VAID ICS LUCKNOW

ECONOMIC SURVEY-2024-25 (GIST)

STATE OF THE ECONOMY: GETTING BACK INTO THE FAST LANE

Key Points from the Economic Survey:

Global Economic Growth

- The global economy grew at 3.3% in 2023, with moderate projections of 3.2% in 2024 and 3.3% in 2025.
- Growth varies significantly across regions, with advanced economies (AEs) showing stable growth, while emerging markets and developing economies (EMDEs) face uneven performance.

Geopolitical and Economic Risks

- Geopolitical tensions (e.g., Russia-Ukraine, Israel-Hamas) have impacted energy and food security, contributing to higher inflation.

- Cyberattacks and trade policy uncertainty also add risks to global stability.

India's Economic Performance

- India’s GDP is projected to grow at 6.4% in FY25, driven by agriculture and services, despite weak global manufacturing.
- Fiscal discipline and a strong external balance, bolstered by services trade and remittances, provide macroeconomic stability.

Challenges to Global Growth

- Geopolitical tensions, trade uncertainties, and commodity price volatility remain significant risks.
- A slowdown in global manufacturing, especially in Europe and Asia, contrasts with better performance in services.

Regional Economic Disparities:

- The US is projected to have stronger growth compared to the Euro area, which faces weak demand, particularly in manufacturing-heavy countries like Germany.
- Japan’s growth was hindered by domestic supply disruptions, and China's growth slowed due to weak consumption and investment.

India’s Economic Outlook:

- **India’s growth for FY26 is balanced**, with rural demand, agricultural recovery, and a stable macro environment supporting optimism.
- Structural reforms and improved global competitiveness will be key for sustaining long-term growth.

- **Services Sector Growth vs. Manufacturing Contraction:**

  - The **global Composite Purchasing Managers' Index (PMI**) indicates steady expansion in the services sector while manufacturing is struggling. The services sector saw strong

growth, particularly in financial services, while manufacturing faced contraction, particularly after mid-2024. Although the global manufacturing PMI stabilized in November 2024, the outlook remains subdued.

- India is noted for its strongest manufacturing output expansion in December 2024.

- **Inflation Trends:**

  - Inflation rates have decreased globally, aided by tighter monetary policies and adjustments in supply chains. Fuel prices and goods inflation have moderated, though inflation in services, driven by higher nominal wages, remains persistent. Global shipping prices also rose due to disruptions in shipping routes, adding inflationary pressure.
  - Commodity prices are expected to decline in 2025-2026, but geopolitical tensions could lead to synchronized price increases, impacting inflation management.

- **Monetary Policy Shifts:**

  - Central banks, particularly in advanced economies, have started easing monetary policies following a decline in inflation, with expectations of lower borrowing costs. However, there is significant uncertainty regarding the pace of policy rate reductions and the long-term levels of rates, as reflected in the differing expectations of policymakers in the US.
  - **Sovereign bond yields** showed a downward trajectory between April and September 2024, but they increased again towards the end of the year, driven by renewed inflationary risks.

- **Geopolitical Risks:**

  - Geopolitical tensions, especially in the Middle East and the ongoing Russia-Ukraine conflict, pose significant risks to the global economic outlook. These tensions have disrupted global trade, especially in shipping routes like the **Suez Canal**, leading to higher freight rates and longer delivery times.
  - Trade uncertainty, as indicated by indices such as the **Geopolitical Risk Index (GPR)** and **World Trade Uncertainty Index (WTUI**), has risen due to escalating global tensions and trade-restrictive measures.

- **GDP Growth Estimate:** India's real GDP growth for FY25 is estimated at **6.4%**.
    - **Private Final Consumption Expenditure (PFCE)** is expected to grow by **7.3%**, driven by rural demand.
    - **Gross Fixed Capital Formation (GFCF)** is expected to grow by **6.4%**.
- **Supply-side Growth:**
    - **Agriculture**: Expected to grow by **3.8%**.
    - **Industry**: Estimated to grow by **6.2%**, with construction and utilities driving industrial expansion.
    - **Services**: Projected growth of **7.2%**, led by financial, real estate, and professional services.
- **Resilient Recovery Post-COVID-19:**
    - **Agriculture** and **industry** have surpassed pre-pandemic growth trends.
    - **Construction** is significantly above pre-pandemic levels, and **manufacturing** is recovering steadily.
- **Agricultural Growth:**
    - **Kharif food grain production** is estimated to reach a record **1647.05 LMT**, up **5.7%** compared to last year.
    - **Rabi sowing** has also shown a positive increase, improving prospects for food inflation.
- **Manufacturing Sector Challenges:**
    - Slowdown in **exports** and disruptions from **monsoons** led to a moderation in growth.
    - **PMI** for manufacturing showed growth, driven by new business gains and external demand recovery.
- **Future Expectations:**

- Manufacturing firms have **improved demand** conditions and expect growth in **Q4 FY25** and **Q1 FY26**.

The services sector in India continues to show strong performance in FY25, with a growth of **7.1% in H1 FY25**. Key contributors include the hospitality sector, air cargo activity, and IT companies. **Private Final Consumption Expenditure (PFCE)** has also seen growth, driven by rural demand, with an expected continuation of this trend due to a strong Kharif crop and higher Minimum Support Prices (MSPs) for the Rabi crop.

However, **Gross Fixed Capital Formation (GFCF)** growth has slowed from **10.1% in H1 FY24** to **6.4% in H1 FY25**, partly due to the elections and global uncertainties. Residential investment has also moderated after a strong performance in previous quarters, but the government's capital expenditure is expected to accelerate in H2 FY25.

On the external front, **exports** increased by **5.6% in H1 FY25**, while **imports** grew by only **0.7%**. The government's **fiscal discipline** has been improving, with capital expenditure rising steadily, especially in sectors like defense, railways, and roads. The **Union government's finances** remain on a stable footing, with strong growth in **gross tax revenue** and manageable deficits, allowing space for continued development spending.

Railways:

- **Vande Bharat Trains:** 17 new pairs introduced and 228 coaches produced (Apr-Oct 2024).
- **Gati Shakti Multi-modal Cargo Terminal (GCT):** 91 GCTs commissioned, 234 locations approved.
- **Net Zero Carbon Emission:** Targeting 30 GW renewable energy by 2029-30; 375 MW solar, 103 MW wind by Oct 2024.
- **Major Projects:**
    - **Mumbai-Ahmedabad High-Speed Rail:** 47.17% progress, ₹67,486 crore spent.
    - **Dedicated Freight Corridors (DFCs):** 2,741 km commissioned out of 2,843 km.

Road Transport:

- **National Highway (NH) Network:** 63.4 lakh km total; NHs comprise 2% of total roads, carry 40% freight traffic.
- **National Industrial Corridor Development:** 383 plots in Phase 1 for sectors like electronics, renewables, automobiles.
- **National Highway Construction (FY25):** 6,215 km constructed.
- **Bharatmala Pariyojana:** 34,800 km planned, 76% awarded, 18,926 km constructed.
- **Char Dham Mahamarg Pariyojna:** 620 km completed out of 825 km.
- **Sustainable Practices:** Advanced traffic management, Multi-Modal Logistics Parks (MMLP), Vehicle Scrapping Policy, and Ropeway projects.

Key Initiatives for Efficiency:

- **Traffic Management:** 4,000 km of highways equipped with advanced systems.
- **Logistics Parks:** Six MMLPs awarded by Dec 2024.
- **Vehicle Scrapping Policy:** 82 Registered Vehicle Scrapping Facilities operational.

Civil Aviation:

- The Airports Authority of India and airport operators are investing over ₹91,000 crore for expansion between FY20 and FY25, with 91% of this target already achieved by November 2024.
- Under the UDAN (Ude Desh ka Aam Naagrik) scheme, 619 routes connecting 88 airports, including water aerodromes and heliports, have been operationalized.
- Cargo handling capacity reached 8.0 million MT in FY24.

Ports and Shipping:

- Port capacity saw significant improvements in FY25, with reductions in average container turnaround times.
- The **Sagarmala Programme** is a major initiative to enhance logistics efficiency by developing India's coastline and waterways.

- Several key infrastructure projects include the development of the **Vadhavan Mega Port** and **Tuticorin International Container Terminal**, along with initiatives to improve port connectivity and industrialization.
- International linkages such as the **Chabahar Port** in Iran and the **Sittwe Port** in Myanmar are improving India's maritime and inland transport capabilities.
- Over 98 **PPP projects** worth ₹69,800 crore have been approved, including 56 projects enhancing port capacity by 550 million tonnes per annum (MTPA).

Power Sector:

- Installed power capacity grew by 7.2%, reaching 456.7 GW as of November 2024, with significant growth in renewable energy.
- India's renewable energy capacity reached 209.4 GW by December 2024, accounting for 47% of the total installed capacity.
- Major initiatives like the **Deen Dayal Upadhyaya Gram Jyoti Yojana** (DDUGJY) and **Pradhan Mantri Sahaj Bijli Har Ghar Yojana** (SAUBHAGYA) have electrified villages and provided power to millions of households.
- **Revamped Distribution Sector Scheme** (with ₹3.0 lakh crore investment) aims to enhance distribution infrastructure, smart metering, and operational efficiency.
- Daily average power supply improved in both urban and rural areas, with the supply gap reduced from 4.2% in FY14 to 0.1% by December 2024.

These infrastructure developments across multiple sectors are key to improving India's logistics, energy, and connectivity landscape, supporting overall economic growth.

Digital Connectivity:

- **5G Rollout:** By October 2024, 5G services were available across all states and union territories, covering 779 districts. A substantial 4.6 lakh 5G Base Transceiver Stations (BTSs) have been installed.
- **4G Expansion:** The government approved a project to bring 4G services to 24,680 uncovered villages and upgrade 6,279 villages. By December 2024, 7,815 sites had been commissioned.

- **Digital Bharat Nidhi (DBN):** The Universal Service Obligation Fund was rebranded as DBN to enhance telecom services and infrastructure in rural and remote areas.

Telecom Infrastructure:

- **Bharat Net Project:** Focused on extending broadband to villages, with over 6.92 lakh km of Optical Fibre Cable (OFC) laid.
- **Northeastern and Border Areas:** Key telecom initiatives covered remote and border regions, ensuring better mobile connectivity in areas like Arunachal Pradesh, Assam, and the Andaman & Nicobar Islands.
- **Rural Mobile Services:** The Border Villages Scheme and LWE-Phase I & II aim to improve mobile service coverage in underserved areas.

Information Technology:

- **GI Cloud (MeghRaj):** Supports 1,917 applications on its cloud, facilitating ICT services to government departments. The market for data centers is expanding, with a projected growth rate of 10.98% annually until 2032.

Rural Infrastructure:

- **Jal Jeevan Mission (JJM):** Provides piped drinking water to rural households, with 79.1% coverage achieved by November 2024, benefiting over 15.3 crore families.
- **Swachh Bharat Mission-Grameen (SBM-G):** The goal of converting ODF villages to ODF Plus is progressing, with 3.64 lakh villages declared ODF Plus by November 2024.

Urban Infrastructure:

- **Swachh Bharat Mission-Urban (SBM-U):** The second phase, launched in 2021, focuses on achieving garbage-free cities. Progress includes the construction of 63.7 lakh individual household latrines and processing 93% of municipal solid waste.

Success Stories:

- **Kerala's Erattayar Panchayat:** Waste management initiatives led by women empower the local community while focusing on sustainability.
- **Chhindwara, Madhya Pradesh:** The use of NADEP composting pits transforms waste into compost, benefiting farmers and promoting sustainable agriculture.

Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

- Launched in 2015 to improve urban water management in 500 cities.
- Achievements: Tap water coverage increased to 70%, sewerage coverage to 62%, 4,649 MLD water treatment capacity created, 2,439 parks developed.
- AMRUT 2.0 (2021) aims to expand coverage to all statutory towns with ₹2.77 lakh crore funding (FY22-FY26).
- 8,923 projects worth ₹1.89 lakh crore initiated, promoting self-help groups and innovative technologies.

Smart Cities Mission:

- Launched in 2015 to develop smart cities with quality infrastructure and sustainable environments.
- 8,058 projects worth ₹1.64 lakh crore proposed; 7,479 completed worth ₹1.50 lakh crore (as of 13 Jan 2025).
- Focus areas: Smart mobility, smart energy, WASH, vibrant public spaces, social infrastructure, and smart governance.
- Major achievements: 16 lakh solar/LED streetlights, 35,000+ affordable housing units, 9,400 Wi-Fi hotspots, and 200+ smart classrooms.

Urban Transformation Initiatives

- **Climate Smart Cities Assessment Framework (CSCAF)**: A public assessment framework for climate-sensitive urban development, updated in 2020.

- **DataSmart Cities Strategy**: Promotes data-driven governance with city readiness assessments.
- **National Urban Innovation Stack**: Supports collaboration using urban data for better governance.
- **National Urban Digital Mission**: Aims to establish shared digital infrastructure across cities by 2024.
- **Urban Learning Internship Programme (TULIP)**: Provides youth internships to enhance urban management skills.

Real Estate Development

- RERA rules notified in all states except Nagaland.
- 1.38 lakh real estate projects and 95,987 agents registered as of Jan 2025.
- 1.38 lakh complaints resolved by RERA.

Tourism Infrastructure

- **PRASHAD**: Develops tourism infrastructure at pilgrimage destinations.
- **Swadesh Darshan Scheme 2.0**: Integrated development of tourism destinations, 34 projects approved with ₹793.2 crore funding.
- **Interest-Free Loans for Tourism**: ₹3,295.8 crore for 40 projects in 23 states to create iconic tourist centres.

Space Infrastructure

- 56 active space assets including communication, navigation, scientific, and earth observation satellites.
- ISRO's initiatives like the Bhuvan platform for infrastructure monitoring.
- **India's Space Vision 2047**: Includes missions like Gaganyaan, Chandrayaan-4, and the Venus Orbiter.

Conclusions and Way Forward:

- Infrastructure investment needs to be ramped up for sustained growth.

- Focus on multi-modal transport, modernising physical assets, disaster-resilient urbanisation, and renewable energy.
- Public-private partnerships (PPP) should accelerate infrastructure development.
- Need for better project planning, risk-sharing strategies, and expertise in project execution.

INDUSTRY: ALL ABOUT BUSINESS REFORMS

Global Manufacturing Landscape

- **Shifts in Global Manufacturing**: India has gained a stronger position in global manufacturing, filling the space vacated by developed countries.
- **Challenges**: Geopolitical tensions, trade policies, and global economic slowdowns are affecting export demand.
- **Opportunities**: India's share in global manufacturing is small (2.8%) compared to China (28.8%), offering significant growth potential.

Domestic Industrial Development

- **Growth Post-Pandemic**: The industrial sector showed growth of 6.2% in FY25, driven by electricity and construction sectors.
- **Challenges in Q2 FY25**: Manufacturing exports slowed due to economic difficulties in trading countries and trade policy shifts.
- **Sector-Specific Growth**: Cement and steel industries showed robust growth, fueled by government infrastructure projects.

Core Input Industries

Cement Industry

- **Global Standing**: India is the second-largest cement producer globally.

- **Demand Drivers**: Government projects (e.g., highways, housing) are boosting domestic cement consumption.
- **Environmental Efforts**: The cement industry is working to reduce carbon emissions.

Steel Industry

- **Production Growth**: Steel production rose by 3.3% in FY25.
- **Demand Drivers**: Increased public infrastructure spending and the National Steel Policy contributed to higher demand, especially from construction and infrastructure sectors.
- **Export Decline**: India became a net importer of steel in FY25, partly due to price discrepancies in global and domestic markets.

Capital Goods:

- **Fluctuating Performance**: The capital goods sector saw fluctuating performance between FY20 and FY23 but showed strong growth in FY24.
- **Import Dependency**: The sector remains heavily reliant on imports, particularly for high-end machines, due to technology gaps.
- **Government Initiatives**: The government is addressing these challenges through schemes like the Phase II of the Scheme for Enhancement of Competitiveness of the Capital Goods Sector and the Smart Advanced Manufacturing and Rapid Transformation Hub (SAMARTH) Udyog centres.
- **Technology and Infrastructure**: There is a focus on bridging the technology, skill, and infrastructure gaps in the sector.

Automobile Industry

- **Growth in FY24**: The Indian automobile industry recorded 12.5% growth in domestic sales during FY24.
- **PLI Scheme**: The government has extended the Production-Linked Incentive (PLI) Scheme for one more year to further boost the sector.

Electronics Industry

- **Domestic Production**: Domestic production of electronics has grown significantly, with mobile phone production reaching approximately 33 crore units in FY24, of which 75% were 5G-enabled.
- **PLI Scheme Impact**: The PLI scheme has helped reduce the import dependency for smartphones and electronics, with mobile phone exports reaching ₹88,726 crore in FY23.
- **Challenges**: While the industry has made significant strides, challenges remain in areas like design and component manufacturing.

Textiles:

- **Export and Production Trends**: India's textile industry remains a major employment generator and exporter, contributing 8% of India's total merchandise exports in FY24.
- **Focus on MMF**: While India is strong in cotton textiles, there is a need to diversify towards man-made fibers (MMF) to enhance competitiveness.
- **Technical Textiles**: India's technical textiles industry is growing rapidly and is expected to see further expansion with the help of government initiatives like the PLI scheme.

Pharmaceuticals:

- **Global Presence**: India is the third-largest pharmaceutical producer by volume, with the industry contributing significantly to global exports.
- **Focus on Self-reliance**: The government has introduced schemes like PLI and Strengthening of **Pharmaceuticals Industry (SPI)** to enhance self-reliance, particularly in Key Starting Materials (KSMs), Active Pharmaceutical Ingredients (APIs), and drug intermediates.
- **Innovation in Therapy**: India is making strides in cell and gene therapy, with the approval of CAR-T cell therapy.

Intellectual Property (IP) Innovations:

- **Growth in IP**: India has shown significant progress in intellectual property filings, including patents, trademarks, and industrial designs.

- **Government Support**: The government has introduced several initiatives to promote IP protection, such as expedited patent examination for start-ups and MSMEs, and digitalization of the IP ecosystem.

MSME Sector:

1. **Importance of MSMEs**: The MSME sector plays a crucial role in India's economy by fostering entrepreneurship and providing jobs, with over 23.24 crore people employed as of November 2024.
2. **Udyam Registration Portal**: The government launched this portal in July 2020 to simplify the registration process for MSMEs, requiring only a PAN card for registration.
3. **Formalization of Informal Micro Enterprises**: The Udyam Assist Platform (UAP) launched in 2023 has helped formalize over 2.39 crore informal micro-enterprises, making them eligible for priority sector lending benefits.
4. **Credit Guarantee Scheme**: The government revamped the Credit Guarantee Scheme for MSEs with a ₹9,000 crore corpus to facilitate an additional ₹2 lakh crore credit at reduced interest rates.
5. **TReDS Platform**: The Trade Receivables Discounting System (TReDS) enables MSMEs to receive timely payments from buyers at competitive rates and facilitates post-shipment financing without recourse.
6. **SRI Fund**: The Self-Reliant India Fund with a corpus of ₹50,000 crore aims to provide equity funding to MSMEs with growth potential.
7. **MSME Samadhan and CHAMPIONS Portal**: These platforms address issues such as delayed payments and support MSMEs in resolving disputes.

State-wise Industrial Development:

1. **Inter-state Disparities**: There are significant variations in industrial development across states, with the western states of Gujarat, Maharashtra, Karnataka, and Tamil Nadu contributing around 43% of the total industrial GSVA. In contrast, the northeastern states contribute only 0.7%.

2. **Dependence on Industrial Sectors**: The industrial share of GSVA varies across states, with some states having a high dependence on industrial sectors without necessarily generating high income levels. For instance, Gujarat and Uttarakhand show high industrial dependence along with reasonable income levels, while states in the eastern and northern regions have lower industrialization and income generation.
3. **Construction Activity**: States like Kerala, while less industrialized, have seen significant contributions from the construction sector, which is closely linked to infrastructure development, urbanization, and real estate.

Tamil Nadu's Strategic Initiatives for Footwear Manufacturing Growth

- **Sector Leadership**: Tamil Nadu leads in India's leather and footwear industry, contributing 38% to national output and 47% to leather exports.
- **Employment**: The sector generates over 2 lakh jobs.
- **Key Institutions**: The state has institutes like the Central Leather Research Institute and Footwear Design and Development Institute.
- **Rural Development**: Industrial estates in rural areas, especially for women, attract foreign investors.
- **Investment Promotion**: The state agency, Guidance, fosters relationships with international firms like Nike's contract manufacturers.
- **Incentive Package**: Tailored incentives such as subsidies and land cost reductions support large and small manufacturers.
- **Footwear & Leather Policy 2022**: Launched to build a comprehensive ecosystem for the industry.

Connection Between Industrial and Service Sectors

- **Servicification**: Services now significantly contribute to industrial output and exports.
- **Business Reforms**: States must prioritize business reforms to foster growth in sectors with natural advantages.

Conclusion and Outlook

- **Shifting Industrial Shares**: Chemicals, pharmaceuticals, automobiles, and steel are leading sectors.
- **Import Dependency**: India faces dependency in coal, capital goods, and chemicals.
- **Path to Industrialization**: Focus on deregulation, R&D, innovation, and workforce skill improvement.
- **Global Challenges**: Global uncertainties may affect manufacturing growth; however, optimism remains with focused deregulation, R&D, and skilling.
- **State-wise Variations**: States differ in industrial strengths, necessitating tailored reforms for better competitiveness and growth.

Services: Key Contributions and New Challenges

- **Growth of Services in India**: Services contribute to over 62% of global GDP and have been crucial for middle-income countries like India. India's services sector has significantly supported GDP growth, especially as manufacturing faces global trade challenges.
- **Global Services Landscape**: Services exports have become more integral to India's economy, with the country's share steadily rising. In 2023, India ranked seventh globally in services exports, with a 4.3% share.
- **Resilient Service Sector in India**: The services sector has remained a steady contributor to India's GVA, growing by over 6% YoY for the past decade (excluding FY21 due to the pandemic). Key areas like information technology have shown robust growth, boosting India's economy.
- **PMI Services Index**: India's services sector showed strong performance, with continuous expansion marked by the HSBC India Services PMI. Despite a brief dip in September FY25, it rebounded due to continued demand growth.
- **Services Exports Growth**: Services exports grew at a trend rate of 11% from FY14-FY23, with computer and business services making up 70% of exports. Services export growth accelerated to 12.8% in FY25, highlighting strong sectoral performance.

- **Challenges Ahead**: The services sector faces global uncertainties such as geopolitical risks and disruptions in supply chains. Moreover, higher wage growth has caused service inflation globally, impacting service sector dynamics.

Sources of Financing: Bank Credit and FDI

1. **Bank Credit to Services Sector**:
    - As of November 2024, total outstanding bank credit to the services sector stands at ₹48.5 lakh crore, with a year-on-year growth of 13%.
    - The highest growth in credit was recorded in computer software (22.5%) and professional services (19.4%).
2. **FDI Inflows to Services Sector**:
    - FDI equity inflows amounted to USD 29.8 billion in FY25 (April-September), with USD 5.7 billion directed to the services sector.
    - Insurance services received the highest share (62%) of FDI inflows, followed by the financial sector (18%).

Strategy for Services – Multi-Dimensional Analysis (NITI Aayog):

- Services are classified into four categories: **Defend**, **Accelerate**, **Transform**, and **Untapped**, based on factors like contribution to output, employment, and exports.
    - **Defend**: Sectors with high export and GVA but low employment (e.g., computer & information services).
    - **Accelerate**: Sectors with moderate-high GVA and employment share (e.g., financial services, trade, transport).
    - **Transform**: Sectors with low export, GVA, and employment share (e.g., travel, health).
    - **Untapped**: Sectors with negligible export, GVA, and employment share (e.g., telecommunications, insurance).

Progress in Logistics and Physical Connectivity-Based Services:

Indian Railways:

- Passenger traffic grew by 8% in FY24.
- Freight traffic increased by 5.2% in FY24.
- Significant upgrades include digital ticketing (86% in the reserved sector) and improved amenities at over 7,000 stations.

Road Transport:

- Road transport accounted for 78% of the total GVA of transport services in FY23.
- The government is modernizing toll systems with electronic toll collection (FASTag) and aiming for barrier-free tolling by FY29.
- A comprehensive strategy for improving road safety and reducing accident casualties has been initiated.

Aviation:

- India is the fastest-growing aviation market globally.
- Major investments in aircraft leasing and MRO (Maintenance, Repair, and Overhaul) are being encouraged.
- The PM Gati Shakti initiative aims to create a seamless multimodal connectivity network integrating aviation with other modes of transport.

Ports, Waterways, and Shipping:

- **Port Capacity:** Major ports in India are expanding their capacity to handle increased trade. Cargo handling in FY24 reached 819 MT, with a target of 870 MT for FY25. By December 2024, approximately 622 MT was already handled.
- **Maritime Vision 2030 and 2047:** The government aims to position Indian shipbuilding and repair among the top five globally by 2047.

- **Inland Waterways:** India's waterways, totaling around 14,850 km, hold potential for both goods and passenger transport. There are 26 operational waterways with more than 4,800 km navigable, and passenger movement increased substantially in FY25.

Tourism and Hospitality:

- **Rebounding Sector:** Tourism has returned to pre-pandemic levels, contributing 5% to GDP in FY23 and creating 7.6 crore jobs. International tourist arrivals (ITAs) grew to 1.45% of the global share in 2023.
- **Foreign Exchange Earnings:** India earned USD 28 billion from tourism, ranking 14th globally in tourism receipts.

Real Estate:

- **Market Growth:** Real estate demand in India is strong, driven by economic stability, office demand, and residential sales. India's ranking in the Global Real Estate Transparency Index improved, and housing demand is expected to reach 93 million units by 2036.
- **Reforms:** The Real Estate (Regulation and Development) Act has enhanced sector transparency, preventing fraud and ensuring timely project deliveries. REITs and GST have boosted investments and simplified taxation.

Information Technology (IT) Services:

- **IT Industry Growth:** India's IT sector showed resilience, with estimated revenues of USD 254 billion and tech exports of nearly USD 200 billion in FY24. The industry added 60,000 jobs and maintained a workforce of 5.43 million.
- **Global Competitiveness:** Reforms like the abolition of angel tax and reduction in equalization levy are expected to boost innovation and competitiveness.

Telecom:

- **Sector Expansion:** India is the second-largest telecom market, with over 1.18 billion telephone subscribers and 941 million broadband users as of October 2024. The country also leads in mobile data consumption and has achieved the fastest 5G rollout globally.
- **Indigenous Telecom Development:** C-DOT has spearheaded the development of indigenous 4G and 5G core solutions, quantum communication systems, and cybersecurity tools.

Global Capability Centres (GCCs):

- **Growth of GCCs:** The number of GCCs in India has grown significantly, with more than 1,700 GCCs as of FY24. These centres employ nearly 1.9 million professionals and are centralizing global tech ecosystems, especially in aerospace, defence, and semiconductors.

AI Adoption in Services:

- **AI Applications:** AI is transforming various sectors, including banking, telecom, retail, and transport logistics. Banks use AI for fraud detection and customer service, while telecom companies optimize networks with AI. AI is also enhancing operations in e-commerce and logistics.

State-wise Service Sector Performance: Key Points

1. **Service Sector Contribution**:
    - Service sector accounts for 55% of national GVA in FY25, with Karnataka and Maharashtra contributing more than 25% of total service sector GSVA.
    - Tamil Nadu, Uttar Pradesh, and Gujarat together share over 50% of service sector GSVA.
2. **Public Administration Impact**:

- Public administration is a major contributor in several states, influenced by local revenues and central transfers.
- North-eastern states like Meghalaya and Mizoram depend heavily on government resources due to geographical disadvantages for industrialization.

3. **Service Intensity and Per Capita Service GSVA**:
   - Four categories identified based on the relationship between service intensity and per capita service GSVA:
     1. Low service intensity, low per capita GSVA.
     2. Low service intensity, high per capita GSVA.
     3. High service intensity, low per capita GSVA.
     4. High service intensity, high per capita GSVA (e.g., Karnataka, Maharashtra, Kerala, Telangana).
4. **Key Service Sectors**:
   - **Trade & Repair, Hotels, and Restaurants**: States like Meghalaya, Uttarakhand, and Mizoram have a large share of their services from these sectors, often driven by tourism.
   - **Financial Services**: Highly concentrated in Maharashtra (Mumbai), Tamil Nadu, Gujarat (GIFT City), and Karnataka, which contribute over 50% of financial services GSVA.
   - **Real Estate & Professional Services**: States like Karnataka, Maharashtra, Telangana, and Haryana see significant contribution from these sectors, driven by IT and fintech services.
5. **Industrial and Service Sector Dual Strength**:
   - States like Maharashtra and Tamil Nadu have both strong industrial and service sectors.
   - States like Gujarat, Himachal Pradesh, and Uttarakhand have high industrial GSVA but low service sector presence.
6. **States with Reform Potential**:
   - States with potential for business reform-led growth: Arunachal Pradesh, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, and others.
7. **Unincorporated Sector**:

- Over 72% of unincorporated sector enterprises are in the service sector, with significant presence in states like Uttar Pradesh and West Bengal.
- Policy reforms can help improve the incorporation of these enterprises for better access to benefits.

8. **Technology-Driven Transformation**:
   - The growth of IT and professional services, especially in financial and real estate sectors, plays a key role in India's service sector growth.
   - AI and digital technologies are reshaping demand across various sectors like finance, retail, telecom, and logistics.
9. **Skilling and Digital Transformation**:
   - Skilling the workforce in digital and technical skills is crucial for advancing both manufacturing and service sectors.
   - The 2024-25 budget initiatives should focus on this and address regulatory challenges hindering sector growth.

Conclusion and Recommendations:

- **Focus on Service and Industrial Synergies**: Manufacturing growth significantly impacts service sector growth, underscoring the need for integrated development.
- **Business Reforms**: Simplify regulatory procedures and foster innovation to boost both industrial and service sector growth.
- **Skilling and Technological Upgradation**: Emphasize the importance of digital skills in the workforce to adapt to technological changes and enhance service sector productivity

AGRICULTURE AND FOOD MANAGEMENT: SECTOR OF THE FUTURE

Key Points on India's Agricultural Sector:

1. **Sector Overview**: Agriculture contributes around 16% to India's GDP and supports 46.1% of the population. It has shown resilience with an average annual growth rate of 5% from FY17 to FY23.
2. **Growth Performance**: In FY25 Q2, the agriculture sector grew by 3.5%, attributed to improved weather, better practices, and government initiatives.
3. **Key Government Initiatives**: Measures like assured remunerative prices, improved institutional credit access, crop diversification, and support for sustainable practices are crucial for growth.
4. **High-Value Sectors**: Livestock, fisheries, and floriculture have emerged as significant contributors. The fishery sector, with a CAGR of 13.67%, shows substantial growth.
5. **Regional Variations**: States like Andhra Pradesh, Madhya Pradesh, and Tamil Nadu have seen high growth by diversifying towards high-yield crops.
6. **Horticulture Boom**: India is a leader in fresh fruit exports like grapes. Maharashtra, for example, leads in grape production, significantly boosting local economies.
7. **Challenges in Productivity**: Despite being a global leader in cereals, India's crop yields remain lower than other major producers, highlighting the need for productivity improvement.
8. **Post-Harvest Management**: Effective storage and marketing, especially for perishable products like fruits and livestock, are crucial for sustaining growth.
9. **Future Prospects**: Rising incomes and changing diets, with more demand for horticultural products and livestock, will drive future growth.
10. **Digital and Sustainable Practices**: Government schemes like Per Drop More Crop (PDMC), the National Mission on Sustainable Agriculture (NMSA), and digital initiatives like e-NAM are helping improve agricultural efficiency and sustainability.

Incentivizing Crop Productivity and Diversification:

- Boosting crop productivity is crucial for improving farmers' incomes.
- Productivity depends on quality seeds, irrigation, efficient water management, and post-harvest infrastructure.

- **Minimum Support Price (MSP)** provides a safety net and encourages crop diversification, with increased MSP for certain crops (e.g., arhar, bajra, rapeseed).

Seed Quality and Fertilizer Use:

- **Seed quality** is critical, with research focusing on climate-resistant varieties.
- **Soil health** is challenged by degradation, necessitating judicious fertilizer use.
- Introduction of **Urea Gold**, Nano fertilizers, and organic options to improve soil health and reduce environmental pollution.

Rainfall and Irrigation Systems:

- Only **55%** of India's net sown area is irrigated, leaving many areas dependent on rain-fed systems.
- **Drought risk** is high, especially in arid regions, highlighting the need for region-specific strategies.
- **Climate change** has exacerbated weather variability, with increased **dry spells** and **deficient rainfall**, especially affecting small-scale farmers.

Climate Change and Agricultural Impact:

- Studies show a strong link between rainfall shortfalls and crop yield losses, particularly in extreme conditions.
- A 2°C rise in temperature and a 7% increase in rainfall by 2099 could reduce Indian agricultural productivity by 8-12%.
- Droughts and heatwaves have a more significant negative impact on productivity than floods and cold waves.
- Increasing irrigation area and diversifying to heat- and water-resistant crops are necessary steps.

Irrigation Development:

- India's irrigation area increased from 49.3% (FY16) to 55% (FY21) of the Gross Cropped Area (GCA).
- High irrigation coverage in Punjab, Haryana, Uttar Pradesh, and Telangana; states like Jharkhand and Assam lag with less than 20% coverage.
- The government prioritizes irrigation development via initiatives like **Per Drop More Crop (PDMC)** and **Micro Irrigation Fund (MIF)**.

Water Conservation Initiatives:

- **Per Drop More Crop** aims to increase water efficiency, with ₹21,968.75 crore allocated, covering 95.58 lakh hectares.
- **Rain-fed Area Development (RAD)** integrated into **RKVY** from FY22, with ₹1,858.41 crore allocated for 8 lakh hectares.

Micro-Irrigation: Unlocking Potential:

- Micro-irrigation is crucial for water conservation, but its adoption is slow compared to other countries.
- A study in Tamil Nadu showed that drip irrigation reduces water usage by 39-55%, increases yields by 33-41%, and boosts farm profits.

Water Rejuvenation and Technology:

- **RWB Model** (Community-led, technology-enabled) can improve rural water security.
- Tools like **CLART GIS** and **AVNI Gramin app** enable efficient water body restoration.

Agriculture Credit:

- Adequate credit support is vital for farmers, especially in regions with low irrigation coverage and high vulnerability to climate change.

Kisan Credit Card (KCC): Introduced to address short-term working capital requirements for farmers. As of March 2024, there are 7.75 crore KCC accounts with ₹9.81 lakh crore in loans outstanding. KCC was extended to fisheries and animal husbandry sectors in 2018-19. Additionally, the **Modified Interest Subvention Scheme (MISS)** and **Prompt Repayment Incentive (PRI)** provide benefits such as concessional loans and incentives for timely repayment. The **Kisan Rin Portal** digitizes the claims process for quicker access to financial benefits.

Agriculture Credit Growth: There's a strong increase in ground-level credit (GLC) with a 12.98% compound annual growth rate (CAGR) from 2014-15 to 2024-25, showing increased access to formal agricultural credit, particularly among small and marginal farmers.

Pradhan Mantri Fasal Bima Yojana (PMFBY): This is a crop insurance scheme that aims to protect farmers against crop losses due to various factors like natural calamities and diseases. Technological advancements have led to greater transparency and efficiency in the program, resulting in a rise in farmer enrolment and insured acreage.

Farm Mechanization: The government is promoting mechanization through custom hiring centers (CHCs) and machinery banks. This is designed to help small farmers access high-tech agricultural machinery. Additionally, a scheme for providing drones to women SHGs aims to enhance mechanization further and support rural livelihoods.

Agricultural Extension Services: The **Sub-Mission on Agricultural Extension (SMAE)** supports knowledge dissemination and entrepreneurship among farmers, helping them adopt modern agricultural practices. The **Kisan Call Centre** addresses farmers' queries and aids in extending services.

Agricultural Marketing Infrastructure (AMI): The government is encouraging private investments in agricultural marketing infrastructure by offering capital subsidies for various projects like storage facilities and cold storage. This is essential for reducing post-harvest losses and improving the marketing of agricultural produce.

e-NAM Scheme: This digital platform for agricultural marketing provides free software and financial assistance to APMC mandis for developing infrastructure, aiding in price discovery and improving market access for farmers.

The **Maha Farmers Producer Company (MAHAFPC)** example showcases a successful model of collective procurement and selling of agricultural products, benefiting farmers by reducing costs and ensuring better payment for their produce.

In all, these measures aim to support farmers' financial security, improve their access to technology and infrastructure, and streamline processes related to credit and insurance, ultimately boosting agricultural productivity and livelihoods.

Climate Action in Agriculture:

1. **National Mission for Sustainable Agriculture (NMSA)**: This mission is part of the National Action Plan on Climate Change (NAPCC) and focuses on enhancing water efficiency, improving soil health, providing crop insurance, and promoting climate-resilient farming practices.
2. **Support for Organic Farming**: Schemes like the Paramparagat Krishi Vikas Yojana (PKVY) and Mission Organic Value Chain Development for North Eastern Region (MOVCDNER) have mobilized a large number of farmers and supported the transition to organic farming.
3. **Composite Index of Agricultural Sustainability**: ICAR developed this index, indicating that Indian agriculture is moderately sustainable, with some states like Mizoram, Kerala, and Madhya Pradesh performing better.

Allied Sectors:

1. **Livestock Sector**: The livestock sector has seen significant growth, contributing 30.23% of the Gross Value Added (GVA) of agriculture by FY23. Government initiatives like the Rashtriya Gokul Mission and Livestock Health and Disease Control Program aim to boost productivity and sustainability.
2. **Fisheries Sector**: Initiatives like the Pradhan Mantri Matsya Sampada Yojana (PMMSY) and Fisheries and Aquaculture Infrastructure Development Fund (FIDF) have enhanced fish production, leading to growth in India's seafood exports.
3. **Cooperative Societies**: Cooperative societies play a vital role in agriculture and rural development, with initiatives aimed at strengthening Primary Agricultural Credit Societies (PACS), introducing new service offerings, and improving financial inclusion.

Food Processing Industry:

1. **Growth in Food Processing**: The food processing industry is critical for economic growth and employment, with a significant rise in processed food exports. Programs like the Pradhan Mantri Kisan Sampada Yojana (PMKSY) and the Production Linked Incentive Scheme for Food Processing (PLISFPI) aim to modernize infrastructure and improve market access.

Food Security and Management:

1. **Public Distribution System (PDS)**: The government's approach to food security has shifted from welfare-based to rights-based, with the National Food Security Act (NFSA) providing subsidized food grains to a significant portion of the population.
2. **Storage Infrastructure**: The government is investing in improving food grain storage, with initiatives like steel silos, the Hub and Spoke Model Silos, and mobile storage units to improve efficiency and reduce losses.

Conclusion:

India's agricultural sector faces numerous challenges but remains a key driver of economic growth and food security. Diversification into allied sectors like animal husbandry and fisheries, along with government initiatives to improve sustainability and resilience, are central to

strengthening the sector's long-term viability. However, climate change and water-related issues continue to pose significant risks.

CLIMATE AND ENVIRONMENT: ADAPTATION MATTERS

India's aspiration to become a developed nation by 2047 is intricately linked to its vision of inclusive and sustainable growth. This involves addressing the country's challenges while balancing its need for rapid economic growth and environmental sustainability. Key highlights from the discussion include:

1. **Low-Carbon Growth**: Despite being among the fastest-growing economies, India has low per capita carbon emissions, one-third of the global average. However, it faces significant challenges in deploying renewable energy effectively due to limitations in storage technologies and access to minerals.
2. **Adaptation Strategy**: As one of the most vulnerable countries to climate change, India has prioritized adaptation efforts. The country's adaptation expenditure has risen from 3.7% to 5.6% of GDP between FY16 and FY22, reflecting the critical importance of resilience-building in its development strategy. Efforts include developing the National Adaptation Plan (NAP), a strategic document that outlines India's climate resilience goals across sectors.
3. **Lifestyle for Environment (LiFE) Initiative**: The LiFE movement, led by India, aims to promote sustainable lifestyles and circular economies. It emphasizes environmentally friendly practices like waste management, resource conservation, and recycling, which are becoming integral to India's policies and regulatory frameworks.
4. **Challenges in International Climate Finance**: The international financial flow for climate action has been insufficient, with developed nations falling short of their commitments. The New Collective Quantified Goal (NCQG) at CoP29, which set a target of $300 billion annually by 2035, is far below the estimated $5.1 - $6.8 trillion required for climate action by 2030.

5. **Urban Adaptation**: Urban areas, particularly cities, are increasingly impacted by climate change, including heat stress and flooding. Programs like the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) are working to improve water systems, enhance green spaces, and promote sustainable urban infrastructure to mitigate these effects.
6. **Innovative Urban Solutions**: Vertical gardens are gaining popularity as a solution to urban heat islands and air pollution. India has started incorporating this into its urban planning, with initiatives like the Income Tax Department's vertical garden projects in 17 states, showing the potential of this innovation for improving urban environments.
7. **Future Challenges and Opportunities**: India's regulatory framework for sustainable development is evolving, with initiatives like the Energy Conservation and Sustainable Building Code (ECSBC) 2024. However, further enhancements, including guidelines for vertical gardens, could significantly improve urban sustainability, aligning with global best practices.

India's development strategy emphasizes both sustainable growth and climate resilience. However, the financial and technological challenges, along with inadequate international support, pose significant hurdles to achieving these goals.

Coastal Region Adaptation:

- India's coastline, stretching over 7,600 km, faces extreme climate events such as heavy rainfall, storms, and sea-level rise, which can lead to permanent inundation.
- Adaptation strategies include planting mangroves, building sea walls, creating artificial reefs, and beach nourishment.
- **MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes)**: A program introduced in the 2023-24 budget, focusing on mangrove conservation and restoration. It aims to restore 540 km² of mangroves across nine states and four UTs by 2028, providing employment and enhancing local livelihoods through eco-tourism and carbon sequestration.

Enhancing Climate Resilience:

- The "Enhancing Climate Resilience of India's Coastal Communities" project seeks to build resilience for vulnerable populations, particularly women, in coastal areas. It restores ecosystems such as mangroves and degraded watersheds and promotes alternative livelihoods like mud crab hatcheries and climate-resilient agriculture.

2. **Water Management**:
   - The **Jal Shakti Abhiyan** (launched in 2019) addresses water stress, with recent initiatives like the "Catch the Rain 2024" focusing on women's role in water conservation.
   - The **National Aquifer Mapping Project (NAQUIM)** has mapped water resources across 25 lakh km², providing actionable conservation plans.
   - The **Bhu-Neer Portal** (launched in 2024) aids groundwater management and promotes sustainability.
3. **Other Water Conservation Initiatives**:
   - Various states have launched projects like **Jal Sanchay Jan Bhagidari** (rainwater harvesting in Gujarat) and the **Smart Laboratory on Clean Rivers** (Varuna River rejuvenation).
   - The **Mawrah Multipurpose Reservoir Project** in Meghalaya and **Jal Jagar campaign** in Chhattisgarh emphasize community-driven water conservation, particularly empowering women.
4. **Energy Transition and Security**:
   - Energy transitions in developed countries (from coal to oil, then gas, and now renewables like wind and solar) have been driven by energy security and commercial interests.
   - Despite the push for renewables, energy security concerns persist. Developed countries like the EU and US still rely heavily on fossil fuels, even as they push for greener transitions.

- The challenges include high costs of managing an energy system that blends fossil fuels with renewables, leading to increased electricity prices and limitations in grid capacity.

This summary highlights the government's efforts to address climate challenges in India through a combination of ecosystem restoration, water management, and energy transitions. Let me know if you need further details on any specific aspect!

India's growing energy needs are central to its development, especially under **SDG 7**, which emphasizes ensuring access to **affordable, reliable, sustainable, and modern energy for all**. India's **Human Development Index (HDI)** stands at 0.644, highlighting the gap between current and required energy consumption to fuel growth and achieve a **Viksit Bharat** status.

Key challenges include:

- **Renewable energy integration**, facing issues like high investments, grid integration, battery infrastructure for managing intermittency, and land scarcity.
- **Coal's role** remains significant due to India's large coal reserves (10% of global), while other countries rely on natural gas, which India lacks.
- **Nuclear energy** offers promise but is hindered by safety concerns, geographical concentration of uranium, and supply chain vulnerabilities.
- The **disposal of renewable energy technologies** like solar panels presents environmental concerns, as their recycling requires specialized processes.
- **Rising demand from data centers**, driven by AI, is exacerbating electricity consumption, potentially increasing **natural gas-based power**, undermining emissions goals.

India is advancing with **super-critical, ultra-super-critical**, and **Advanced Ultra Super Critical (AUSC)** coal technologies to reduce emissions. However, energy security, environmental concerns, and international geopolitical dynamics remain key hurdles in achieving a sustainable and energy-secure future.

India has made significant strides in its energy transition, with a notable focus on increasing its renewable energy capacity. By November 2024, India's total electricity generation capacity from non-fossil fuel sources stood at 46.8% of the overall installed capacity, with a target to reach 50% by 2030. This includes significant contributions from solar (20.60%), wind (10.50%), and hydro (10.30%) energy.

Key initiatives that have been introduced to boost the energy transition include:

- **PM Surya Ghar Yojana**: Aims to install rooftop solar systems in one crore households, contributing to a rooftop solar capacity of 40-45 gigawatts by 2027.
- **Viability Gap Funding (VGF) Scheme for Offshore Wind Energy**: ₹7,453 crore allocated for wind energy projects off the coasts of Gujarat and Tamil Nadu.
- **National Bioenergy Programme**: Focuses on biomass and waste-to-energy projects, with around 9.8 GW of grid-connected biomass power capacity and 249.74 MW of waste-to-energy capacity installed.
- **Green Hydrogen Mission**: Aims to produce 5 million metric tonnes of green hydrogen per year by 2030, with associated renewable energy capacity of 125 GW.
- Financial regulations have been strengthened to support green investments, including mandatory ESG reporting through the **Business Responsibility and Sustainability Report (BRSR)** for listed companies and the introduction of **Sovereign Green Bonds (SGrBs)** to mobilize resources for green infrastructure.
- In line with these efforts, the **Reserve Bank of India (RBI)** has encouraged green deposits and classified renewable energy loans under the priority sector lending category to accelerate the flow of credit to green projects.
- India's energy transition strategy is aimed at addressing climate change while ensuring energy security and fostering sustainable economic growth, with the goal of achieving net-zero emissions by 2070. The country's focus on innovation, grid infrastructure, and the scaling up of renewable energy capacity is vital to achieving these ambitious targets.

Optimizing Lifestyles for Sustainable Development: Key Points

1. **LiFE Mission**: Launched by India at COP26 (2021), it promotes environmentally friendly lifestyles. It gained global endorsement at UNEA (2024) and aims to engage 1 billion people worldwide.
2. **Food Waste**: 17% of global food is wasted annually, contributing to over 8% of greenhouse gas emissions. Reducing food waste is a critical focus of the LiFE Mission.
3. **Dietary Preferences**: Shifting to plant-based diets can reduce carbon footprints significantly. Cutting dairy and meat could reduce emissions by 66%.
4. **India's Goal**: Aim for 80% of villages and urban local bodies to be environmentally friendly by 2028 under LiFE.
5. **Co-benefits**: LiFE measures could save around USD 440 billion globally by 2030 through reduced consumption and lower prices.
6. **Promoting Sustainable Lifestyles**: Financial incentives, education, social influence, and citizen participation are key mechanisms for encouraging low-carbon lifestyles.
7. **Government Measures**: India promotes sustainability through schemes like PM KUSUM, PM Surya Ghar, electric vehicle incentives, and eco-friendly product certifications.
8. **Green Credit Program**: The Green Credit Rules (2023) incentivize environmental conservation, including tree plantation on degraded land.
9. **Swachh Bharat Mission**: SBM 2.0 integrates waste management with sustainability principles.
10. **Circular Economy**: India encourages recycling and resource efficiency, with frameworks like Extended Producer Responsibility (EPR).
11. **Plastic Waste Management**: The Plastic Waste Management Rules (2016) focus on managing plastic waste and restricting single-use plastics.
12. **Air Pollution**: India's NCAP (2019) targets reducing pollution in 130 cities, addressing sources like stubble burning and vehicular emissions.

13. **Net-Zero by 2070**: India's goal to achieve net-zero emissions by 2070 aligns with its vision of becoming a developed nation by 2047.
14. **Adaptation and Resilience**: Targeted policy measures and R&D in climate-related technologies are essential for adapting to climate change, especially in India's diverse regions.

SOCIAL SECTOR: EXTENDING REACH AND DRIVING EMPOWERMENT

This excerpt from the Economic Survey 2024-25 provides a comprehensive overview of India's inclusive economic growth strategy, with a focus on the government's efforts to empower citizens through education, healthcare, skill development, and social infrastructure. The aim is to foster sustainable and inclusive growth that improves the overall living standards of citizens by addressing key areas such as health, education, employment, and poverty reduction.

Key Highlights:

1. **Inclusive Growth and Welfare:**
   - Economic growth should transition into meaningful development through effective policies in education, health, social security, and employment.
   - The focus is on creating opportunities for citizens' self-growth and progress, ensuring a better quality of life through efficient welfare measures.
2. **Social Services Expenditure:**
   - The government's expenditure on social services (SSE) has been rising steadily, with a significant increase in the outlay from ₹14.8 lakh crore in FY21 to ₹25.7 lakh crore in FY25.

- A key priority has been improving spending on education (CAGR 12%) and health (CAGR 18%) since FY21, reflecting the government's commitment to these sectors.

3. **Rural-Urban Consumption Gap:**
    - The Household Consumption Expenditure Survey (2023-24) shows a narrowing urban-rural consumption gap, with the average monthly per capita expenditure (MPCE) in rural areas increasing by 22% among the bottom 5% of rural households.
    - The gap has decreased from 84% in 2011-12 to 70% in 2023-24, reflecting sustained consumption growth in rural areas.
4. **Welfare Policies and Inequality Reduction:**
    - Social sector initiatives, such as food subsidies and direct benefit transfers (DBTs), have contributed to reducing inequality and increasing consumption spending.
    - The Gini coefficient, which measures income inequality, improved for both rural and urban areas between 2022-23 and 2023-24, reflecting the positive impact of welfare policies.
5. **Public Distribution System (PDS):**
    - The government's food subsidy schemes, such as the PM Garib Kalyan Anna Yojana (PMGKAY), have significantly improved welfare for low-income households.
    - The PDS has provided vital support during emergencies like COVID-19, with wide coverage, especially in rural areas.

The government's approach emphasizes the importance of targeting policies to empower citizens, improve access to essential services, and reduce inequality. By combining growth with welfare measures, India is working toward the vision of Viksit Bharat (Developed India) by 2047.

Education and NEP 2020:

- **Role of Education in Economic Development**: Education is crucial for cultivating rational thinkers and building human capital, which drives economic growth. The NEP 2020 aims to produce engaged, productive citizens for an equitable society.
- **School Education System**:
    - 24.8 crore students are enrolled across 14.72 lakh schools.
    - Government schools: 69% of schools, enrolling 50% of students.
    - Private schools: 22.5% of schools, enrolling 32.6% of students.
    - NEP 2020 aims for 100% Gross Enrolment Ratio (GER) by 2030.
    - The dropout rate has declined, but retention challenges remain.
- **Improvements in School Infrastructure**:
    - Increased availability of facilities like toilets, hand wash stations, libraries, electricity, computers, and internet.
    - The government continues to work towards improving basic amenities in schools.
- **Government Programs**:
    - Programs like Samagra Shiksha Abhiyan, NISHTHA, Vidya Pravesh, and PM POSHAN are helping in school education reforms.
    - Focus on improving Early Childhood Care and Education (ECCE) through initiatives like Aadharshila and Navchetana.
- **Foundational Literacy and Numeracy (FLN)**:
    - NIPUN Bharat Mission aims for universal FLN by Grade 3 by 2026-27.
    - Peer teaching, as a method of learning, is being used to enhance FLN, helping students learn by teaching peers.
- **Peer Teaching Models**:
    - Peer teaching helps in personalized learning and can be scalable with limited resources.
    - Successful peer teaching initiatives like Nalli-Kali in Karnataka and Prerana model in multiple states are being implemented.
- **Focus on Early Education**:
    - ECCE is crucial for brain development, with 85% of brain development occurring before age six.

- Government's focus on holistic development through the introduction of new frameworks for early education, such as Aadharshila and Navchetana.

These efforts reflect India's commitment to improving its education system and ensuring inclusive, high-quality education for all children, as emphasized in the NEP 2020.

Empowering Minds: Unlocking Potential with Social and Emotional Learning (SEL)

- **ECCE and NEP 2020**: The **Early Childhood Care and Education (ECCE)** under **NEP 2020** aims for foundational literacy and socio-emotional development. Key areas include **physical, motor, cognitive, socio-emotional, ethical, cultural, artistic**, and **communication** development.
- **Social and Emotional Learning (SEL)**: SEL helps students manage emotions, build relationships, make responsible decisions, and handle challenges. It's vital for well-being and social participation. Integrating SEL from an early age fosters resilience, academic success, and prevents mental health issues.
- **Core SEL Components**: According to **CASEL**, the five core competencies of SEL are:
    1. **Self-Awareness**
    2. **Self-Management**
    3. **Social Awareness**
    4. **Relationship Skills**
    5. **Responsible Decision-Making**
- **Global Impact**: SEL programs like **SEE Learning** (Emory University) and **RULER** (Yale Center for Emotional Intelligence) have proven benefits on mental health, behavior, and academic success, with an **economic return of USD 11 for every dollar invested**.
- **Developments in India**: SEL is recognized as key in **NEP 2020**, the **National Curriculum Framework 2023**, and **NIPUN Bharat mission guidelines 2021**. Several states and non-profits, such as **Dream a Dream** and **Aparajitha Foundation**, have adopted SEL frameworks.

- **Life Skills Education**: Initiatives like the **Tim Tim Tare (TTT)** program focus on life skills (empathy, time management, communication) and are implemented across India. The program enhances students' **personal growth, emotional intelligence**, and prepares them for life challenges.

Incorporating **SEL** in education helps students develop critical life skills, ensuring **academic, social, and emotional growth**, ultimately shaping a healthier society.

Digital Technology in Education: Bridging the Gap and Essentiality of Digital Literacy

- **Digital Literacy**: Includes skills such as analyzing, synthesizing, and communicating digital information, making it essential for staying competitive in the 21st century. UNESCO defines it as a combination of computer literacy, ICT literacy, information literacy, and media literacy.
- **Rural-Urban Digital Divide**: The 2022-23 survey shows lower internet search capabilities in rural areas, especially among females (63% of males, 55% of females in rural areas compared to 74% males, 69% females in urban areas). Efforts are needed to close this gap.
- **Government Initiatives for Inclusive Digital Education**: Programs like DIKSHA, SWAYAM, PMGDISHA, and PM e-Vidya DTH Channel for Indian Sign Language aim to make education more inclusive, especially for Divyang students. Samagra Shiksha supports the establishment of ICT labs and smart classrooms.
- **AI in Education**: AI facilitates personalized learning, with systems adapting to students' pace. It helps with lesson planning, assessments, and provides automated tutors, supporting both teachers and students.

- **Industry-Academia Linkages**: Initiatives like the Apprenticeship Embedded Degree/Diploma Program and the National Credit Framework (NCrF) help integrate industry-relevant skills into the education system.
- **Atal Innovation Mission (AIM)**: FTLs (Frontier Technology Labs) aim to provide students access to advanced technologies such as AI, AR/VR, and robotics, building on the foundation of Atal Tinkering Labs.
- **Traditional Methods in Education**: Despite the rise of online learning, physical classroom methods remain essential. Tamil Nadu's Illam Thedi Kalvi scheme addresses the digital divide by offering door-to-door education, particularly beneficial post-pandemic for integrating out-of-school children, with a focus on marginalized groups.

Children with Special Needs (CwSN)

Inclusive Education for CwSN:

- The **National Education Policy (NEP) 2020** aims for inclusivity, promoting the integration of CwSN into mainstream education through barrier-free infrastructure, compassionate teacher training, and assistive technologies.
- The **Samagra Shiksha scheme** aligns with the **RPWD Act 2016**, providing funding for aids, appliances, Braille materials, and therapeutic interventions.
- Infrastructure improvements, including ramps, handrails, and accessible toilets, are being made across schools.

- **PMeVidya Series** and other resources like **ISL interpreters**, **accessibility content**, and **inclusive pedagogy** are helping to support CwSN's learning needs.
- **Disability screening** through apps like **PRASHAST** allows for widespread identification of disabilities, enhancing early intervention.
- Various initiatives aim to build teacher capacity and provide necessary training to integrate CwSN inclusively into classrooms.

2. **Higher Education Expansion**:

- India's higher education system has grown substantially, with a significant rise in institutions like **IITs**, **IIMs**, and medical colleges, as well as the **Gross Enrollment Ratio (GER)**, which has increased from 23.7% to 28.4% from 2014-2021.
- The **NEP 2020** envisions a shift towards multidisciplinary education, digital empowerment, and inclusive learning, while promoting autonomy for institutions and reducing heavy regulation.
- The focus is also on making **higher education institutions (HEIs)** more accessible to students with disabilities, with provisions for infrastructure, learning materials, and scholarships for disadvantaged students.
- Various reforms are being introduced by the **University Grants Commission (UGC)**, like guidelines for **multiple entry and exit in academic programs** and academic collaborations with foreign universities.

3. **Challenges in Medical Education**:
   - There's a growing concern over the **affordability of medical education**, particularly in private institutions where fees can be as high as ₹60 lakh to ₹1 crore.
   - The **quality of education abroad** is another challenge, with many students going to countries with lower fees but facing difficulties such as **low pass rates** and regulatory issues upon returning to India.
   - There is also a **geographical imbalance** in the distribution of medical education, with southern states and urban areas having a higher concentration of seats and doctors compared to northern and rural areas.

This combined focus on inclusivity, regulatory reform, and infrastructure expansion highlights India's efforts to provide more equitable educational opportunities across all levels, including for disadvantaged groups.

Healthcare in India:

- **Health and Economic Growth**: Health is crucial for a prosperous economy. It contributes to higher productivity, reduced healthcare needs, and improved life expectancy. With India's youthful population, it is essential to focus on building a healthy generation.
- **Government Health Expenditures (GHE)**: The National Health Accounts (2021-22) show that India's total health expenditure (THE) reached ₹9,04,461 crore, 3.8% of GDP. The government's share in health financing has increased significantly, reducing the dependence on out-of-pocket expenses.
- **Growth in Capital Expenditure**: Government spending on health infrastructure has increased, with capital expenditures rising from 6.3% in FY16 to 12.7% in FY22.
- **Health Insurance Schemes**: Government health insurance schemes like Ayushman Bharat PMJAY, Rashtriya Swasthya Bima Yojana (RSBY), and other state-specific schemes contribute to healthcare financing.
- **Reduction in Out-of-Pocket Expenditures (OOPE)**: The share of OOPE in total health expenditure has declined from 62.6% in FY15 to 39.4% in FY22, aided by schemes like AB-PMJAY.
- **Ayushman Bharat PMJAY**: This scheme, covering 12 crore families, provides up to ₹5 lakh in health benefits annually for secondary and tertiary care, focusing on the most vulnerable sections of society.
- **PM-ABHIM**: The PM Ayushman Bharat Health Infrastructure Mission (2021) strengthens public health infrastructure, focusing on rural and urban areas.
- **Free Drugs Service Initiative (FDSI)**: The government launched this to provide essential drugs at public health facilities, ensuring the availability and quality of medicines.
- **Universal Immunisation Programme (UIP)**: Offering free vaccines to millions annually, UIP has achieved a full immunisation rate of 93.5% nationally for FY24, protecting against 12 vaccine-preventable diseases.
- **Jan Aushadhi Scheme**: The Jan Aushadhi initiative provides affordable medicines at over 14,000 kendras across India, making healthcare more accessible, especially in rural areas.

These efforts demonstrate the government's commitment to improving healthcare access and reducing financial hardship, aiming for universal health coverage and better health outcomes.

Disruptive Technology in Healthcare:

- **Technology Integration**: Utilization of wearable devices, telehealth, and AI to improve healthcare accessibility, efficiency, and personalization.

Key Healthcare Initiatives

- **U-WIN**: A portal digitizing immunization records for pregnant women and children, offering flexible scheduling, reminders, and vaccination certificates.
- **E-Sanjeevani**: India's largest telemedicine service, offering consultations via 1.29 lakh spokes, with over 31 crore patients served.
- **Ayushman Bharat Digital Mission (ABDM)**: Launched in 2021 to create a national digital health ecosystem, supporting universal health coverage.

Drone Deliveries in Healthcare

- **Medicines from the Sky**: Using drones for rapid delivery of medical supplies, reducing delivery times from hours to minutes, especially in remote areas.
- **i-DRONE Project**: A pilot project for delivering vaccines and medical supplies in difficult terrains, covering 7,700 km and delivering 22,000 medical essentials.

Artificial Intelligence (AI) in Healthcare

- **AI's Role**: AI in combination with robotics and IoMT has the potential to address challenges in healthcare quality, accessibility, and affordability.
- **AI Use Case**: AI in Rajasthan for diagnosing Silicosis using digital X-rays, improving diagnosis accuracy and efficiency in treatment.

Mental Well-being and Work Culture

- **Mental Health Survey**: A survey by Sapien Labs focused on the impact of lifestyle, work culture, and family bonds on mental well-being in India.
- **Work Culture's Impact**: The work environment significantly affects mental health, with factors like workload, manager relationships, and perceived control influencing well-being.

This summary highlights the integration of technology in healthcare and its potential impact on improving services, as well as the growing focus on mental well-being influenced by work culture.

Impact lifestyle choices have on health:

- **The World Health Organization (WHO) reports that NCDs are responsible for 74% of** global deaths, with 77% of these deaths occurring in low- and middle-income countries. In India, the proportion of deaths due to NCDs increased from 37.9% in 1990 to 61.8% in 2016. The government has launched the National Programme for Prevention and Control of NCDs to strengthen healthcare infrastructure and promote early detection through initiatives like Population-Based Screening.
- The section also emphasizes the dangers of **ultra-processed foods (UPFs)**, which are high in sugar, salt, and unsaturated fats but lack essential nutrients. UPFs are associated with a variety of health problems, including obesity, heart disease, diabetes, and mental health issues like depression and anxiety. The rapid growth of the UPF market in India is attributed to convenience, affordability, and aggressive marketing.
- **Policy interventions, such as the Advertising and Claims Regulations**, and initiatives to promote consumer awareness about the risks of UPFs are crucial. There's a push for stricter regulations on UPFs, including nutrient profiling and front-of-pack labels to limit misleading marketing, especially towards children.
- The way forward includes fostering awareness about healthy food choices, promoting local produce, and increasing the affordability and accessibility of nutritious options. The

government is urged to introduce nutrient thresholds for harmful ingredients in food and enact stricter consumer protection laws.

Rural Economy: Key Government Measures

- **Quality of Life Improvement**: Focus on equitable development through rural housing, drinking water, sanitation, clean fuel, social protection, and rural connectivity.
- **Microfinance and Technology**: Support for rural households and small businesses via SHGs, microfinance, and technology-driven initiatives like digital land records (SVAMITVA).
- **Health Focus**: Enhanced rural health infrastructure with a focus on pandemic recovery.

Rural Infrastructure Development Progress

- **Roads (PMGSY)**: 8,34,695 km of roads sanctioned; 7,70,983 km completed, ensuring 99.6% rural connectivity.
- **Housing (PMAY-G)**: 2.69 crore houses built since 2016.
- **Water**: 12.2 crore households with tap water connections under Jal Jeevan Mission.
- **Sanitation**: 11.8 crore toilets and 2.51 lakh community sanitary complexes built under Swachh Bharat Mission (Gramin).
- **Health Infrastructure**: Sub-centres, PHCs, and CHCs expanded; substantial increase in doctors, nurses, and lab technicians in rural areas.

Particularly Vulnerable Tribal Groups (PVTG) Development

- **PM-JANMAN**: Focus on connectivity for unconnected PVTG habitations; road length of 8,000 km targeted till 2028.

Pradhan Mantri Awaas Yojana-Gramin (PMAY-G)

- **Objective**: Provide pucca houses to rural poor by 2029. 2.69 crore houses completed, with an additional 2 crore to be built by 2029.
- **Beneficiary Identification**: Based on SECC 2011 and Awaas+ survey.
- **Key Features**: Direct benefit transfer (DBT), geo-tagging, improved monitoring, and financial inclusion.
- **Employment Impact**: PMAY-G has created significant direct and indirect employment in rural areas, contributing to the rural economy.

Holistic Design and Efficiency

- **PAHAL**: Repository of suitable house designs incorporating disaster resilience, eco-friendly materials, and cost-effective technologies.
- **Skilled Labor**: Training for masons under CSDCI and NSDC to enhance construction quality.

Women's Empowerment

- **Ownership**: 74% of PMAY-G houses are owned by women, promoting economic and social empowerment.

Convergence with Other Schemes

- **Integration**: PMAY-G links with MGNREGA, SBM-G, Jal Jeevan Mission, Surya Ghar for comprehensive rural development.

Localisation of SDGs and Rural Development:

- SDGs localisation ensures rural development aligns with global goals, focusing on housing, sanitation, water supply, and electrification.
- Achieved through initiatives like Village Panchayat Development Plans under Mission Antyodaya and district-level programs.
- Kerala's community-based model and SDGCCs in 10 states/UTs support localisation efforts, with real-time dashboards to monitor progress.

Rural Welfare Measures

- **Food, Nutrition, Health, and WASH (FNHW)**: DAY-NRLM promotes nutri-gardens, poultry, small ruminants, and dairy for nutrition and health across 5369 blocks in 682 districts.
- **Social Inclusion and Gender**: Gender-inclusive strategies in SRLMs address issues like early marriage, education, and violence, benefiting over 25 lakh Gender Point Persons (GPPs) and 89,000 Gender-CRPs.
- **Free Legal Assistance**: NALSA provides legal aid to disadvantaged groups, with initiatives like Tele-Law and Nyaya Bandhu for better access to justice in rural areas.
- **Gram Nyayalayas**: Over 2.99 lakh cases disposed of by 313 Gram Nyayalayas, ensuring justice at the grassroots level.
- **National Social Assistance Programme (NSAP)**: Provides financial assistance to 9 crore vulnerable beneficiaries, ensuring a pension safety net at an annual expenditure of ₹1 lakh crore.

Enhancing Rural Incomes

Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM)

- **Launched in 2011**: Aims to reduce poverty by enabling rural households to access self-employment and skilled wage employment.
- **Core Components**:
    - Social Mobilisation & Community Institutions (SHGs, VOs, CLFs)
    - Financial Inclusion
    - Sustainable Livelihoods
    - Social Inclusion and Access to Entitlements

- **Key Achievements**:
    - Mobilized 10.05 crore rural poor households into 90.90 lakh SHGs.
    - ₹49,284 crore capitalisation support to SHGs.
    - **Start-Up Village Entrepreneurship Programme (SVEP)**: 3.13 lakh enterprises across 280 blocks.
    - 36,205 Custom Hiring Centres established for farm tool access.
    - 2,297 vehicles under Aajeevika Grameen Express Yojana connecting remote villages.

Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA)

- **Launched in 2005**: Provides 100 days of wage employment in rural areas.
- **Key Indicators**:
    - 2024-25: 220.11 crore person-days generated.
    - Women participation: 57.97% in 2024-25.
- **Efficiency Reforms**:
    - 99.98% payments through National Electronic Fund Management.
    - 96.3% wage payments through Aadhaar-based systems.
    - **Diversification**: Focus on durable rural assets, soil quality, plantation, and water management.
    - Convergence with various ministries (Agriculture, Women and Child Development, Panchayati Raj, etc.) for rural development.

Outlook for Rural Welfare

- **Growth Story**: Emphasizing welfare enhancement through education, health, skilling, and infrastructure.
- **Focus Areas**:
    - **Education**: Improving learning outcomes, digital literacy, and life skills.

    - **Health**: Promoting preventive health, universal health coverage, and mental health initiatives.
    - **Rural Infrastructure**: Improving connectivity, sanitation, housing, and access to drinking water.
    - **Inclusive Development**: Empowering marginalized communities through SHGs, microfinance, and SDG localization.
- **Regulatory Reform**: Shift towards trust-based regulation with transparency, focusing on outcomes rather than rigid inputs.

These initiatives reflect India's commitment to **inclusive and sustainable development**, especially in rural areas, aligning with the broader **welfare for all** approach.

EMPLOYMENT AND SKILL DEVELOPMENT: EXISTENTIAL PRIORITIES

1. **Demographic Opportunity**: India's young population, with a median age of around 28 years, offers immense growth potential, and integrating this workforce into meaningful employment is essential for economic success.
2. **Labour Market Trends**:
    - The unemployment rate (UR) has steadily decreased, from 6% in 2017-18 to 3.2% in 2023-24.
    - Labour force participation rate (LFPR) and worker-to-population ratio (WPR) have shown positive trends, indicating a recovery in employment across India, post-pandemic.
3. **Employment Composition**:

- Self-employment has increased, from 52.2% in 2017-18 to 58.4% in 2023-24, reflecting an entrepreneurial shift.
- The proportion of workers in salaried jobs has decreased slightly, while casual employment has also fallen, suggesting a move towards more structured self-employment.

4. **State-wise Trends**: There are significant improvements in WPR and LFPR in various states, with several states witnessing a 10-percentage point increase since 2017-18.
5. **Women in the Workforce**: The trends reflect improvements for women in the workforce, although the section ends before elaborating further on this topic.

The chapter focuses on the need to foster job creation through labor law reforms, skill development, and supporting emerging sectors like the digital economy and renewable energy. It also emphasizes the importance of reskilling, upskilling, and new-skilling the workforce to align with global demands.

Sectoral Distribution of Workforce (2023-24):

- Agriculture remains the dominant sector for employment, with its share increasing from 44.1% in 2017-18 to 46.1% in 2023-24. However, both the industrial and services sectors have seen declines in employment share during the same period.
- Female participation in agriculture has increased significantly, from 57.0% in 2017-18 to 64.4% in 2023-24, while male participation has declined. This trend indicates a shift toward non-agricultural sectors for male workers.
- In rural areas, female agricultural employment rose from 73.2% in 2017-18 to 76.9% in 2023-24, while male participation decreased from 55.0% to 49.4%.

2. **Rise in Female LFPR**:

- The female labor force participation rate (FLFPR) has been rising for seven years, from 23.3% in 2017-18 to 41.7% in 2023-24. This increase is mainly attributed to rural women entering the workforce.
- In rural areas, the FLFPR has risen from 24.6% in 2017-18 to 47.6% in 2023-24.
- Factors contributing to this rise include government schemes like the Deendayal Antyodaya Yojana (DAY-NRLM), which offer women access to credit, skill development, and entrepreneurship opportunities.

3. **Government Initiatives to Promote Female Entrepreneurship**:
   - As of October 2024, around 73,151 start-ups with at least one female director have been recognized under the Startup India Initiative, representing nearly half of the total start-ups supported by the government.
   - The government has allocated substantial funding to support women-led ventures. For example, ₹3,107.11 crore has been invested in 149 women-led start-ups.
   - Other initiatives like the PM Employment Guarantee Programme, Credit Guarantee Scheme for Startups, and Ministry of Micro, Small, and Medium Enterprises (MSME) programs have provided financial support, training, and mentorship to women entrepreneurs.
4. **Challenges and Opportunities**:
   - While there is a rise in women-led businesses, ownership remains predominantly male. Only 22% of all micro, small, and medium enterprises (MSMEs) are owned by women, and this percentage drops as the size of the enterprise increases.
   - Systemic barriers, such as gender norms and childcare responsibilities, limit women's participation in paid work, though more than 70% of married women in rural areas are engaged in labor (paid or unpaid).
   - The care sector has significant potential to boost FLFPR, and policies to remove restrictions on women working in specific occupations could improve workforce participation.

This data reflects ongoing efforts to increase women's participation in the workforce, with a focus on both the rural and urban contexts, and highlights the role of government initiatives in fostering

Trends in Wages and Earnings (2023-24)

1. Earnings Growth Overview

- **CAGR**: From 2018-19 to 2023-24, average earnings for regular/salaried workers and self-employed workers grew at **5% CAGR**.
- **Casual Workers**: The daily wage of casual workers saw a faster growth rate, at **9% CAGR**.
- **Self-Employed Workers**: Earnings showed a decline between 2017-18 and 2020-21 but rebounded post-pandemic.

2. Segment-wise Earnings (2023-24)

- **Self-Employed**:
  - Rural: ₹13,907 (Male), ₹4,907 (Female)
  - Urban: ₹22,930 (Male), ₹8,489 (Female)
  - Overall: ₹16,007 (Male), ₹5,497 (Female)
- **Regular Workers**:
  - Rural: ₹18,029 (Male), ₹11,914 (Female)
  - Urban: ₹25,501 (Male), ₹19,709 (Female)
  - Overall: ₹22,092 (Male), ₹16,498 (Female)
- **Casual Workers**:
  - Rural: ₹434 (Male), ₹290 (Female)
  - Urban: ₹529 (Male), ₹354 (Female)
  - Overall: ₹450 (Male), ₹296 (Female)

3. Trends in Earnings (2018-24)

- **Self-Employed**: From ₹10,323 in 2018-19 to ₹13,279 in 2023-24.

- **Regular**: From ₹15,885 in 2018-19 to ₹20,702 in 2023-24.
- **Casual**: From ₹277 in 2018-19 to ₹418 in 2023-24.

Rural Wage Trends

4. Rural Wage Growth (FY 25)

- **Agriculture**:
  - Male: 5.7% Nominal growth
  - Female: 7% Nominal growth
- **Non-Agriculture**:
  - Male: 5.5% Nominal growth
  - Female: 7.9% Nominal growth

5. Real Wage Growth (FY 25)

- **Agriculture**:
  - Male: 0.6% growth
  - Female: 1.8% growth
- **Non-Agriculture**:
  - Male: 0.4% growth
  - Female: 2.6% growth

Wages in Unincorporated Sector Enterprises

6. Average Emolument Growth

- **2023-24**: Average emolument per hired worker rose by **13%**, from ₹1,24,842 to ₹1,41,071.

7. Sector-Specific Wage Growth

- **Manufacturing**: 16.1% increase in the average emolument per hired worker.

8. Employment Growth in Unincorporated Sectors

- **2023-24**: Hired workers increased from **2.95 crore** to **3.15 crore**.

Corporate Profitability and Wage Growth

9. Corporate Profit Surge

- **Profit-to-GDP Ratio**: Increased from 2.1% in FY03 to 4.8% in FY24.
- **Corporate Profits**: 22.3% increase in FY24, while employment grew only by **1.5%**.

10. Income Inequality Concerns

- A disparity between high corporate profits and stagnant wage growth, especially at entry-level positions, is raising concerns about income inequality and economic stability.

Employment in Factories:

11. Manufacturing Sector Employment

- **FY23**: The manufacturing sector saw a **7% increase in employment**, adding over **22 lakh jobs** since FY19, reflecting a strong post-pandemic recovery.

Growing Formal Sector in India: Key Points

- **EPFO Growth**: EPFO net additions more than doubled, rising from 61 lakh in FY19 to 131 lakh in FY24. By November 2024, 95.6 lakh net additions were recorded, reflecting increased formalisation in the job market.
- **Age Group Focus**: 47% of new EPFO subscribers were in the 18-25 age group, with 61% under 29 years, indicating youth-centric formal job growth.

- **eShram Portal**: Launched in 2021 to register unorganised workers and provide them access to social security schemes, with over 30.51 crore workers registered by December 2024.
- **Labour Law Reforms**: Simplified labour laws, including the introduction of four Labour Codes, aim to improve transparency, accountability, and worker protection.
- **Industrial Composition**: Expert services sector leads in formal job creation, contributing 50% of EPFO additions in FY25 (April-November).

Key Labour Law Reforms:

- **Labour Codes**: The four Labour Codes amalgamate 29 existing laws, enhancing worker protection in wages, social security, and safety.
- **State-Level Reforms**: Several states have implemented reforms such as increasing thresholds for worker protection and introducing fixed-term employment.

Challenges in Worker Safety and Productivity:

- **Occupational Safety**: OSH regulations are key to enhancing worker safety and productivity. However, industry compliance remains a challenge, as seen in the automobile sector.
- **Industrial Injuries**: Despite a reduction in industrial injuries, the manufacturing and construction sectors remain accident-prone.

Technology-Driven Solutions for Worker Safety:

- **Digital Platforms**: Examples like the Philippines' Online Labour Inspection System showcase the potential for digital safety reporting and monitoring.
- **Wearable Tech and IoT**: Utilizing technology such as wearables and IoT can enhance safety monitoring and risk detection in high-risk sectors.

Incentives for Improved Safety:

- **Tiered Safety Protocols**: Implementing industry-specific safety protocols and offering incentives like tax breaks and safety awards can drive compliance.

- **Public-Private Partnerships**: Shared safety services, like those in Thailand, can help smaller businesses comply with safety standards.

Driving Employment Opportunities through the Digital Economy:

- **OECD Definition**: The digital economy includes economic activities that rely on or are enhanced by digital technologies, infrastructure, services, and data.
- **India's Digital Economy Growth**: Projected to surpass USD 1 trillion by 2025 (MeitY).
- **Job Opportunities in Digital Economy**: Roles range from delivery personnel, cab drivers, beauty professionals to software engineers and data analysts. Platforms in transportation, food delivery, and home services are creating flexible employment opportunities.
- **Gig Economy**: India's gig workforce projected to reach 23.5 crore by 2029-30.
- **Dual Effect of Digital Technologies**: Digital technologies replace human labor but also create new roles, driving labor demand (Acemoglu & Restrepo, 2019).
- **Gender Impact**: The digital economy allows for remote working, reducing gender bias and empowering women, especially in developing countries.
- **Fintech and Female Employment**: Studies show fintech adoption improves female employment and reduces gender inequality.

Building a Green Workforce: Job Creation in Renewable Energy:

- **Renewable Energy Job Creation**: In 2023, India’s renewable energy sector employed 1.02 million people, with hydropower being the largest employer.
- **Women Empowerment in Renewable Sector**: Projects like Solar Urja Lamps in Rajasthan and GEAPP initiatives empower women in the renewable sector by providing sustainable livelihoods.
- **Climate Risks and Women**: Climate change disproportionately impacts women, particularly in rural areas, necessitating alternative livelihoods and technologies.
- **Decentralised Renewable Energy (DRE)**: DRE solutions, especially solar energy, are promoting women’s entrepreneurship and economic participation in sectors like agriculture, agro-processing, and textiles.

- **SELCO Foundation's Impact**: Empowered over 6,200 women across 24 states through DRE solutions, boosting incomes, enhancing productivity, and fostering financial inclusion.

India's Evolving Skill Landscape: Key Insights

- **Workforce Skill Composition**: 90.2% of the workforce has education at or below the secondary level, with 88.2% engaged in low-skilled occupations.
- **Educational & Occupational Mismatch**: Over 53% of graduates and 36% of postgraduates are underemployed, highlighting the need for better skill alignment with market demands.
- **Vocational Training Gaps**: 65.3% of the workforce has not received vocational training, emphasizing the need for expanded training initiatives.
- **Skilling Initiatives**: Government initiatives like PMKVY and PM Vishwakarma have trained millions, with a focus on women's empowerment and new-age job roles.
- **Industry Collaboration**: Enhanced industry partnerships, such as the New ITI Upgradation Scheme, aim to align training with evolving sector needs.
- **Technological Impact**: Automation, AI, and digitalisation are reshaping job requirements, demanding new skill sets.
- **Future Strategy**: A focus on industry-academia partnerships, continuous skill development, and flexible learning models is necessary to build a globally competitive workforce.
- **Educational Reforms**: NEP 2020 aims to ensure that by 2025, 50% of students gain exposure to skill education, with a focus on foundational literacy and numeracy.

Prime Minister's Package for Employment and Skilling:

- Aims to benefit **4.1 crore youth** over 5 years with a central outlay of ₹2 lakh crore.

- Focuses on creating **long-term quality jobs** for Viksit Bharat.

2. Scheme A - For First-Timers

- Provides **one-month salary** (up to ₹15,000) in three instalments for first-time employees.
- Targets **2.1 crore youth** entering the workforce.

3. Scheme B - Job Creation in Manufacturing

- Offers incentives for **EPFO contributions** in the first four years of employment.
- Aims to stimulate **job creation** in the manufacturing sector.

4. Scheme C - Support to Employers

- Government reimburses **₹3,000/month** for two years for each additional employee's EPFO contribution.
- Expected to benefit **30 lakh youth** and increase employment across sectors.

5. New Centrally Sponsored Skilling Scheme

- **20 lakh youth** to be skilled over 5 years.
- **1,000 ITIs** to be upgraded to meet workforce needs.

6. Prime Minister's Internship Scheme

- Offers **12-month internships** in top companies to **1 crore youth** over 5 years.
- Provides **₹5,000/month stipend** with additional ₹6,000 for incidentals.
- Targets youth aged 21-24 years, offering real-life business exposure.

7. Tiered Skill Framework for AI

- Focuses on **foundational, intermediate, and advanced skills** for AI.
- Aims to equip workers for **AI-driven** job markets and rapid technological changes.

8. Role of Internships in Workforce Development

- Internships enhance **employability**, **workplace skills**, and career exposure.
- **PM Internship Scheme (PMIS)** democratizes internship access for youth, especially from rural areas and tier 2-3 cities.

9. Inclusivity in Internship Opportunities

- Aims to bridge the skill-gap in **underprivileged regions**.
- **1.27 lakh internships** created in pilot phase, covering **36 states and UTs**.

10. Economic Impact

- Helps bridge the gap between **academic knowledge** and **industry needs**.
- Aligns with the **National Education Policy (NEP) 2020** and promotes youth empowerment.

These schemes reflect the government's commitment to **empowering youth**, enhancing **employability**, and addressing the changing demands of the job market in an **AI-driven world**.

International Mobility of Skilled Workers

- **Global Demand for Jobs**: By 2025, there is an expected demand for 97 million new jobs globally in sectors like healthcare, construction, IT, agriculture, and financial services. India's young demographic, with 65% of its population under 35, positions it as a global talent hub.
- **Skill Development for Global Mobility**: India is focusing on creating a high-quality, globally competitive workforce to enhance employability in international job markets. Skill development is critical for aligning with industry demands and global standards.
- **International Cooperation**:
    - Bilateral agreements, such as Migration and Mobility Partnership Agreements (MMPA), Labour Mobility Agreements (LMA), and others, aim to ensure skill alignment, worker rights, and sector-specific demand forecasting.

    - The Ministry of Skill Development and Entrepreneurship (MSDE) has MoUs with countries like Australia, Japan, Qatar, and the UAE to promote vocational training, international certifications, and capacity building.
    - MSDE also assesses skill gaps in countries like the USA and Canada, focusing on sectors like AI and robotics.
- **Skill India International Centres**: These centres, operational in Varanasi and Bhubaneswar, help reduce the cost and time for international mobility, with the goal of creating a 'Trusted Workforce Supply Chain.'
- **Pre-Departure Orientation Training**: This programme, launched in 2018, offers free training to migrant workers about cultural, legal, and welfare aspects of destination countries.
- **e-Migrate Platform**: A digital platform streamlining the emigration process, with over 2,000 recruiting agents and over 280,000 employers registered.
- **Way Forward**: Regular demand-supply analyses are needed to align skill development with global labour market needs.

Conclusion: India has shown growth in employment, driven by entrepreneurship, skill development, and regulatory reforms. Labour laws are evolving to promote gender inclusivity, such as night shifts for women and extended maternity leave. Simplifying compliance and fostering worker welfare through labour reforms will support job creation and economic inclusivity.

LABOUR IN THE AI ERA: CRISIS OR CATALYST

AI and Labor Markets

1. Rapid Advancements and Paradigm Shift

- AI models are evolving rapidly, showcasing capabilities in tasks traditionally managed by humans.
- AI is expected to impact critical sectors like healthcare, criminal justice, education, and finance.
- Concerns over its speed of development outpacing regulatory and ethical frameworks persist.

2. Challenges of AI Adoption

- Reliability concerns, resource inefficiencies, and infrastructure deficits hinder large-scale AI implementation.
- The experimental nature of AI offers policymakers a window for strategic planning.

3. Disruption Risks and Inequality

- Labour displacement due to automation could exacerbate social and economic divides.
- Concentration of AI resources among a few large companies poses risks of inequitable benefits.
- Studies warn of "winner-takes-all" scenarios detrimental to labor-rich developing countries like India.

4. Lessons from Past Technological Revolutions

- Historical disruptions highlight the need for inclusive institutions to mitigate societal damage.
- Unregulated innovation can lead to long-term inequality and societal harm.

5. India's Unique Position

- India's demographic advantage and diverse economic sectors can benefit from AI-driven innovation.
- Effective adoption requires significant investment in education and workforce skilling.

6. Role of Institutions

- **Enabling Institutions**: Support AI integration into the workforce and economy.
- **Insuring Institutions**: Provide safety nets to mitigate transition pains.
- **Stewarding Institutions**: Align AI innovation with societal goals and inclusivity.

7. Global Job Displacement Estimates

- AI may put 75 million jobs globally at risk of automation (ILO estimate).
- In the UK, up to 18% of jobs face automation risks in the next decade.
- U.S. studies indicate high-wage and low-wage jobs alike are exposed to automation risks.

8. Pathway for India

- Collaboration among policymakers, private sector, and academia is crucial.
- Strategic investments in infrastructure and robust institutional frameworks can position India as a global leader in AI adaptation.

9. Opportunities with AI

- AI can catalyze economic transformation and augment the future of work.
- Inclusivity and sustainability are key to minimizing disruptions while maximizing benefits.

10. Conclusion

- The focus should be on mitigating risks through time-bound, collaborative institution building.
- Strategic planning and robust frameworks can transform AI from a disruptive force to a catalyst for equitable growth.

The Need for Robust Institutions

1. **Role of Institutions in Mitigating Negative Effects of Innovation**
    - Strong institutions foster environments where innovation drives inclusive growth.
    - Insights from *Why Nations Fail* highlight how inclusive institutions shape economic destiny.
2. **Challenges from AI and the Need for Institutional Capacity**
    - Eric Posner warns of mental health and political turmoil from AI-induced unemployment.
    - High-quality institutions mediate technology's benefits and minimize disparities.
3. **Three Pillars of Institutional Requirements**
    - **Enabling Institutions**
        - Equip the workforce with relevant skills and enable transitions to new jobs.
        - Crucial for India’s low-skilled workforce to move to AI-augmented roles.
    - **Insuring Institutions**
        - Provide safety nets and support during transitions to prevent societal inequalities.
        - Examples: National Insurance Act (UK, 1911), Beveridge Report (1942).
    - **Stewarding Institutions**
        - Ensure ethical applications of technology and balance innovation with public welfare.

        - Promote transparency, accountability, and mitigate adverse effects in sectors like healthcare and education.

4. **Challenges in Institution Building**
    - Requires intellectual and financial resources and alignment of social structures.
    - Globalization offers India a level playing field to develop AI-related institutions.
5. **Time Advantage for India in AI Adoption**
    - Historical precedent: Technologies need refinement, cost-effectiveness, and infrastructure for mass adoption.
    - AI adoption is in its infancy, giving India the time to build robust institutions.

These steps highlight the critical role of institutions in navigating the challenges and opportunities of the AI era.

AI's Real-World Challenges: Vision to Viability

1. Differentiating Breakthrough and Practicality

- **Breakthrough:** Significant discovery enabling new possibilities, e.g., Large Language Models excelling at tests but lacking originality in research.
- **Practicality:** Feasibility, cost-effectiveness, scalability, and measurable real-world benefits are still limited for AI adoption.

2. Experimental Nature of AI

- AI demonstrates impressive capabilities but lacks clarity in real-world utility.
- Examples:
    - **Self-driving cars:** Challenges in cost-effectiveness and social acceptance.
    - **Chatbots:** Limited effectiveness in addressing complex customer queries.

3. Adoption Challenges

- Industry emphasis on broad adoption to discover use cases organically.
- High human intervention required for practical AI applications due to limitations like "hallucination" in outputs.

4. Reliability Concerns

- High stakes in real-world applications (e.g., autonomous vehicles and recruitment biases).
- Lack of reliability can lead to severe unintended consequences.
- Ethical implications arise from AI replacing human decision-making.

5. Accountability and Liability Frameworks

- Current liability frameworks often do not suit AI.
- Reliance on AI may dilute human accountability, emphasizing the need for reliable AI systems.

6. Infrastructure Challenge

- **Historical parallels:** Technological revolutions (e.g., industrial and internet revolutions) depended on complementary infrastructure.
- **AI Infrastructure Needs:**
  - Beyond physical resources: Includes data, expertise, and readiness.
  - Data biases and cleaning processes add complexity.
  - Holistic infrastructure development will take time, delaying full AI integration.

7. Labour and AI Adoption

- Human oversight remains essential, reducing immediate labour displacement risks.

- Time-intensive infrastructure development provides a buffer against rapid AI-induced disruptions.
- **Proactive Institutional Response**

  India must equip its workforce with future-ready skills and establish mechanisms to mitigate the societal impacts of AI. Leveraging its service-driven economy and youthful demographic can maximize AI benefits.
- **Labour Augmentation, Not Replacement**

  AI technologies can augment human productivity rather than displace workers. Historical examples in manufacturing and studies on robots and AI in various industries indicate that technological advancements often lead to job growth rather than decline.
- **AI's Current Limitations**

  The report demystifies generative AI, explaining that its functionality is largely statistical, based on probabilistic calculations, and lacks true "intelligence." This limits its ability to replace nuanced human decision-making in fields like education, healthcare, and judiciary.
- **Potential in Human-AI Collaboration**

  AI shows promise in enhancing productivity across sectors. For example, AI-assisted tools have improved customer support and scientific research efficiency. The integration of AI in human decision-making processes is suggested as an optimal approach for maximizing its economic benefits.
- **AI for Skill Bridging**

  AI tools can reduce skill inequality by enabling low-skilled workers to achieve results closer to those of high-skilled workers, as observed in customer support and research applications.
- **Challenges to Address**

  The survey cautions against over-reliance on AI for tasks requiring subjective judgment, ethical considerations, and adaptability, and emphasizes the importance of human oversight.

In conclusion, while AI presents significant opportunities for India, realizing its full potential will require thoughtful integration, robust institutional frameworks, and a balanced approach that prioritizes human-AI collaboration over substitution.