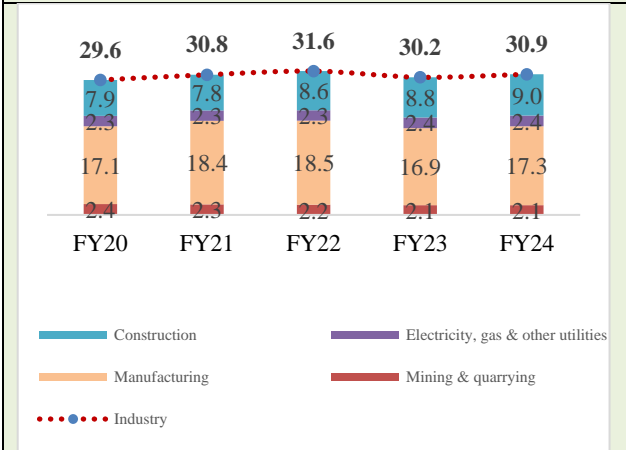
Performance of Key Sectors and Related Issues

Key Industrial Intermediates

Cement: Building the future

- Status:** India is the **2nd largest cement producer** in the world (after China).
- Location of production:** About 85% is concentrated in Rajasthan, Andhra Pradesh, Telangana, Karnataka, Madhya Pradesh, Gujarat, Tamil Nadu, Maharashtra, Uttar Pradesh, Chhattisgarh and West Bengal.
- Issues:** **Low per capital consumption** (around 260 kg) and 7% of anthropogenic greenhouse gas emissions.

Share of industry and its Components in total GVA (in constant prices)



Steel sector on the growth path

- Status:** Achieved its highest levels of production and consumption during FY24 and India became **net exporter of finished steel** over the past decade.
- Issues:** Fluctuation in international prices, dependence on import of coking coal (raw material for steel), high energy intensity and 12 % of India's GHG emissions.
- Initiatives:** Establishment of **Nagarnar Steel plant in Chhattisgarh**, PLI Scheme for specialty steel, and MoU with 27 countries to attract investment.

Coal: Reducing external dependence

- Status:** In FY24, India produced 997.2 million tonnes of coal, imported 261 MT and consumed 1233.86 MT.
- Energy:** **Coal-fired power generation** accounts for about **70% of the total power generation**.

Recent Initiatives	Challenges, opportunities and options
<ul style="list-style-type: none"> Target: To gasify 100 MT of coal by 2030 to reduce imports. Viability Gap Funding Scheme for coal/lignite gasification projects. Integrated Coal Logistics Policy and Plan 2024 and notification of amended Coal Blocks Allocation Rules, 2017, in 2023. 	<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. 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:** India accounts for 20% of global generic drug exports by volume produced.



- **Exports:** India has become a **net exporter of bulk drugs**.
- **Initiatives:** PLI Scheme for Bulk Drugs, Scheme for promotion of Bulk Drug Parks, Promotion of Research and Innovation in Pharma MedTech Sector etc.

Textile industry: Navigating challenges

- **Status:** Textiles generated a GVA of ₹3.77 lakh Crore in FY23 (**10.6% of manufacturing GVA**).
- **Export:** India is world's **2nd-largest clothing manufacturer** and **one of the top five exporting nations**.
- **Challenges:** Limited efficiency and economies of scale, fragmented nature of apparel sector, heavy dependence on imported machinery, inadequate availability of skilled manpower etc.
- **Initiatives:** PM MITRA parks, PLI Scheme, National Technical Textiles Mission, National Handloom Development Programme etc.

Electronics industry: Powering the future

- **Status:** India's electronics manufacturing sector accounts for **3.7% of global market share** and contributed **4 % to India's total GDP in FY22**
- **Increase in exports** (from FY18 to FY23): 35.7%
- **Workforce:** **Direct workforce** in mobile phone production has **more than tripled** between FY17 to FY22.
- **Initiatives:** PLI scheme for large scale electronics manufacturing, PLI 2.0 IT Hardware, Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECES) etc.

Automotive industry

- **Policy Support:** PLI Scheme, National Programme on Advanced Chemistry Cell (ACC) Battery Storage, and Phase II of FAME Scheme.

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** and **boosted exports** by ₹4 Lakh Crore.

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 for formalising MSMEs, it registered **4.69 Crore MSMEs**.
 - Union Budget 2023-24 allocated ₹9,000 Crore to **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** include Prime Minister's Employment Generation Programme and Credit Guarantee Scheme (CGS).
- **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 with 70% of total e-commerce sales in 2020-21 from MSME.

Central Public Sector Enterprises (CPSEs)

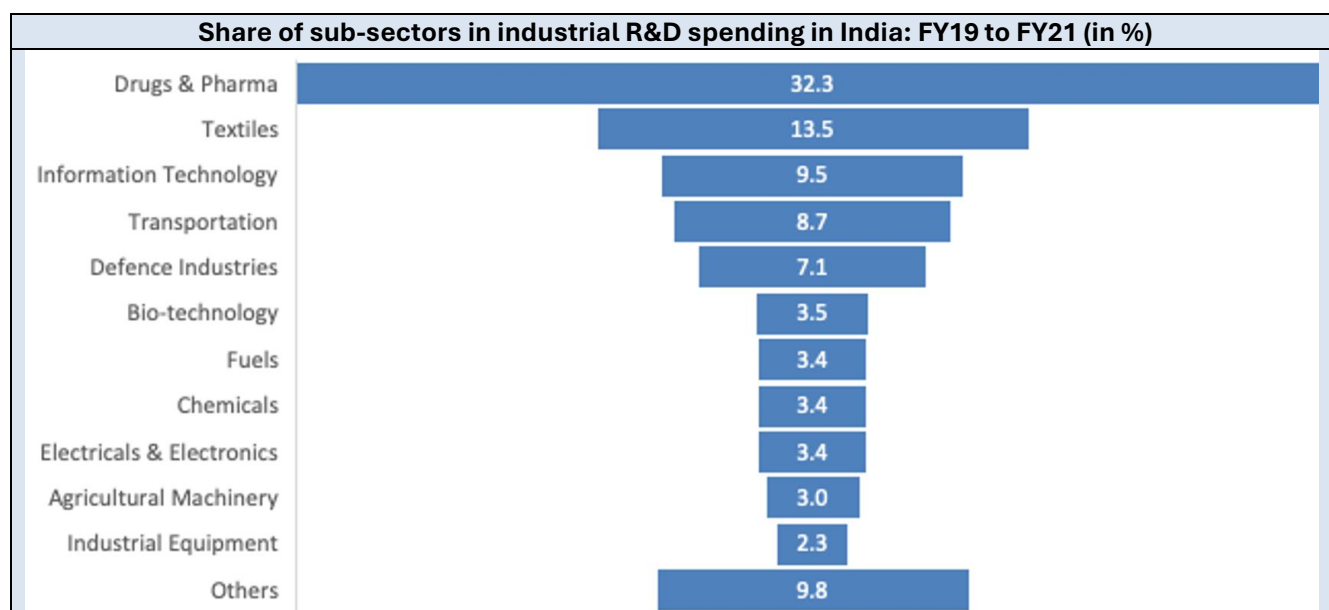
- **Status:** As of March 31, 2023, **254 CPSEs were operational** with **66% operating in services sector**.
- **Health of CPSEs:** Overall net profit of operating CPSEs in FY23 was ₹2.12 Lakh Crore and **number of profit making CPSEs increased** from 178 to 193 from 2019 to 2023.

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

- **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 %.
- **Status:** Under Global Innovation Index, India's rank improved to 40 in 2023.
- **Initiatives:** Patent Rules, 2024, Anusandhan National Research Foundation, Fund of funds for startups, Bharat Startup Knowledge Access Registry etc.



Conclusion and Outlook

Action recommended for MSMEs in a cooperative federalism mode:

- **Ensuring support systems and adequate financing** to develop MSME projects.
- **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.

Chapter 11: Services: Fueling Growth Opportunities

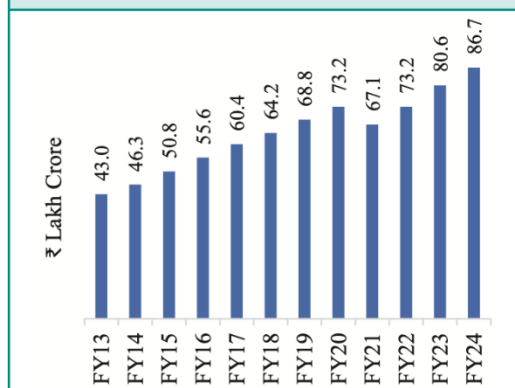
India's service sector

- **Share in Indian Economy:** In FY 24, the services sector accounted for around **55% of the economy**.
- India **ranked fifth in services exports** and accounted for **4.4% of global commercial service exports in 2022**.

Financing Sources for Services Sector Activity

- **Bank credit:** In FY24, credit inflows to the services sector increased.
- India is the **2nd largest host country** for international project finance deals and **4th largest** for Greenfield project announcements.
 - **Foreign Direct Investment (FDI):** decline in the FDI equity inflows in FY24 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 ECB inflows in FY24.

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



Challenges:

- **AI could slow India's services export growth**
- **Lack of availability of workers** with relevant digital and **high-tech skills**
- **Accessing finance** can pose difficulties, particularly for small and medium enterprises.
- **Data privacy and cybersecurity concerns**
- **Tentative global economic outlook and commodity price uncertainties** present a serious challenge to input costs and demand for service.

Sector-Wise Performance

Sectors	Highlights
Hospitality & Tourism	<ul style="list-style-type: none"> • India is 39th in the World Economic Forum's Travel and Tourism Development Index 2024. • Initiatives: PRASHAD Scheme, Swadesh Darshan 2.0, development of Vishnupad and Mahabodhi Temple Corridors (Budget 2024-25)
Real Estate	<ul style="list-style-type: none"> • Real estate has accounted for over 7% of the GVA in the past decade. • Factors contributing to growth: Rapid urbanization, rising incomes, increase in nuclear families etc. • Initiatives <ul style="list-style-type: none"> ○ Pradhan Mantri Awas Yojana-Urban (PMAY-U), RERA (2016), Residential Mortgage-Backed Securities (RMBS), Affordable Housing Fund and Special Window for Affordable and Mid-Income Housing (SWAMIH) Investment Fund
Information Technology Services	<ul style="list-style-type: none"> • Growth rate rose 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 <ul style="list-style-type: none"> ○ 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

	<ul style="list-style-type: none"> ○ SaaS: A software licensing and delivery model in which software is licensed on a subscription basis and is centrally hosted. • Initiatives: Future Skills PRIME, ₹10,000 crore Fund of Funds for Start-ups, Pradhan Mantri Kaushal Vikas 4.0 (PMKVY 4.0) for training in cutting-edge fields such as Industry 4.0, AI, robotics, mechatronics, Internet of Things, and drones.
Tele-communications	<ul style="list-style-type: none"> • Current Status: Tele density increased from 75.2% in 2014 to 85.7% in 2024. Internet density reached 68.2% in March 2024. ○ 100% FDI allowed in the telecom sector under the automatic route, subject to safeguards. ○ Telecommunications Act 2023 consolidates telecommunication laws, including spectrum assignment. • Factors Contributing to Growth: Significant decline in data costs, increased average wireless data usage per subscriber. • Initiatives: Bharat 6G Vision, Telecom Technology Development Fund etc.
E-Commerce	<ul style="list-style-type: none"> • Growth: The Indian e-commerce industry is expected to cross US\$ 350 billion by 2030. • Factors Contributing to Growth: Government initiatives like Digital India, UPI, ODOP, ONDC; relaxed FDI limits etc. • Initiatives <ul style="list-style-type: none"> ○ Consumer Protection (E-Commerce) Rules, 2020 ○ Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, ensuring digital platform accountability. ○ The Digital Personal Data Protection Act, 2023



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Chapter 12: Infrastructure: Lifting Potential Growth

Development of **resilient, world-class infrastructure** in physical, social, financial, and digital sectors is vital for achieving the goal of **Viksit Bharat @ 2047**.

Current status

- **Infrastructure investment:** Between FY 2019 and 2023, the **Central and State Governments contributed to 49% and 29% of the total investments**, respectively, while the private sector contributed 22%.
- **Budget 2024-25**
 - **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.

Challenges

- **Delays in land acquisition, land clearances**
- **Skill demand-supply mismatch**
- **Low private participation**
- **Lack of aggregation of financial flows into infrastructure**
- **Climate and environmental sustainability**

Way forward

- **Enhancing Private Sector Financing:** through Viability Gap Funding, asset recycling programs, tax increment financing etc.
- **Data Capture and Reporting:** Consolidate data under a single access point, regularly updated as per the HML (Harmonized List) classification.

Developments Across Infrastructure Sectors

Physical Connectivity Infrastructure	
Road Transport	<ul style="list-style-type: none"> • Current status: <ul style="list-style-type: none"> ○ In the last ten years, national highways have grown 1.6 times. ○ The Bharatmala Pariyojana: increased the length of high-speed corridors by 12 times and 4-lane roads by 2.6 times (2014- 2024). • Key initiatives <ul style="list-style-type: none"> ○ Pradhan Mantri Gram Sadak Yojana (PMGSY) <ul style="list-style-type: none"> ✓ PMGSY-III: Launched in 2019 for consolidation of 1,25,000 km. ○ National Industrial Corridor Programme: 11 corridors for multi-modal connectivity with plug-and-play infrastructure.
Rail Transport	<ul style="list-style-type: none"> • Current status: <ul style="list-style-type: none"> ○ 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. • Initiatives for Railway Enhancement <ul style="list-style-type: none"> ○ Mission 100 % Electrification Programme (96.4% electrified), Amrit Bharat Station Scheme (2023), Eastern and Western Dedicated Freight Corridors (DFCs) etc.
Water Transport	<ul style="list-style-type: none"> • Current status: <ul style="list-style-type: none"> ○ India's rank in the International Shipments category improved to 22nd in the 2023 World Bank Logistics Performance Index, up from 44th in 2014. • Key initiatives <ul style="list-style-type: none"> ○ Island Development: Under Maritime India Vision 2030, planned development of Andaman & Nicobar and Lakshadweep Islands.



	<ul style="list-style-type: none"> ○ Sagarmala Programme (2015): A total of 839 projects worth ₹5.8 lakh crore have been undertaken for Port modernisation & fresh development. ○ Harit Sagar (Green Port guidelines, 2023)
Civil Aviation	<ul style="list-style-type: none"> ● Current status: <ul style="list-style-type: none"> ○ 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 and modernise airports. ● Initiatives: <ul style="list-style-type: none"> ○ Ude Desh ka Aam Nagrik (UDAN): In the last 7 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.
Energy Infrastructure	
Power Sector	<ul style="list-style-type: none"> ● Current status <ul style="list-style-type: none"> ○ 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 <ul style="list-style-type: none"> ○ One Sun, One World, One Grid Initiative, Revamped distribution sector scheme (2021) etc
Renewable Sector	<ul style="list-style-type: none"> ● Current status: <ul style="list-style-type: none"> ○ India aims to achieve 500 GW of installed electricity capacity from non-fossil sources by 2030. ✓ India is fourth in the world for wind power capacity. (REN21) ● Initiatives <ul style="list-style-type: none"> ○ PM - Surya Ghar Muft Bijli Yojana, Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM), National Green Hydrogen Mission etc.
Social and Economic Infrastructure	
Sports Sector	Key initiatives <ul style="list-style-type: none"> ● National Sports University at Imphal, Khelo India programme, Model Concession Agreement (for development of integrated multi-sports arenas)
Water & Sanitation Sector	Key Initiatives: <ul style="list-style-type: none"> ● Swachh Bharat Mission Phase II – Grameen (SBM-G) <ul style="list-style-type: none"> ○ Model example: Steel (Barthan) Bank in Siddhipet, Telangana. ● Jal Jeevan Mission (2019): over 76.12% households have connections (in 2017 only 17%). Model example: Sailam village (Mizoram).
Water Resource Management Sector	Key Initiatives: <ul style="list-style-type: none"> ● Global River Cities Alliance (river conservation & sustainable water management), Namami Gange Programme (2014), Dam Rehabilitation and Improvement Project (DRIP) Phase II (2021-31), Atal Bhujal Yojana etc.
Urban Sector	Outlook <ul style="list-style-type: none"> ● By 2030, over 40% of India's population will live in urban areas. Key Initiatives <ul style="list-style-type: none"> ● Pradhan Mantri Awas Yojana-Urban (PMAY-U), Atal mission for rejuvenation and urban transformation (AMRUT)2.0, Smart Cities Mission (SCM), Swatch Bharat Mission Urban (SBM-U) etc.
Strategic Infrastructure	
Space sector	Private participation in the Space sector <ul style="list-style-type: none"> ● IN-SPACE: The Indian National Space Promotion and Authorisation Centre (IN-SPACE) is a single-window agency promoting and authorizing space activities, inaugurated in 2022.

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

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:** E.g. Solar panels generate renewable energy but solar batteries require mineral extraction which is a water-intensive process and is powered by fossil fuels.
- **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.

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.

Negative Environmental Implication for developing world by adopting Western Practices

- **Market economy has limitations in achieving emissions mitigation.**
- **Destruction of the food-feed balance:** The feed industry for meat account for 33 per cent of the total arable.
- **Changes in housing:**
 - **Adoption of Western model of living:** Nearly **50% of all households in India are nuclear** (1-4 members), up from 38% in 2008.
 - **Tendency of urban sprawl, mimicking a universalised model of living etc.**