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# SUMMARY OF ECONOMIC SURVEY



**2022 - 2023**



# Contents

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## SUMMARY OF ECONOMIC SURVEY 2022-23 (FROM THE PERSPECTIVE OF UPSC CSE)

- The Economic Survey is an annual document that brings out the economic trends in the country and facilitates a better appreciation of the mobilisation of resources and their allocation in the Union Budget.
- It is prepared by the **Economic Division of the Department of Economic Affairs (DEA)** under the guidance of the **Chief Economic Advisor**. Once prepared, the Survey is approved by the **Finance Minister**.
- India's first Economic Survey was presented in 1950-51. The document was presented with the Union Budget till 1964. Later, it was separated and presented **in Parliament a day before the Budget is read**.

## CHAPTER 01 - STATE OF THE ECONOMY 2022-23: RECOVERY COMPLETE

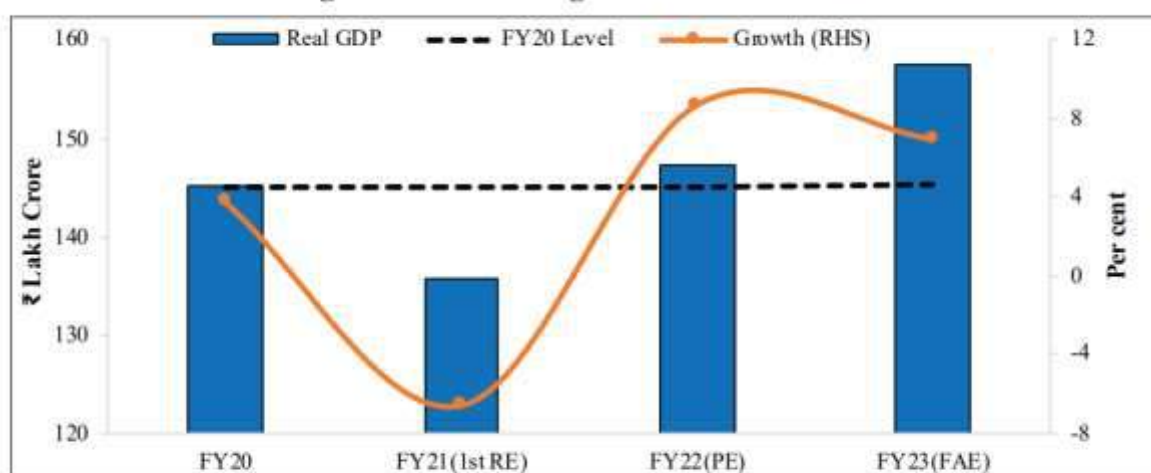
### Introduction

- Before the third decade of the new millennium commenced, incidents of global economic turbulence were generally spaced out, allowing economies breathing time to recover before preparing for the next challenge.
- This changed in the third decade of this millennium. The **Covid-19 pandemic** was the first challenge of the third decade that hit global growth. Two years later, as the global economy was recovering from the pandemic-induced output contraction, the **Russia-Ukraine conflict** broke out in February 2022, triggering a swing in commodity prices and, thus, accelerating existing inflationary pressures.
- Soon after, the third challenge emerged when **nations undertook monetary tightening** to rein in inflation causing growth to weaken. Monetary tightening also **drove capital flows to safe-haven US markets**, contributed to **rising sovereign bond yields, and depreciation of most currencies** against the US dollar. The consequent increase in borrowing costs also stressed **high levels of public and private debt, threatening the financial system**.
- Faced with the prospects of global stagflation, nations, feeling compelled to protect their respective economic space, **slowed cross-border trade**, which posed the fourth challenge to growth. All along, the fifth challenge was festering as **China experienced a considerable slowdown** induced by its policies. The sixth medium-term challenge to growth was seen in the **scarring from the pandemic** brought in by the **loss of education and income earning opportunities**.
- A simultaneous occurrence of several challenges to growth is perhaps unprecedented. Like the rest of the world, India, too, faced this extraordinary set of challenges but withstood them better than most economies.

### Macroeconomic and Growth Challenges in the Indian Economy

- The impact of the pandemic on India was seen in a **significant GDP contraction in FY21**. The following year, FY22, the Indian economy **started to recover** despite the Omicron wave of 2022.
- Consequently, **output in FY22 went past its pre-pandemic level in FY20**, with the Indian economy staging a full recovery ahead of many nations.

Figure I.9: Economic growth remains resilient



Source: NSO, MoSPI

Note: AE stands for Advanced Estimates, PE stands for Provisional Estimates, RE stands for Revised Estimates

### India's Economic Resilience and Growth Drivers

- Many agencies worldwide have been revising their growth forecast of the Indian economy downwards. These forecasts now **broadly lie in the range of 6.5-7.0 per cent**.
- Despite the downward revision, the growth estimate for FY23 is higher than for almost all major economies and even slightly above the average growth of the Indian economy in the decade leading up to the pandemic. **IMF estimates India to be one of the top two fast-growing significant economies** in 2022.
- India's economic resilience can be seen in the **domestic stimulus to growth seamlessly replacing the external stimuli**.
- Private Consumption as a percentage of GDP** stood at **58.4 per cent** in Q2 of FY23, the highest among the second quarters of all the years since 2013-14. It contributed to a rise in domestic capacity utilisation.

#### Broad-based growth driven by Demand and Investment

Figure I.10a: YoY growth of Real GVA components

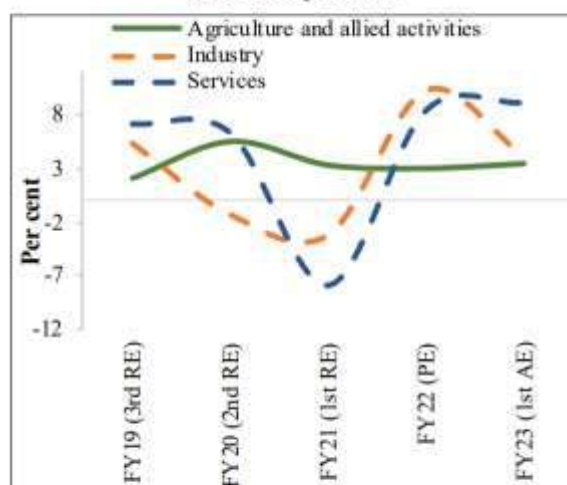
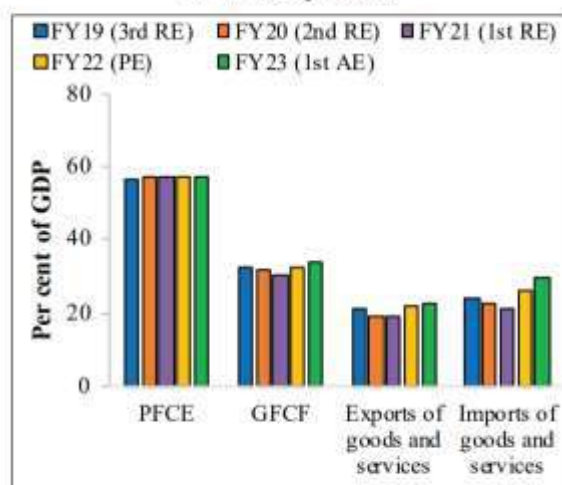


Figure I.10b: Share of Real GDP components



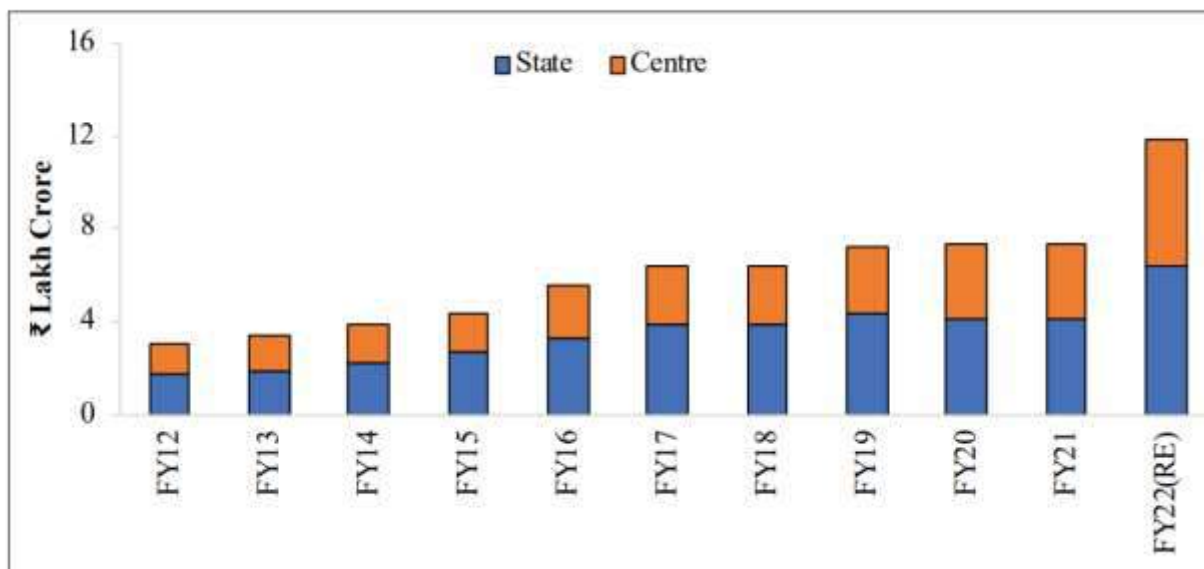
Source: NSO, MoSPI

Note: AE stands for Advanced Estimates, PE stands for Provisional Estimates, RE stands for Revised Estimates



- Sectors such as housing, construction, etc. have significantly risen in FY23 as the **much-enlarged capital budget (Capex)** of the central government and its public sector enterprises is rapidly being deployed.
- Going by the Capex multiplier estimated for the country, the **economic output of the country is set to increase by at least four times the amount of Capex.**

Figure I.21: Total capital expenditure grew at an average rate of 13.0% during FY12 and FY22



Source: Union Budget, States Budgets, RBI

- India is the **third-largest economy in the world in Purchasing Power Parity (PPP) terms** and the **fifth largest in market exchange rates.**
- The year FY23 so far for India has **reinforced the country's belief in its economic resilience.** The economy has withstood the challenge of mitigating external imbalances caused by the Russian-Ukraine conflict without losing growth momentum in the process.
- The Indian economy in FY23 has nearly **"recouped"** what was lost, **"renewed"** what had paused, and **"re-energised"** what had slowed during the pandemic and since the conflict in Europe.

#### Outlook: 2023-24

- Adverse spillovers from the prolonged strains in supply chains and heightened uncertainty due to geo-political conflict have deteriorated the global outlook. Hence, **global growth is forecasted to slow** from 3.2 per cent in 2022 to **2.7 per cent in 2023** as per IMF's World Economic Outlook.
- For India, the survey projects a **baseline GDP growth of 6.5 per cent in real terms in FY24.** The **actual outcome for real GDP growth** will probably lie in the **range of 6.0 per cent to 6.8 per cent**, depending on the trajectory of economic and political developments globally.

## **CHAPTER 02 - INDIA'S MEDIUM-TERM GROWTH OUTLOOK: WITH OPTIMISM AND HOPE**

### **Introduction**

- The Indian economy has undergone a transformative process of New Age reforms in the last few years. These diverse policies converge towards improving the economy's overall efficiency and lifting its potential growth.

### **Product and Capital Market Reforms**

#### **Initiation of the reforms-1991:**

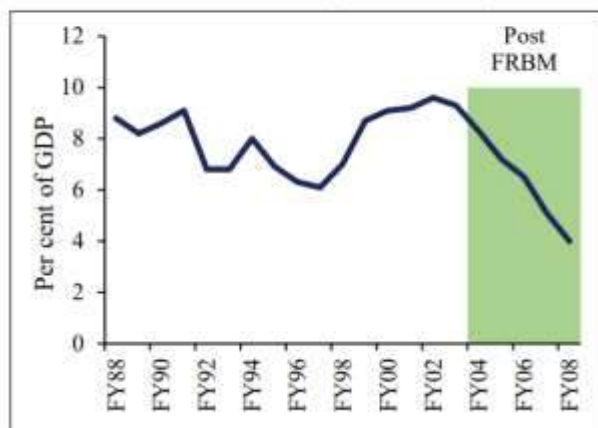
- The macroeconomic imbalances of the late 1980s and early 1990s pushed the government towards introducing the **structural reforms of 1991**.
- The **high combined deficit** of the central and state governments, **elevated inflationary pressures**, and **large and unsustainable current account deficit (CAD)** led to a **balance of payments crisis** in the Indian economy.
- In response to the situation, **trade and investments were liberalised** in 1991. **Import licensing on almost all intermediate inputs and capital goods was done away with**, and the **entry restrictions for firms were simplified**.
- The new policy **encouraged the entry of private sector firms** by ending the public sector monopoly in many sectors and initiating the **automatic approval policy for FDI up to 51 per cent**.
- The **exchange rate was made flexible** and **allowed to depreciate** as necessary to maintain competitiveness. The **rupee was made fully convertible on the current account and partially on the capital account**.
- These reforms had a **positive effect** on the economy. The **real growth** went up from an average of 5.5 per cent during the 1980s to **6.3 per cent** from FY93 to FY2000.
- **Trade liberalisation** had a visible effect on external trade as the **total goods and services trade to GDP** rose from 17.2 per cent in 1990 to **30.6 per cent** in 2000.

#### **Continuity in Reforms with a Renewed Impetus:**

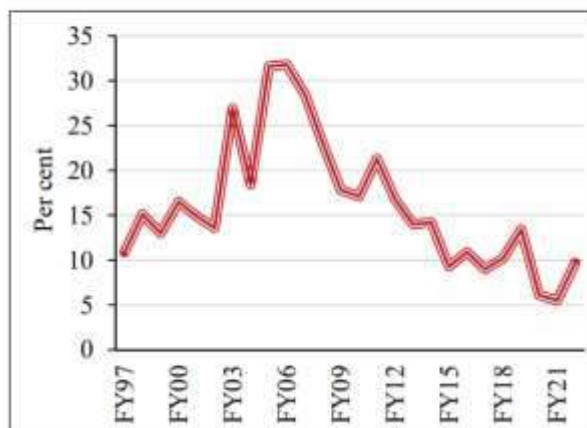
- The product and capital market reforms continued slowly over the decade of the 1990s. Investments were liberalised further to **encourage Foreign Direct Investment as a main source of non-debt-creating capital inflows**.
- The **telecom sector** was entirely reformed by the **New Telecom Policy 1999**. It was **opened for private sector participation** with a **strengthened regulatory regime (TRAI)**. The reforms **separated the licensing and policy functions of the government from that of an operator (BSNL)**. These reforms were a cornerstone for the IT sector boom in India and had widespread spillover benefits to other sectors of the economy.
- This period also marked the launch of the then largest infrastructure project of independent India, the '**Golden Quadrilateral**'. The project brought significant economic benefits to the country through enhanced connectivity, improved industrial activity, trade, and economic growth.
- Alongside this, **structural policies** were formulated to address the macroeconomic imbalances. The **Fiscal Responsibility and Budget Management (FRBM) Act** was passed to address the historic highs of the combined Gross fiscal deficit of the Government.
- The **banking system** was supported through the **deregulation of interest rates** and the **enactment of the SARFAESI Act 2002**.
- **Interest rates were deregulated** to promote competition amongst banks, provide more banking options to depositors, and strengthen monetary policy transmission.

The **SARFAESI Act** allowed banks and financial institutions to recover their dues by proceeding against the secured assets of the borrower/guarantor without the intervention of the court/ tribunals. Both these reforms **improved the credit situation** in the economy.

**Figure II.2: Gross Fiscal Deficit (centre and states combined) (% of GDP)**



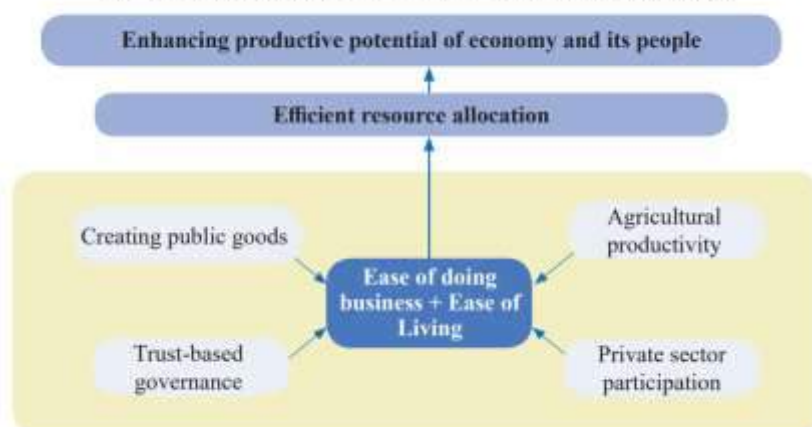
**Figure II.3: Growth in Non-Food Credit by Scheduled Commercial Banks**



### Reforms for New India - Sabka Saath Sabka Vikaas

- The government imparted a new dimension to these reforms in the last eight years.
- The broad principles behind the reforms were **creating public goods, adopting trust-based governance, co-partnering with the private sector for development, and improving agricultural productivity**.
- This approach reflects a paradigm shift in the growth and development strategy of the government, with the **emphasis shifted towards building partnerships amongst various stakeholders in the development process**, where each contributes to and reaps the development benefits (**Sabka Saath, Sabka Vikaas**).

**Figure II.6: Underlying framework for Reforms for a new India**



#### **1. Creating public goods:**

- The launch of the **Golden Quadrilateral project** in the 2000s was the beginning of **infrastructure-intensive policymaking** in India, which continued sedately for another decade.
- The dedicated programs for road connectivity (**Bharatmala**), port infrastructure (**Sagarmala**), electrification, railways upgradation, and operationalising new airports/ air routes (**UDAN**) have significantly improved the physical infrastructure in the last few years.

- With the **National Infrastructure Pipeline (NIP)** in 2019 and the **National Monetization Pipeline** in 2021, a strong baseline for infrastructure creation and development has been put in place, providing a multitude of opportunities for foreign investment and engagement.
- The NIP was launched with a projected infrastructure investment of **₹111 lakh crore**. It covers economic and social infrastructure projects **jointly funded by the Central Government, State Governments, and the private sector**.
- Based on the pillars of a **digital identity Aadhar**, **linking bank accounts with PM-Jan Dhan Yojana**, and the **penetration of mobile phones (JAM Trinity)**, the country has witnessed **significant progress in financial inclusion** in recent years. The **population covered with bank accounts** increased from 53 per cent in 2015-16 to **78 per cent** in 2019-21 (as per NFHS).

## 2. Trust-based Governance:

- Consistent reforms have been made in the last few years to build trust between the government and the citizens/businesses.
- Simplification of regulatory frameworks through reforms such as the **Insolvency and Bankruptcy Code (IBC)** and the **Real Estate (Regulation and Development) Act (RERA)** have enhanced the ease of doing business.
- The IBC has imbibed some of the best international practices of an **asset resolution mechanism**. It provides an **honourable exit mechanism** for honest business failures and enables the **release of credit** locked into the stressed assets for better resource allocation. This market-driven, transparent resolution mechanism **instills confidence in the financial system and attracts many new investors** to invest in Indian businesses. Debtors are **resolving stress early** to avoid being pushed into insolvency.
- The other regulatory reform, Real Estate (Regulation and Development) Act (RERA), is creating a **culture of transparent transactions in the real estate sector**. The Act has transformed the real estate sector by **registering real estate brokers and agents with the regulator**, establishing **mechanisms for the speedy redressal of disputes** and enabling a **single window clearance** for timely approvals to the developers.

## 3. Promoting the private sector as a co-partner in the development:

- A fundamental principle behind the government's policy in the post-2014 period has been the **engagement with the private sector as a partner in the development process**.
- In 2021, the **New Public Sector Enterprise Policy** for Aatmanirbhar Bharat has been introduced to realise higher efficiency gains by minimising the presence of the government in the PSEs to only a few strategic sectors.
  - The new policy envisages **classification of central public sector undertakings into strategic and non-strategic sectors**. The **strategic sectors** are (a) Atomic Energy, Space, and Defence; (b) Transport and Telecommunication; (c) Power, Petroleum, Coal, and Other Minerals; (d) Banking, Insurance, and Financial Services.
  - New policy desires a **bare minimum presence of central public sector enterprises in the strategic sector**. Public sector in the strategic sector/ non-strategic sector which are not performing well to be taken up for **privatisation, merger, subsidiarisation with another central public sector enterprises (CPSE) or will be closed**.



- **Sector specific Production Linked incentives (PLI)** have been introduced in the aftermath of the pandemic to **incentivise domestic and foreign investments** and to **develop global Champions** in the manufacturing industry.
- The last few years have seen **further liberalisation of the policy towards foreign investors**, with most sectors now open for **100% Foreign Direct Investment (FDI) under the automatic route**. The **highest-ever annual gross FDI inflow of USD 84.8 billion was recorded in FY22**.
- The **National Logistics Policy (2022)** has been launched to create an overarching logistics ecosystem for lowering the cost of logistics and bringing it to par with other developed countries.

#### 4. Enhancing productivity in agriculture:

- The agriculture sector in India has grown at an **average annual growth rate of 4.6 per cent** during the last six years.
- Policies such as **Soil Health Cards, the Micro irrigation Fund, and organic and natural farming** have helped the farmers optimize resource use and reduce the cultivation cost.
- The **promotion of Farmer Producer Organisations (FPOs)** and the **National Agriculture Market (e-NAM) extension Platform** have empowered farmers, enhanced their resources, and enabled them to get good returns.
- **Agri Infrastructure Fund (AIF)** has supported the creation of various agriculture infrastructures. **Kisan Rails** exclusively cater to the movement of perishable Agri Horti commodities.
- **Cluster Development Programme (CDP)** has promoted integrated and market-led development for horticulture clusters.

#### Returns to the Economic and Structural Reforms

- Under normal circumstances, comprehensive and wide-ranging reforms undertaken in the economy during the last few years would have accelerated India's growth. But that was not to be.
- The 'culprit' is **India's balance sheet stress caused by the credit boom** in previous years. As per data from the **Bank for International Settlements, India's non-financial private sector debt to GDP ratio** went up from 72.9 per cent in March 2004 to 113.6 per cent by December 2010. In rupee terms, the amount of debt accumulated by the non-financial sector went up from nearly 44 lakh crore to almost 133 lakh crore. It trebled in six years.
- Despite limited economic reforms, global capital flows and optimism about BRICS triggered a **domestic credit and investment boom that eventually proved unsustainable**.
- Thereafter the non-financial private sector debt to GDP ratio **began to come down** meaningfully only from 2015 onwards, dropping to a low of 83.8 per cent by December 2018.
- As investments made by companies went sour, it impaired their ability to repay bank loans. Hence, **banks' non-performing assets began to rise**.
- The government and the RBI took several policy initiatives to help the financial sector recoup the balance sheet stress during the 2010s. Some of these such as the **amendment to the SARFAESI Act 2002**, implementation of the **Insolvency and Bankruptcy Code (IBC)**, launch of 'Asset Quality Review' (AQR), introduction of **prompt corrective action (PCA) framework, recapitalisation of Public Sector Banks (PSB), and merger of PSBs** among others, helped in cleaning up the balance sheets of banks/corporates.

### Growth Magnets in this Decade (2023-2030)

- After a long period of balance sheet repair in the financial and corporate sector, the **financial cycle is poised to turn upward**.
- The **sound and healthy financial system** developed over the last few years will ensure efficient credit provisioning, contributing to higher growth in the coming years through higher investments and consumption.
- The **evolving geo-political situation** also presents an opportunity for India to benefit from the **diversification of global supply chains**. Given the global policy uncertainty, multinational firms are gradually exploring strategies to diversify their production bases and supply chains.
- With enabling policy frameworks, **India presents itself as a credible destination** for capital diversifying out of other countries.

## **CHAPTER 03 - FISCAL DEVELOPMENTS: REVENUE RELISH**

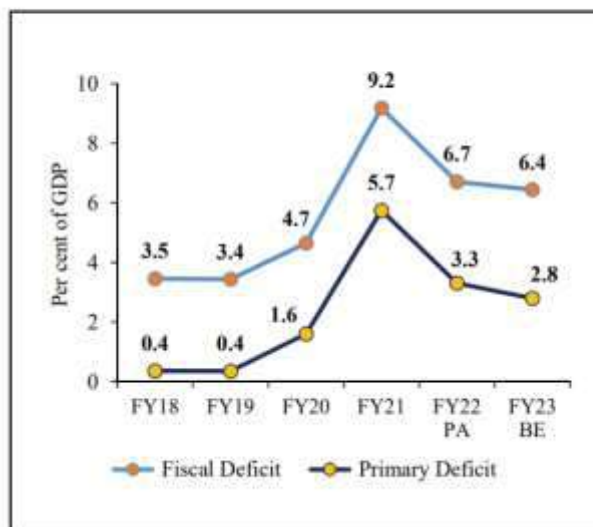
### Introduction

- In India, when all economic activities had reached a standstill, **fiscal policy was instrumental** in providing a **safety net** to the vulnerable, **reviving the economy** by boosting demand, and **addressing certain domestic supply-side constraints** through public investments and sustained structural reforms.
- The **large, frontloaded packages** across the countries during the Covid pandemic led to **over-stimulation of demand**, leading to its much faster recovery. In combination with the still-existing supply disruptions and constraints, the overheating of the economy led to **inflationary pressures**. The **conflict in Europe and the related geopolitical developments** aggravated the crisis.
- Against this backdrop, the Government of India adopted a **calibrated fiscal response** to the pandemic.

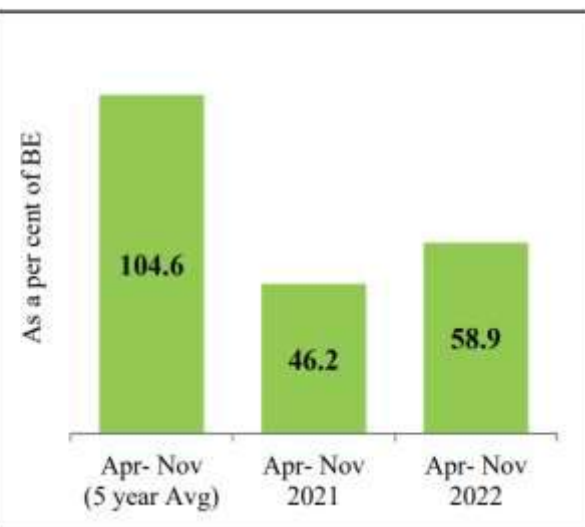
### Developments in Union Government Finances

- The **fiscal deficit** of the Union Government, which reached **9.2 per cent of GDP during the pandemic year FY21**, has **moderated to 6.7 per cent of GDP in FY22 PA** and is **further budgeted to reach 6.4 per cent of GDP in FY23**.

**Figure III.1: Trends in Union government deficits over the years- On the way to fiscal consolidation**



**Figure III.2: Government on track to achieve the Fiscal deficit target for FY23**



#### Performance of Union Government Non-debt Receipts:

- The Union government's **non-debt receipts** comprise **revenue receipts (tax and non-tax)** and **non-debt capital receipts**. The **shortfall in the non-debt receipts to meet the expenditure requirement is met by borrowings** of the government (called **fiscal deficit**).
- After plummeting during the pandemic-affected year FY21, **revenue receipts registered robust growth** in FY22 PA.
- This revenue revival was attributed to a **rebound in the collection of all major direct and indirect taxes (except excise duties)** in FY22. Last year's revenue buoyancy momentum is continuing into the current year.

**Table: III.2: Buoyant Union Government taxes from April to November 2022**

	In ₹ lakh crore			As a per cent of BE		YoY growth (per cent)	
	BE FY23	Apr-Nov 2021	Apr-Nov 2022	Apr-Nov 2021	Apr-Nov 2022	Apr-Nov 2021	Apr-Nov 2022
Gross Tax Revenue, of which	27.58	15.42	17.81	69.5	64.6	50.3	15.5
Direct taxes	14.20	7.00	8.67	63.1	61.0	66.3	23.9
a. Corporation Tax	7.20	3.54	4.28	64.6	59.5	90.4	21.1
b. Taxes on income other than Corporation tax	7.00	3.46	4.39	61.7	62.7	47.2	26.7
Indirect taxes	13.30	8.21	8.91	74.5	67.0	38.6	8.5
c. Custom	2.13	1.26	1.41	92.5	66.4	99.5	12.4
d. Union Excise Duties	3.35	2.42	1.91	72.2	57.1	23.2	-20.9
e. Service Tax	0.02	0.01	0.00	50.2	20.4	-52.6	-18.7
f. GST	7.80	4.53	5.57	71.9	71.5	36.5	23.1

- **Structural reforms** like the introduction of GST and the digitalisation of economic transactions have led to the **greater formalisation of the economy** and hence **expanded the tax net**.
- **Other tax administration/policy measures**, such as the Faceless Assessment and Appeal, simplification of return filing, assistance to taxpayers in getting familiar with the systems, generation of e-way bills under the GST system, and information sharing between government departments among others, have **nudged higher tax compliance through technology and artificial intelligence**.

#### Direct taxes propelling the growth in Gross tax revenue:

- **Direct taxes**, which **broadly constitute half of the Gross Tax Revenue**, have registered a **YoY growth of 26 per cent** from April to November 2022, enabled by corporate and personal income tax growth.

Figure III.3: Composition of tax profile of Union Government (FY23 BE)

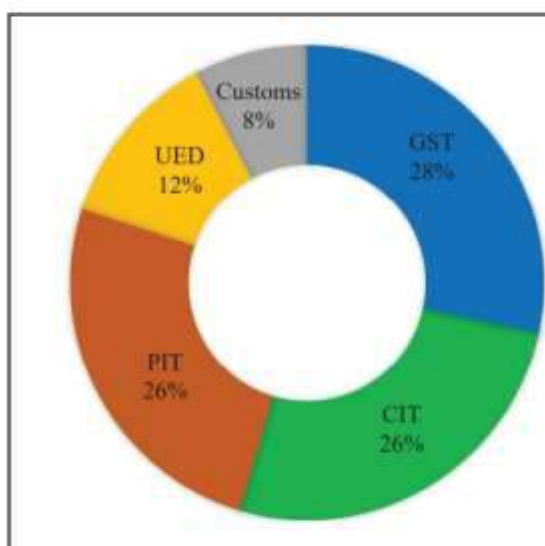
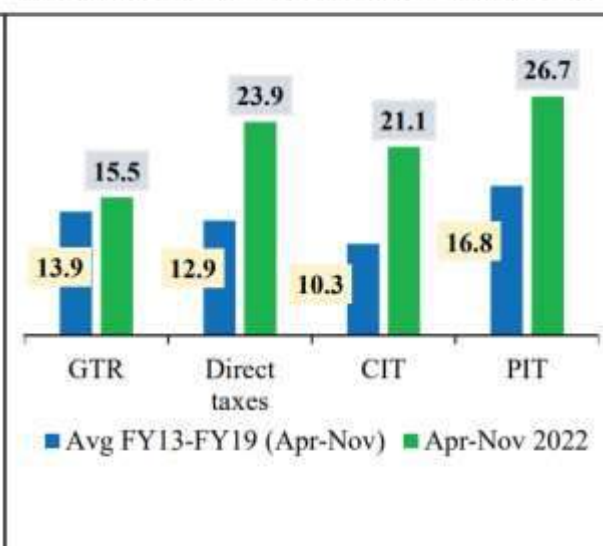


Figure III.4: Growth in Centre's direct taxes are higher than their corresponding longer-term averages during the period April to November



Source: Union Budget FY23, O/o CGA

Note: GTR - Gross Tax Revenue, GST - Goods and Services Tax, CIT - Corporation Income Tax, PIT - Taxes on Income other than Corporation Income Tax, UED - Union Excise Duties

#### Customs and Excise duties act as Flexi-fiscal policy tools:

- While **direct taxes** have **safeguarded the revenue buoyancy**, **indirect taxes** such as customs and excise duties have acted as **flexible policy tools** during the **fiscal response** to the pandemic.
- When the collection of direct and indirect taxes was adversely impacted during the pandemic year FY21, the **government raised the excise duty on petrol and diesel to augment the revenue pool**. Subsequently, when other taxes recovered and inflationary pressures built up in the economy, the government **reduced the excise duty** to control the pass-through of the rising global oil prices on the consumers.

#### Stabilising GST yielding returns:

- The Goods and Services Tax (GST) has evolved and stabilised as a vital revenue source for central and state governments. Their **gross GST collections**, taken together, were **₹13.40 lakh crore** from April to December 2022.
- The pick-up in GST collections was **consistently spread** across all the months during the current fiscal year, with an **average monthly collection of ₹1.5 lakh crore**.

- The improvement in GST collections has been due to the combined effect of the rapid economic recovery post-pandemic and various **rate rationalisation measures** undertaken by the GST Council to **correct inverted duty structure**.
  - *Inverted duty structure is a situation where import duty on finished goods is low compared to the import duty on raw materials that are used in the production of such finished goods. For example, suppose the tariff on the import of tyres is 10% and the tariff on the imports of natural rubber which is used in the production of tyres is 20%; this is a case of inverted duty structure.*
  - *When the import duty on raw materials is high, it will be more difficult to produce the concerned good domestically at a competitive price. Several industries depend on imported raw materials and components. High tax on the raw materials compels them to raise prices.*
  - *On the other hand, foreign finished goods will be coming at a reduced price because of low tax advantage. In conclusion, manufactured goods by the domestic industry become uncompetitive against imported finished goods.*
- Consistent efforts have resulted in a **doubling of the GST net**, with the **number of GST taxpayers increasing** from nearly 70 lakh in 2017 to more than **1.4 crore in 2022**.

#### **Centre on track to meet Non-Tax Revenue targets:**

- The **non-tax revenue** to the Centre mainly includes **interest receipts on loans** to States and Union Territories, **dividends and profits from Public Sector Enterprises and the Reserve Bank of India**, **external grants and receipts for services** the Union Government provides.
- Budget FY23 envisaged a lower collection of non-tax revenue receipts during the current year relative to FY22 (around 22.5 per cent lower than FY22 PA). Of the budgeted amount, 73.5 per cent has been collected up to November 2022.

#### **Disinvestment:**

- Apart from the tax and non-tax revenue of the Union Government, **non-debt capital receipts**, which comprise **recovery of loans and advances, and disinvestment receipts**, have evolved as an important component of the non-debt receipts for the Union Government.
- During FY15 to FY23, an amount of about **₹4.07 lakh crore** has been realised as proceeds from disinvestments.
- The government has reaffirmed its commitment towards **privatisation and strategic disinvestment of Public Sector Enterprises** by implementing the **New Public Sector Enterprise Policy and Asset Monetisation Strategy**.
- Out of the budgeted amount of ₹65,000 crore for FY23, 48 per cent has been collected as of 18 January 2023.

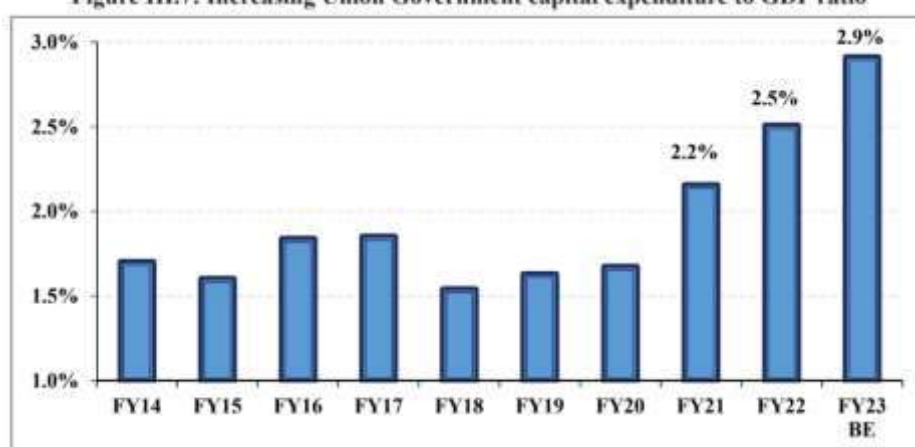
#### **Performance of Union Government Expenditure:**

- Last few years have underlined the **importance of countercyclical fiscal policy measures** to support the economy during a crisis. The pandemic mandated additional expenditure requirements during FY21.
  - *A counter-cyclical fiscal policy refers to strategy by the government to counter boom or recession through fiscal measures. It works against the ongoing boom or recession trend; thus, trying to stabilize the economy.*
  - *During a period of recession, adopting a counter cyclical policy by expanding the Government Expenditure – both consumption and investment - will support the GDP and minimise the output gap.*



- The **total expenditure of the Union Government in FY21** rose to **17.7 per cent of GDP**, higher than the previous 5-year average of 12.8 per cent of GDP. The government adopted a pragmatic approach of increasing its expenditure in a **calibrated way**.
- Upon ensuring the **basic safety nets** for the vulnerable, the emphasis of the Government expenditure shifted to **productive domestic capital expenditure**. In the subsequent year, FY22, the total Union Government expenditure was **brought down to 16 per cent of GDP (PA)**.
- The **capital expenditure** by the Centre has **steadily increased** from a long-term average of 1.7 per cent of GDP (FY09 to FY20) to **2.5 per cent of GDP** in FY22 PA. It is **further budgeted to increase to 2.9 per cent of GDP** in FY23. This highlights an improvement in the quality of Government expenditure over the years.

Figure III.7: Increasing Union Government capital expenditure to GDP ratio



- In absolute terms, the Government of India had budgeted an **unprecedented ₹7.5 lakh crore of Capital Expenditure for FY23**.
- The Government's thrust on Capital expenditure, particularly in the infrastructure-intensive sectors like roads and highways, railways, and housing and urban affairs, has **longer-term implications for growth**. While on the one hand, capital expenditure **strengthens aggregate demand** and **crowds-in private spending** in times of risk aversion; it also **enhances the longer-term supply-side productive capacity**.

#### Revenue Expenditure:

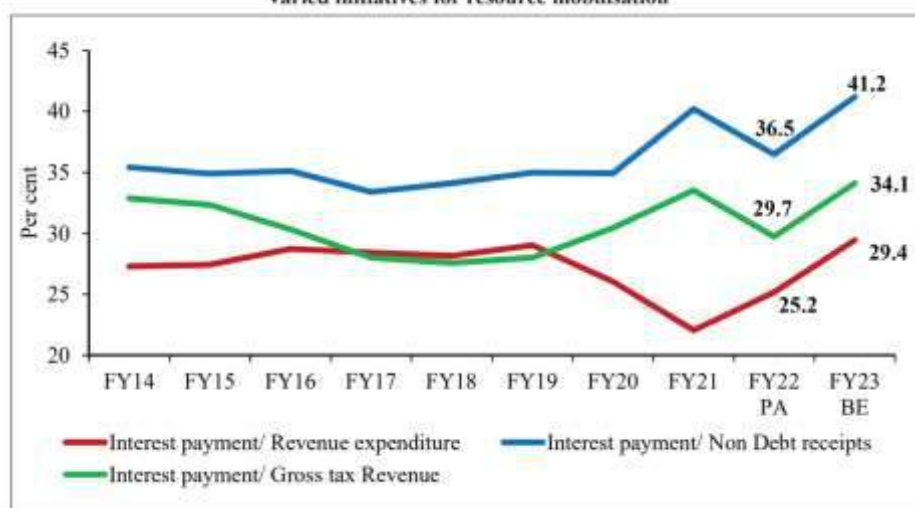
- The significant components of the **Centre's revenue expenditure** include **Interest payments, major subsidies, salaries of Government employees, pensions, defence revenue expenditure, and transfers to States**.
- A **substantial portion** of the Centre's revenue expenditure is **committed** and **allows limited flexibility** in creating additional fiscal headroom if required. However, **re-prioritising expenditure and rationalising subsidies** are essential tools to stimulate aggregate demand and fulfil redistributive imperatives.

Table III.5: Major Items of Revenue Expenditure by Union Government

Items	FY18	FY19	FY20	FY21	FY22 PA*	FY23 BE
(in ₹ Lakh crore)						
Revenue Expenditure of which	18.79	20.07	23.51	30.84	32.01	31.95
a. Salaries (pay & allowances)	1.94	2.11	2.28	3.34	3.67	4.10
b. Pensions	1.46	1.6	1.84	2.08	1.99	2.07
c. Interest payment	5.29	5.83	6.12	6.80	8.05	9.41
d. Major subsidies	1.91	1.97	2.28	7.08	4.46	3.18
e. Defence Services	1.86	1.96	2.08	2.06	2.29	2.33

- The **revenue expenditure** of the Union government was **brought down** from 15.6 per cent of GDP in the pandemic year FY21 to **13.5 per cent of GDP** in FY22 PA. This contraction was led by a **reduction of the subsidy expenditure** as the economy recovered from the pandemic. The subsidy expenditure was brought down from 3.6 per cent of GDP in FY21 to **1.9 per cent of GDP** in FY22 PA. It was further **budgeted to reduce to 1.2 per cent of GDP in FY23**.
- Another major component of revenue expenditure, **interest payments**, had **maintained a stable ratio of non-debt receipts and revenue expenditure** during the pre-pandemic years.
- **Higher resource requirements and lower revenue collections** during the pandemic resulted in **higher borrowings** by the Union Government. **Interest payments as a proportion of receipts went up** after the pandemic outbreak.
- However, in the medium term, as we move along the fiscal glide path, buoyancy in revenues, aggressive asset monetisation, efficiency gains, and privatisation would help pay down the public debt, thus bringing down interest payments and releasing more monies for other priorities.

Figure III.10: High-interest payments as a per cent of receipts to be brought down through varied initiatives for resource mobilisation



- With resilient economic growth, continued revenue buoyancy, and careful expenditure management over the medium run, the Union Government will be on track with the fiscal path outlined by the **Medium-Term Fiscal Policy Statement**.

### Major Reforms in the Union budget over the last few years

#### **Improved fiscal transparency and realistic revenue assumptions in the Budget:**

- The Union Government has accorded the highest priority to **improving transparency** in its financial statements. The **Extra-Budgetary borrowings of the Union Government were brought down** from ₹1.48 lakh crore in FY20 and ₹1.21 lakh crore in FY21 to ₹750 crore in FY22 (RE). **No Extra Budgetary Resources were estimated** for FY23 in the Budget.
  - *Extra-Budgetary borrowings are those financial liabilities that are raised by public sector undertakings for which repayment of the entire principal and interest is done from the Central Government Budget. They are not taken into account while calculating the Fiscal Deficit. However, they are considered in the calculations of Government Debt.*
- In addition to cleaner fiscal accounting, Budget 2022 based its **revenue projections on realistic assumptions**, thus providing a buffer to the government in an uncertain global environment.

#### **Discontinuation of Plan-Non plan classification:**

- The **Budget FY18 discontinued having Plan and Non-Plan classifications** of Government expenditure. The reform gave a **greater emphasis to the Revenue and Capital classification** of Government expenditure.
- Over the years, a broad understanding had been that Plan expenditures were good and Non-Plan expenditures were bad, resulting in **skewed allocations** in the Budget. The reform enabled **effective planning and allocation of resources** in the Budget.

#### **Merger of Railway Budget with the Main Budget:**

- The railway budget was merged with the Union Budget from **FY18**. The reform gave a **holistic picture of the government's financial position**.
- The reform has helped to **enhance the efficiency of resources** for both Railways and the Union Government.

#### **Shifting the date of the Budget to 1 February:**

- The date of the Budget was advanced to 1 February from the **Budget FY18**. The **advancement of Budget presentation by a month** has paved the way for **early completion of the Budget cycle**. It has also enabled the Ministries to ensure **better planning and execution** of schemes from the beginning of the financial year.

### Overview of State Government Finances

- State Governments **improved their finances in FY22** after being adversely impacted by the pandemic in FY21. The **combined Gross Fiscal Deficit (GFD) of the States**, which increased to **4.1 per cent of GDP** in the pandemic-affected year, was brought down to **2.8 per cent in FY22 PA**.
- Given the geopolitical uncertainties, the **consolidated GFD-GDP ratio for States has been budgeted 3.4 per cent in FY23**.

Figure III.11: Consolidation of States' Deficits as per cent of GDP

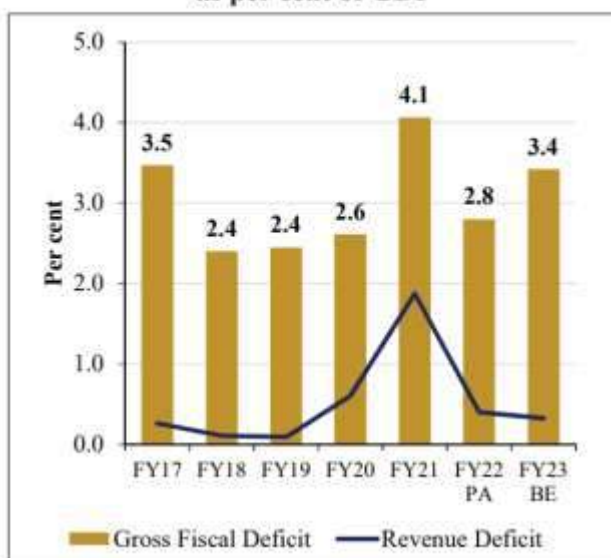
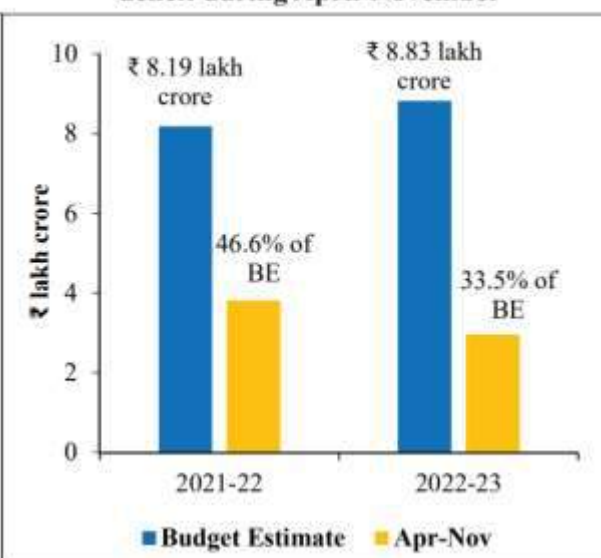


Figure III.12: Lower States' Combined Fiscal deficit during April-November



- Given the resource constraints of state governments, the **Centre enhanced the net borrowing ceilings (NBC) for States to 5 per cent of GSDP in FY21, 4 per cent of GSDP in FY22, and 3.5 per cent of GSDP in FY23**. A part of this additional borrowing was **linked to reforms** encouraging the States to undertake them.
- In addition to the net borrowing ceilings fixed for the States, the Fifteenth Finance Commission had recommended **performance-based additional borrowing space of 0.50 per cent of Gross State Domestic Product (GSDP) to the States in the power sector**. This special dispensation has been recommended for each year for **four years**, from FY22 to 2024-25. For the financial year FY22, additional borrowing permission of ₹39,175 crore was allowed to 12 States for meeting the stipulated reform criteria.

#### Cooperative fiscal federalism drives a well-targeted fiscal policy:

- Transfer of funds to the States** comprises the **share of States in Union taxes devolved to the States, Finance Commission Grants, Centrally Sponsored Schemes (CSS), and other transfers**.
- Total transfers to States have risen** between FY19 and FY23 BE.

Table III.6: Details of transfers from Centre to States (other than devolution to States)

	FY19	FY20	FY21	FY22 RE	FY23 BE
(in ₹ lakh crore)					
Centrally Sponsored Schemes	3.0	3.1	3.8	4.2	4.4
Finance Commission Grants	0.9	1.2	1.8	2.1	1.9
Other Grants/Loans/Transfers	0.9	2.0	1.9	2.3	3.0

- The Finance Commission had recommended allocation of an amounting to **₹1.92 lakh crore** for FY23 in respect of **post-devolution revenue deficit grants, grants to local bodies, health sector grants, and disaster management grants** under **Article 275** of the Constitution.

### GST Composition Scheme:

- The **GST compensation scheme** was designed to **safeguard the states** for any difference in the new versus the old tax regime by **ensuring steady revenue growth of 14 per cent per annum for five years**.
- During FY21, revenues for Centre and states were **adversely affected** due to the economic contraction. The compensation requirement by the states increased substantially amidst a decline in the CGST and the compensation cess collections.
- Despite having limited fiscal resources in the middle of a crisis, the Centre borrowed funds and passed them on to States on a **back-to-back loan basis**, in addition to the release of regular GST compensation. These loans will be **repaid from future inflows into the GST Compensation Cess Fund** and hence are **not a burden on the states**.
- During FY23, the Government of India released **₹1.16 lakh crore** towards the **total GST compensation payable to States**.

### Centre's support towards States' capital expenditure:

- The Union government has provided **50-year interest-free loans to state governments** under the '**Scheme for Special Assistance to States for Capital Investment**' for the last three years.
- During the year FY23, the allocation under the Scheme has been raised to **₹1.05 lakh crore** to give further impetus to State Capex plans. This interest-free loan in the present arrangement is **dedicated only to capital expenditure**.

### Debt Profile of the Government

- Given the unprecedented fiscal expansion in 2020, **rising government liabilities** have emerged as a significant concern across the globe. The IMF projects the **global government debt at 91 per cent of GDP** in 2022, about 7.5 percentage points above the pre-pandemic levels.
- For India, the **total liabilities of the Union Government**, which were relatively stable as a percentage of GDP over the past decade, witnessed a **sharp spike in the pandemic year FY21** due to pandemic-induced higher Government borrowings to finance the additional expenditure needs.
- **Total liabilities of the Union Government moderated** from 59.2 per cent of GDP in FY21 to **56.7 per cent in FY22 (P)**.

Figure III.14: Moderating Union Government's Debt-GDP ratio after the pandemic induced-spike

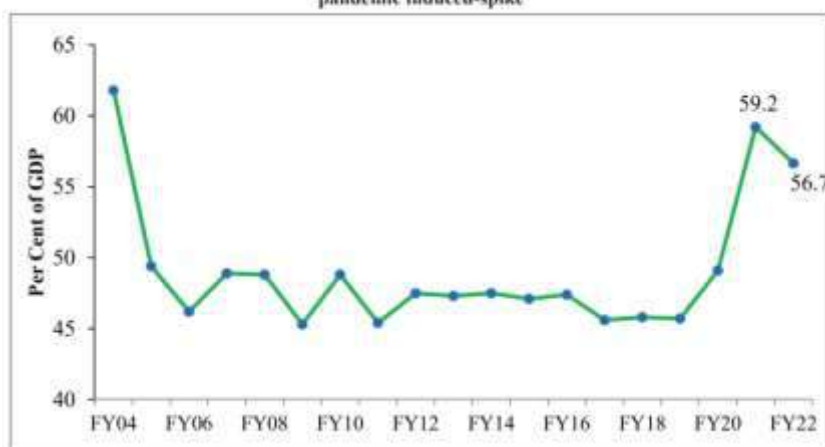


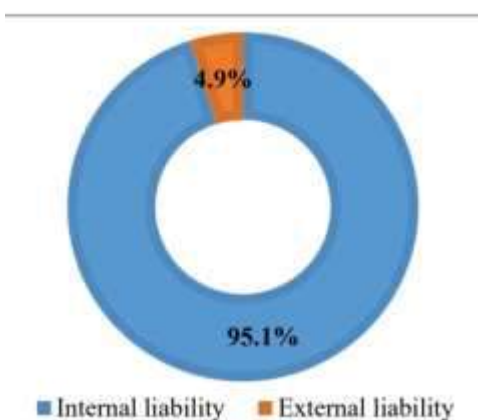


Table III.9: Debt Position of Union Government (in ₹ lakh crore)

Components	FY16	FY17	FY18	FY19	FY20	FY21	FY22 PA
	1	2	3	4	5	6	7
<b>A. Public Debt (A1+A2)</b>	57.11	61.50	68.45	75.49	85.65	105.23	121.21
<b>A1. Internal Debt (a+b)</b>	53.05	57.42	64.01	70.75	80.20	99.08	114.62
<b>a. Marketable Securities</b>	47.28	50.49	55.10	59.69	65.60	78.59	88.17
<b>b. Non-marketable Securities</b>	5.77	6.93	8.91	11.06	14.60	20.49	26.45
<b>A2. External Debt</b>	4.07	4.08	4.45	4.74	5.44	6.15	6.59
<b>B. Public Account - Other Liabilities</b>	8.16	8.57	9.15	9.96	13.70	12.74	11.88
<b>C. Extra-Budgetary Resources (EBRs)</b>		0.09	0.24	0.99	1.12	1.39	1.39
<b>D. Total Liabilities (A+B+C)</b>	65.27	70.16	77.85	86.35	99.91	116.98	134.08

- India's public debt profile is **relatively stable** and is **characterised by low currency and interest rate risks**. Most of India's public debt is held by the residents and **denominated in domestic currency**.
- Of the Union Government's total net liabilities in end-March 2021, **95.1 per cent were denominated in domestic currency**, while **sovereign external debt constituted 4.9 per cent**, implying low currency risk. Further, sovereign external debt is **entirely from official sources**, which **insulates it from volatility in the international capital markets**.

Figure III.15: Proportion of external liability in public debt (FY22)

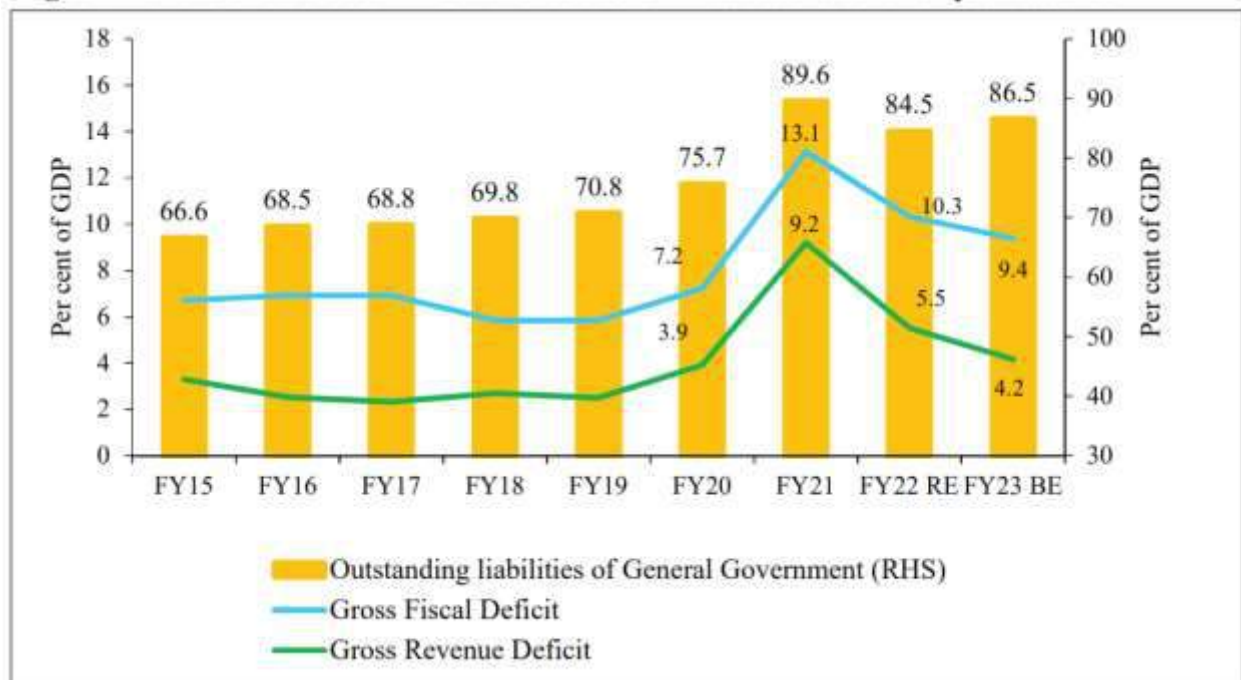


- Public debt in India is primarily contracted at fixed interest rates**, with **floating internal debt** constituting only **1.7 per cent of GDP**. The **debt portfolio** is, therefore, **insulated from interest rate volatility**, which also provides stability to interest payments.

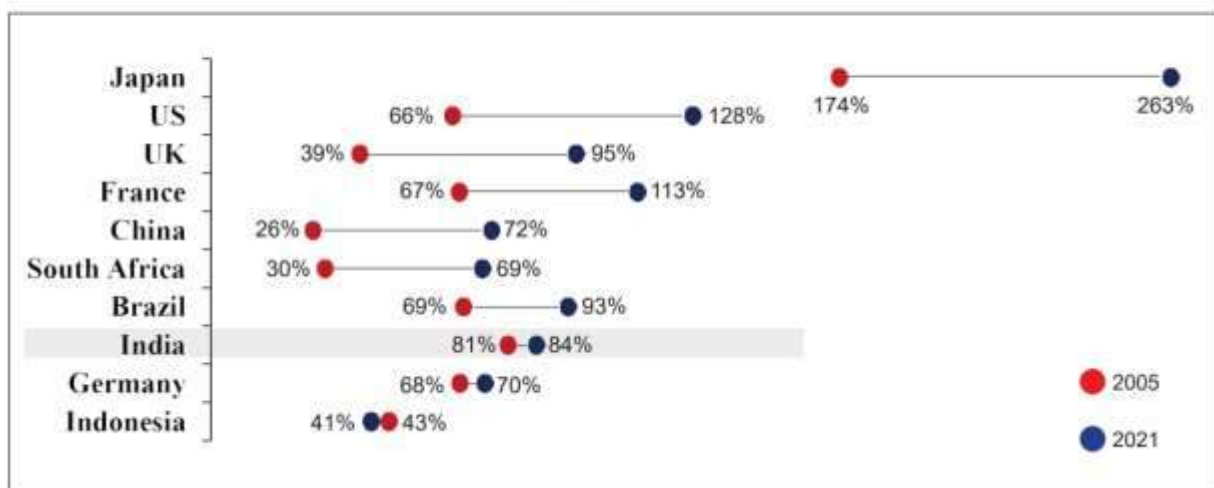
### Consolidating General Government Finances

- The General Government (Combined Centre and States) finances give an **overview of the fiscal position of the Government sector as a whole.**
- The **General Government liabilities as a proportion of GDP increased steeply during FY21** on account of the additional borrowings made by Centre and States on account of the pandemic. However, the **ratio has come off its peak in FY22 (RE).** The **General Government deficits as a per cent of GDP have also consolidated** after their peak in F21.

**Figure III.17: General Government liabilities to GDP ratio come off their peak attained in FY21**



**Figure III.19: Comparing General Government debt to GDP ratio in 2005 with 2021 across the countries**



### Conclusion

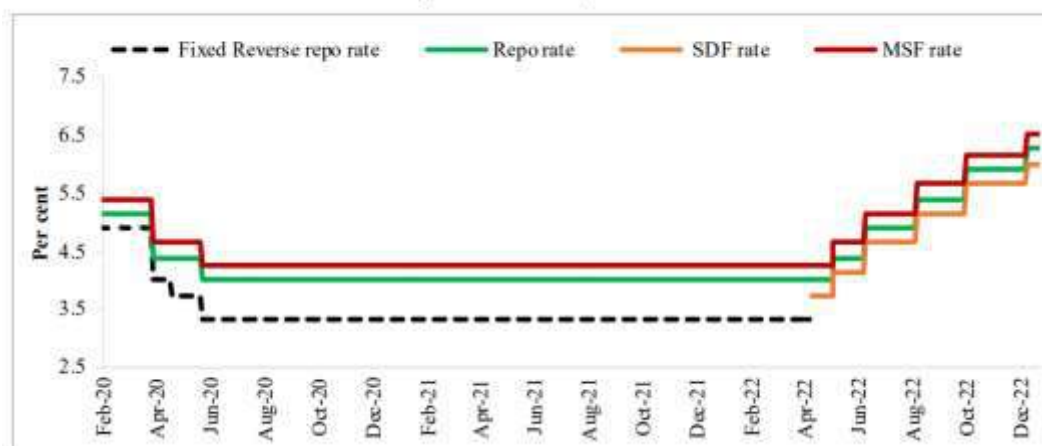
- The Government of India has adopted a holistic policy towards fiscal stability in the last few years. The Centre should continue incentivising the States for reforms and higher capital spending to ensure a stronger General government. The capex-led growth strategy will ensure sustainable debt levels in the medium term.

## CHAPTER 04 - MONETARY MANAGEMENT AND FINANCIAL INTER MEDIATION: A GOOD YEAR

### Introduction

- **Inflationary pressures** dominated the global economic landscape in FY23. The conflict that erupted in Europe resulted in commodity prices soaring and added significantly to the prevailing inflationary pressures. This development has triggered the current **sharp and synchronous monetary tightening cycle**.
- The **Monetary Policy Committee (MPC)** maintained a status quo on the policy repo rate between May 2020 and February 2022. **Retail inflation has crossed the upper limit of RBI's tolerance band** since January 2022. Sensing a serious risk to price stability, RBI initiated the **monetary tightening cycle**.

Figure IV.1: Policy Rates



- In its 2022 meeting, the committee introduced the **Standing Deposit Facility (SDF)**, which **allowed for the deposit of excess funds by banks with the RBI without the necessity of collateral** in the form of government securities, thereby allowing effective liquidity management in a collateral-free manner. The SDF, introduced at a **rate of 3.75 per cent**, replaced the reverse repo rate as the new floor of the Liquidity Adjustment Facility (LAF) corridor.
- The MPC also indicated a **change in stance** from 'Accommodative' to 'Accommodative and focused on the withdrawal of accommodation, while supporting growth' in this meeting, **signalling the start of the monetary tightening cycle**.
- Between May 2022 and December 2022, the MPC implemented a **cumulative hike of 225 bps** in the policy repo rate.
- **Reserve money (M0) increased by 10.3 per cent** year-on-year (YoY) as of December 2022 compared to 13 per cent last year.

Table IV.1: YoY Growth in monetary aggregates (in per cent)

Item	FY17 <sup>a</sup>	FY18	FY19	FY20	FY21	FY22	FY23 <sup>a</sup>
<b>1. Reserve Money (M0)</b>	<b>-12.9</b>	<b>27.3</b>	<b>14.5</b>	<b>9.4</b>	<b>18.8</b>	<b>13.0</b>	<b>10.3</b>
1.a. Currency in Circulation (CiC)	-19.7	37.0	16.8	14.5	16.6	9.8	8.2
1.b. Bankers' Deposits with the RBI	8.4	3.9	6.4	-9.6	28.5	25.4	17.6
<b>2. Narrow Money (M1)</b>	<b>-3.9</b>	<b>21.8</b>	<b>13.6</b>	<b>11.2</b>	<b>16.2</b>	<b>10.7</b>	<b>7.6</b>
<b>3. Broad Money (M3)</b>	<b>6.9</b>	<b>9.2</b>	<b>10.5</b>	<b>8.9</b>	<b>12.2</b>	<b>8.8</b>	<b>8.7</b>
3.a. Currency with the Public	-20.8	39.2	16.6	14.5	17.1	10.3	8.4
3.b. Aggregate Deposits	6.9	5.8	9.6	8.0	11.3	8.4	9.2
Demand Deposits	18.4	6.2	9.6	6.8	14.8	10.9	6.2
Time Deposits	10.2	5.8	9.6	8.1	10.9	8.1	9.1

- As of December 2022, **broad money stock (M3) increased by 8.7 per cent YoY.**
- The **money multiplier** – the ratio of M3 and M0 – has **broadly remained stable at an average of 5.1** over April – December 2022 period.

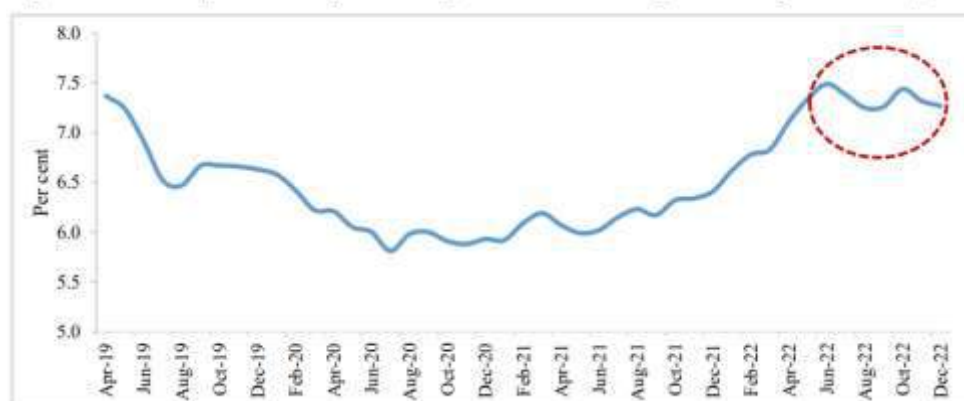
#### Liquidity Conditions

- **Surplus liquidity conditions** that prevailed post-Covid-19 in response to the Reserve Bank's conventional and unconventional monetary measures **moderated during FY23** in consonance with the changed monetary policy stance that focused on the withdrawal of accommodation.
- With the **Marginal Standing Facility (MSF) rate retained at 25 bps above the policy repo rate**, the **LAF corridor became symmetric around the policy repo rate** - the **corridor width** was thus restored to **50 bps**, the position that prevailed before the pandemic.
- The RBI's move to **hike the cash reserve ratio (CRR) by 50 bps** resulted in a withdrawal of primary liquidity to the tune of ₹87,000 crore from the banking system.

#### Developments in the G-sec Market

- After remaining steady through 2020 and 2021, the **yield on the 10-year government bond rose in 2022**. The weighted average yield spike **reflects the domestic bond market volatility** stemming from uncertainty in crude prices, a hawkish stance of major central banks, a hardening of global bond yield and the pressure on the rupee.
- The **monthly average yield** on the 10-year government bond stood at **7.3 per cent** in December 2022 after having peaked at 7.5 per cent in June 2022.

Figure IV.5: G-sec yields easing since July, with decline in oil prices and global bonds yields



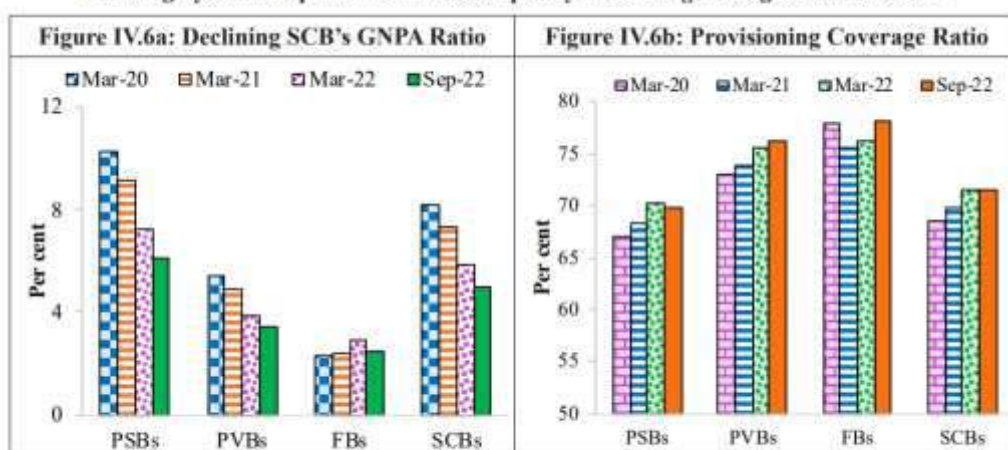


- The **trading volume in G-Secs** (including T-Bills and State Development Loans) reached a **two-year high of ₹27.7 lakh crore** during Q2 FY23. The higher trading volume reflects the **growing interest of market players/ traders in the government security market**.

### Banking Sector

- Since the middle of the previous decade, RBI and the government have made dedicated efforts in implementation of **4R's approach** of **Recognition, Resolution, Recapitalisation and Reforms** to clean and strengthen the balance sheet of the banking system.
- Consequently, the **asset quality of scheduled commercial banks (SCBs)** has been improving steadily over the years across all major sectors.
- The **gross non-performing assets (GNPA) ratio** has decreased from 8.2 per cent in March 2020 to a **seven year low of 5.0 per cent** in September 2022, while **Net Non-Performing Assets (NNPA)** have dropped to a **ten-year low of 1.3 per cent of total assets**. Lower GNPA's, combined with **high provisions** accumulated in recent years, contributed to a decline in NNPA.

Banking System: Improvement in Asset quality and strengthening of balance sheet



Source: RBI

Note: SCBs stand for Scheduled Commercial Banks, PSBs stand for Public Sector Banks, PVBs stand for Private Sector Banks, FBs stands for Foreign Banks

- Moreover, with shrinking GNPA's, the **Provisioning Coverage Ratio (PCR)**, which refers to the percentage of funds created against NPAs, **has been increasing steadily** since March 2021 and reached **71.6 per cent** in September 2022.
- The **capital-to-risk weighted assets ratio (CRAR)**, which is the ratio of a bank's capital to its risk, of SCBs has been **rising sequentially**. With a pickup in lending activity during H1:FY23 (first half of the fiscal year 2022-23), CRAR moderated in September 2022 because of an increase in risk-weighted assets (RWAs). However, it **remains well above the minimum capital requirement, including Capital Conservation Buffer (CCB) requirements of 11.5 per cent**.

### Non-Banking Financial Companies (NBFCs)

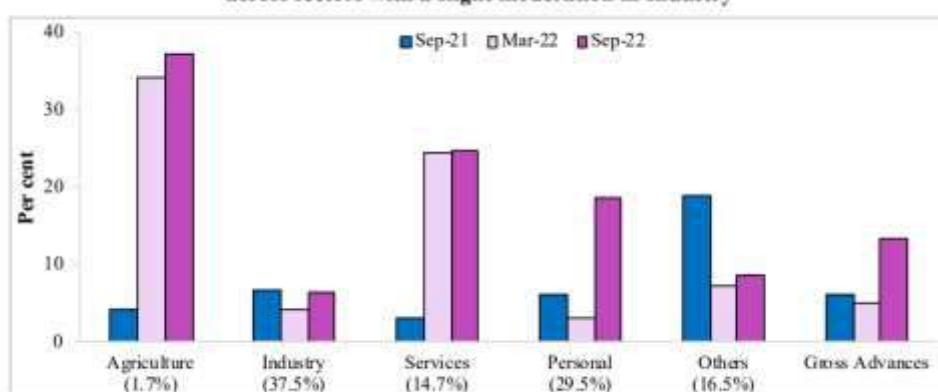
- The growing importance of the NBFC sector in the Indian financial system is reflected in the **consistent rise of NBFCs' credit as a proportion to GDP** as well as in **relation to credit extended by SCBs**. Credit extended by NBFCs is picking up momentum, with the aggregate outstanding amount at **₹31.5 lakh crore** as of September 2022.
- The continuous improvement in asset quality is seen in the **declining GNPA ratio of NBFCs** from the peak of 7.2 per cent recorded during the second wave of the pandemic (June 2021) to **5.9 per cent** in September 2022.



Figure IV.12: Increasing credit disbursed to and by NBFCs



Figure IV.15: Robust growth in credit disbursement by NBFCs across sectors with a slight moderation in Industry



Source: RBI

Note: Numbers in the bracket corresponds to sectoral shares in outstanding loans in Sep-22

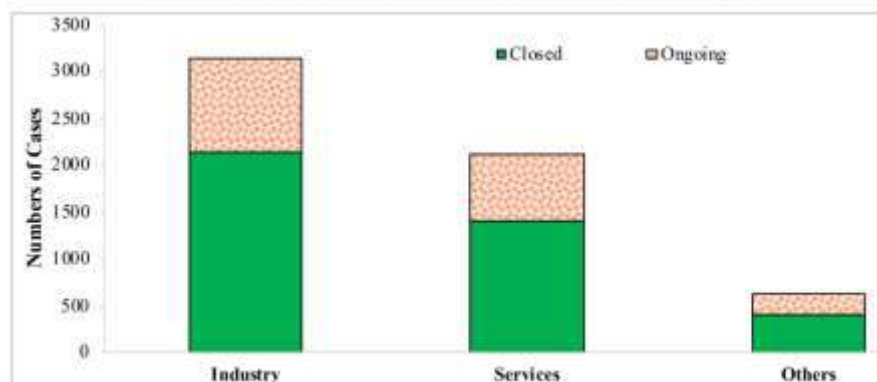
- NBFCs continued to deploy the **largest quantum of credit** from their balance sheets to the **industrial sector** (37.5 per cent), followed by **retail, services, and agriculture**.
- With the decline in GNPA's, the **capital position of NBFCs also remains robust**, with a **CRAR of 27.4 per cent** by September 2022.

### Progress made under the Insolvency and Bankruptcy Code

#### **Ease of doing business: Facilitating the process of 'exit':**

- The Insolvency and Bankruptcy Code (IBC) has **facilitated the exit of distressed firms**, thereby allocating scarce economic resources towards more productive use. Since the inception of the IBC in 2016, **5,893 Corporate Insolvency Resolution Processes (CIRPs) had commenced** by end-September 2022, of which **67 per cent have been closed**.
- The Code also provides for a **Corporate Debtor (CD) to voluntarily liquidate itself** subject to the fulfilment of certain conditions as prescribed under the Code.
- Sectoral analysis reveals that **52 per cent of the ongoing CIRPs belong to industry**, followed by 37 per cent in the **services sector** by September 2022.

Figure IV.17: Sector-wise status of CIRPs (as on September 2022)



### Behavioural change: Recoding Business Relationships:

- One of the far-reaching spill-over effects of the Code has been the **behavioural change effectuated by it among debtors**. The **fear of losing control** over the CD upon initiation of CIRP has nudged thousands of debtors to **settle their dues even before the initiation of insolvency proceedings**.
- Overall, in terms of **value realisation for initiators of CIRPs** (which includes Financial Creditors, Operational Creditors and Corporate Debtors), the resolution plans realised ₹2.4 lakh crore, which is **177.6 per cent of the liquidation value** and **84 per cent of the fair value** of the 553 CDs rescued.

### Development in Capital Markets

#### Primary Market Equity:

- From April to November 2022, the **buoyant performance** of the primary market has been observed despite turmoil in global financial markets. Compared to FY22, the number of firms opting to list on the stock exchange increased by 37 per cent, though the amount raised declined to almost half of what was raised in the last year.
- Further, this year also witnessed the **largest IPO ever in the history of India**. In May 2022, the **Central Government diluted its stake in the Life Insurance Corporation (LIC) of India** and listed it on the stock exchanges, thereby making LIC's IPO the largest IPO ever in India.

#### Debt Market:

- In April-November 2022, the **amount of resources mobilised by the issuance of debt securities in the primary market increased by 5 per cent**, compared to the corresponding period last year.
- During the period, **public issues of debt increased by 10 per cent** compared to the same period the year before, but the **amount raised by public issues of debt in the same period decreased by 27 per cent**. However, the underactivity in public debt issuances was **more than compensated by private debt placements**. The number of private debt placements increased by 11 per cent, while resources mobilised increased by 6 per cent in April-November 2022.

Table IV.6: Resource Mobilisation from the Primary Market

Particulars	April - Nov 2021		April - Nov 2022	
	No. of Issues	Amount (₹ crore)	No. of Issues	Amount (₹ crore)
<b>A. Equity</b>	<b>350</b>	<b>1,81,532</b>	<b>448</b>	<b>1,14,361</b>
IPOs	76	89,166	104	48,095
FPOs	0	0	1	4,300
Rights Issues	18	22,659	37	3,436
QIPs	23	26,704	8	4,115
Preferential Allotments	233	43,004	298	54,414
<b>B. Debt</b>	<b>871</b>	<b>3,71,590</b>	<b>967</b>	<b>3,91,997</b>
Public	20	9,132	22	6,624
Private Placement	851	3,62,458	945	3,85,373
<b>Total (A+B)</b>	<b>1,221</b>	<b>5,53,122</b>	<b>1,415</b>	<b>5,06,358</b>

**Secondary Market:**

- In April-December 2022, **global stock markets declined** because of geopolitical uncertainty. On the contrary, the **Indian stock market saw a resilient performance**, with the Nifty 50 registering a return of 3.7 per cent during the same period. At the end of December 2022, Sensex closed 3.9 per cent higher from its closing level on March 31, 2022. Even among major emerging market economies, **India outperformed its peers in April-December 2022.**

Figure IV.20: Indian Benchmark Indices witnessed swift recovery

**Foreign Portfolio Investments**

- Global economic factors**, such as inflationary pressures, monetary tightening by central banks and recessionary fears in Advanced Economies, **exerted pressure on FPIs to sell in Indian markets.**
- The **overall net investments by Foreign Portfolio Investors** during FY23 registered an **outflow of ₹16,153 crore** at the end of December 2022. **Large capital**

**outflows from Emerging Market and Developing Economies (EMDEs)** such as India and China, which are importers of commodities, were **matched by inflows into commodity export-oriented markets** such as Indonesia, Malaysia and Brazil.

- **Investments by Domestic Institutional Investors (DIIs)** acted as a **countervailing force against FPI outflows** during recent years, rendering the Indian equity market relatively less susceptible to large scale corrections.

### Other Developments

**Necessity of a common approach to regulating the crypto ecosystem:**

- Crypto assets are **new forms of digital assets implemented using cryptographic techniques**. The crypto asset market has been **very volatile**, with its total valuation swinging from almost US\$ 3 trillion in November 2021 to less than US\$ 1 trillion in Jan 2023.
- The volatility of the crypto asset ecosystem has brought to the forefront their **fragile backing and governance problems**, as well as the **increasing complexity and non-transparency**.
- The **geographically pervasive nature** of the crypto ecosystem necessitates a **common approach** to the regulation of these volatile instruments. International fora like OECD and G20 are discussing a **globally coordinated approach** to regulating crypto assets.

### IFSC – GIFT City

- Globally, **International Financial Services Centre (IFSC)** have assumed prominence in the financial services ecosystem primarily because they have contributed enormously to the growth of international financial transactions. These centres have played a **pivotal role in accelerating the pace of financial globalisation**.
- An IFSC is a **jurisdiction with a high concentration of financial institutions** such as Banks, Stock Markets & related entities, Insurance firms, Fund Managers, FinTech firms, etc., which **offer specialised financial services to non-residents and residents**, in an environment that promotes financial innovation and facilitates cross border transactions.
- India has set up and operationalised the country's maiden IFSC in **GIFT City, Gandhinagar, Gujarat**. To bolster the development of IFSC, the **International Financial Services Centres Authority (IFSCA)** has been created through an Act of Parliament in 2019. IFSCA has **assumed the power of four domestic sector regulators**, namely **RBI, SEBI, IRDAI & PFRDAI**, in so far as the development and regulation of IFSCs in India were concerned.
- GIFT IFSC is now emerging as a preferred jurisdiction for international financial services. Recognising the growing significance of IFSC, the **Global Financial Centres Index, London Report** put **IFSC in GIFT City at the top**, among 15 centres globally.

### Developments in the Insurance Market

- Insurance, an integral part of the financial sector, plays a **significant role in economic development**. Apart from protecting against mortality, property, and casualty risks and providing a safety net, the insurance sector **encourages savings and provides long-term funds for infrastructure development**.
- Internationally, the potential and performance of the insurance sector are **generally assessed based on two parameters**, viz., **'insurance penetration'**, which refers to the **ratio of total insurance premiums to Gross Domestic Product (GDP)** in a year and **'insurance density'**, which refers to the **ratio of insurance premium to population**, i.e.; insurance premium per capita and is measured in US Dollar, as they reflect the level of development of the insurance sector in a country.

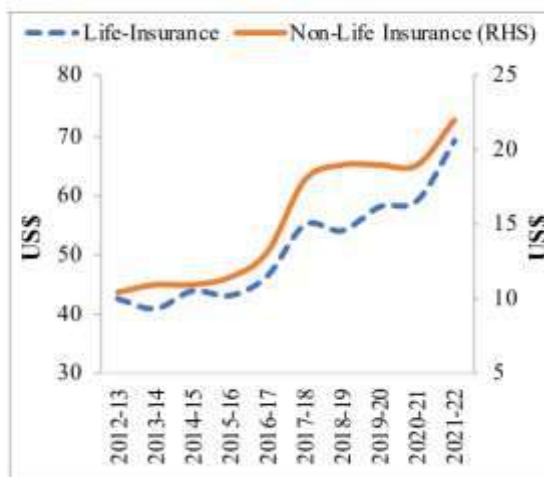


- **Insurance penetration in India increased steadily** from 2.7 per cent around the turn of the millennium to **4.2 per cent** in 2020 and remained the same in 2021. **Life insurance penetration in India was 3.2 per cent** in 2021, almost twice more than the emerging markets and slightly above the global average. The **insurance density in India has increased** from US\$ 11.1 in 2001 to **US\$ 91** in 2021 (density for Life insurance was US\$ 69 and Non-Life insurance was US\$ 22 in 2021).

Figure IV.26a: Steady increase in Insurance Penetration



Figure IV.26b: Significant rise in Insurance Density



- **India's largest life insurer, the Life Insurance Corporation of India, went public** in May 2022, raising US\$ 2.7 billion in the **country's largest IPO** to date.
- **India is one of the fastest-growing insurance markets** in the world. India is expected to emerge as **one of the top six insurance markets** in the world by 2032.

### Pension Sector

- The framework of the pension system has evolved globally. In **advanced countries**, the pension sector is substantial, partly stemming from a **large share of formal salaried employment**. In 2021, pension assets in **OECD countries** stood at US\$ 38.5 trillion, **66.9 per cent of the GDP**.
- The **Government of India is implementing various pension schemes** such as the Indira Gandhi National Old Age Pension Scheme (IGNOAPS), Indira Gandhi National Widow Pension Scheme (IGNWPS), Indira Gandhi National Disability Pension Scheme (IGNDPS) under the **National Social Assistance Programme (NSAP)** with a **total beneficiary coverage of 4.7 crore**.
- The **National Pension System (NPS)** was introduced in 2004 as the primary pension system for **government employees**. It is a **defined contribution plan with co-contribution from the government**. The **value of the pension corpus is marked-to-market**, and accordingly, the rate of return is market determined. NPS was **extended to all the citizens of the country in the age group of 18-70 years**, including the **unorganised sector workers** (on a voluntary basis) in 2009.
- The Government introduced **Atal Pension Yojana (APY)** in 2015 as a part of the overarching objective of **providing universal social security**. The scheme applies to **all individuals aged 18-40 years**, with an **emphasis on underprivileged, unorganised, and low-income individuals**.
- The **coverage of the population** in pension under NPS and APY as a share of the total population has risen from 1.2 per cent to **3.7 per cent** during the six years FY17 to FY22.



- **Assets as a proportion of GDP** have increased from 1.2 per cent to **3.2 per cent**, reflecting that the pension sector is progressing much faster than the nominal growth of the economy and population.

#### Outlook

- The resilience of the domestic financial system is reflected in the healthy balance sheet of banks, stronger capital levels of NBFCs and robust growth of domestic mutual funds.
- Buoyant demand for bank credit and early signs of a revival in the investment cycle are benefiting from improving asset quality, a return to profitability and resilient capital and liquidity buffers.

## CHAPTER 05 - PRICE & INFLATION: SUCCESSFUL TIGHT-ROPE WALKING

### Introduction

- **Retail inflation** in India, as measured by **Consumer Price Index-Combined (CPI-C) inflation**, has been well within the **tolerance band of the targeted limit of 4 per cent +/- 2 percentage points from 2017 to 2019**.
- In 2020, supply-side disruptions caused by the pandemic pushed inflation **beyond the RBI's upper tolerance limit of 6 per cent**. As the pandemic receded, the **conflict in Russia-Ukraine** broke out, bringing in its wake worldwide inflation, fuelled mostly by surging prices of crude oil and other commodities.
- In **advanced economies**, the rate of inflation is projected by the **International Monetary Fund (IMF)** to increase from 3.1 per cent in 2021 to **7.2 per cent** in 2022, the **highest since 1982**.
- The inflation rate in **Emerging Markets and Developing Economies (EMDEs)** is anticipated to have increased from 5.9 per cent in 2021 to **9.9 per cent in 2022 (World Economic Outlook of IMF)**.

### Domestic Retail Inflation

- FY22 witnessed **lower CPI-Combined (CPI-C) based retail inflation** as compared to FY21. India's inflation rate peaked in April 2022 at 7.8 per cent before moderating to 5.7 per cent in December 2022 on the back of good monsoons as well as prompt government measures that ensured adequate food supply.
- The **Russia-Ukraine crisis** led to the high headline inflation rate in April 2022. In FY23, retail inflation was mainly driven by **higher food inflation**, while **core inflation** stayed at a moderate level.
  - *Core inflation is the measure of change in prices of goods and services, excluding food, fuel and other volatile components.*

**Table V.1: Average Annual Retail Inflation Based on CPI-C (per cent) (base: 2012=100)**

Groups/Sub-groups	Weight	FY20	FY21	FY22	FY23*
<b>Food &amp; beverages</b>	<b>45.9</b>	<b>6.0</b>	<b>7.3</b>	<b>4.2</b>	<b>7.0</b>
Cereals and products	9.7	2.8	3.8	0.5	9.3
Meat and fish	3.6	9.3	15.4	7.9	4.7
Egg	0.4	4.5	12.9	7.6	-1.0
Milk and products	6.6	2.9	5.4	2.8	6.8
Oils and fats	3.6	2.9	16.0	27.4	5.4
Fruits	2.9	0.7	2.6	6.2	4.4
Vegetables	6.0	21.3	5.8	-7.2	7.6
Pulses and products	2.4	9.9	16.4	6.0	1.8

	Weight	FY20	FY21	FY22	FY23*
Sugar and confectionery	1.4	0.8	2.5	2.3	2.7
Spices	2.5	4.4	10.9	5.3	14.9
Pan, tobacco & intoxicants	2.4	4.2	9.9	4.5	2.0
Clothing & footwear	6.5	1.6	3.4	7.2	9.7
Housing	10.1	4.5	3.3	3.7	4.1
Fuel and light	6.8	1.3	2.7	11.3	10.5
Miscellaneous	28.3	4.4	6.6	6.7	6.3
Household goods and services	3.8	3.1	3.0	5.8	7.5
Health	5.9	6.2	5.1	7.5	5.8
Transport and communication	8.6	2.4	9.9	10.1	6.4
Recreation and amusement	1.7	4.9	5.1	6.5	6.4
Education	4.5	5.5	2.8	2.9	5.2
<b>Headline Inflation</b>	<b>100.0</b>	<b>4.8</b>	<b>6.2</b>	<b>5.5</b>	<b>6.8</b>
<b>Core Inflation</b>	<b>47.3</b>	<b>4.0</b>	<b>5.5</b>	<b>6.0</b>	<b>6.1</b>
<b>Food Inflation</b>	<b>39.1</b>	<b>6.7</b>	<b>7.7</b>	<b>3.8</b>	<b>7.0</b>

- **Food inflation** based on **Consumer Food Price Index (CFPI)** climbed to **7.0 per cent** in FY23 from 3.8 per cent in FY22. Though the increase in food inflation is broad-based, the major contributors are **vegetables, cereals, milk and spices**.

#### **Prices of Edible Oils:**

- **International prices of edible oils surged** in FY22 owing to a shortfall in global production and an increase in export tax levies by various countries.
- **India meets 60 per cent of its edible oils demand through imports**, making it vulnerable to international movements in prices. For instance, **sunflower oil**, which makes up 15 per cent of our total edible oil imports, is **procured mainly from Ukraine and Russia**. Thus, FY22 saw edible oil inflation on account of international price pressures.
- However, inflation remained subdued in FY23 because of **rationalisation of tariffs** and the **imposition of stock limits** on edible oils and oil seeds.

#### **Domestic Wholesale Price Inflation**

- Wholesale Price Inflation (WPI) based inflation **remained low during the Covid-19 period**, and it **started to gain momentum in the post-pandemic period** as economic activities resumed.
- The **Russia-Ukraine conflict** further exacerbated the burden as it worsened global supply chains along with the free movement of essential commodities.

Table V.2: Average Annual Wholesale Inflation Based on WPI (per cent) (Base: 2011-12=100)

Groups/Subgroups	Weight	FY20	FY21	FY22	FY23+
<b>Primary Articles</b>	<b>22.6</b>	<b>6.8</b>	<b>1.7</b>	<b>10.3</b>	<b>12.3</b>
<b>Food articles</b>	<b>15.3</b>	<b>8.4</b>	<b>3.1</b>	<b>4.1</b>	<b>8.3</b>
Cereals	2.8	7.5	-2.6	1.6	10.7
Pulses	0.6	15.9	11.6	6.9	0.0
Vegetables	1.9	31.2	3.4	0.4	13.2
Fruits	1.6	3.2	1.4	11.3	10.4
<b>Non-Food Articles</b>	<b>4.1</b>	<b>4.5</b>	<b>1.4</b>	<b>21.1</b>	<b>12.0</b>
Minerals	0.8	13.2	6.7	19.6	6.2
<b>Crude Petroleum &amp; Natural Gas</b>	<b>2.4</b>	<b>-7.7</b>	<b>-17.5</b>	<b>56.7</b>	<b>57.7</b>
<b>Fuel &amp; power</b>	<b>13.2</b>	<b>-1.8</b>	<b>-8.0</b>	<b>32.6</b>	<b>33.8</b>
LPG	0.6	-8.3	-2.7	43.3	16.9
Petrol	1.6	-3.2	-11.8	62.9	41.9
High Speed Diesel	3.1	-3.5	-14.4	59.9	60.8
<b>Manufactured Products</b>	<b>64.2</b>	<b>0.3</b>	<b>2.7</b>	<b>11.1</b>	<b>7.1</b>
<b>Food products</b>	<b>9.1</b>	<b>4.1</b>	<b>5.6</b>	<b>11.7</b>	<b>6.0</b>
Edible oils	2.6	1.4	20.3	30.5	1.4
<i>Food Inflation (Food articles + Food products)</i>	<i>24.4</i>	<i>6.9</i>	<i>3.9</i>	<i>6.8</i>	<i>7.5</i>
<i>Core Inflation (Manufactured Products-Food products)</i>	<i>55.1</i>	<i>-0.4</i>	<i>2.2</i>	<i>11.0</i>	<i>9.2</i>
<b>Headline Inflation</b>	<b>100</b>	<b>1.7</b>	<b>1.3</b>	<b>13.0</b>	<b>11.5</b>

- Overall, the monthly trend of inflation rates based on wholesale prices has been **sliding downwards from its peak of 16.6 per cent** in May 2022 to 10.6 per cent in September 2022 and further to 5.0 per cent in December 2022.
- Part of WPI inflation is **imported inflation**. The **high import dependence on edible oils** has meant that the transitory effect of rising international prices of these products are also reflected in domestic prices.
- **Capital outflows** in H1 of FY23 had **impacted India's exchange rate adversely**; this was another reason for **high prices of imported inputs**, which are **mostly dollar-denominated**.

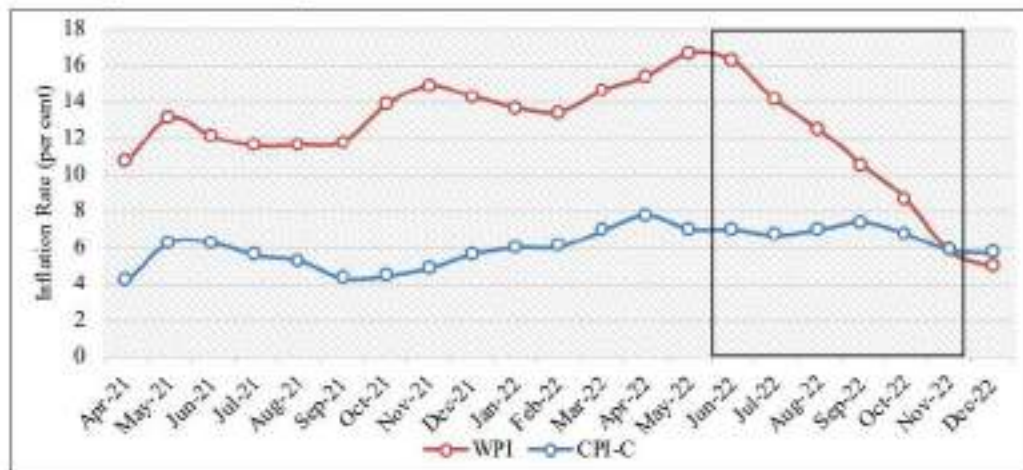
#### Convergence of WPI and CPI Inflation

- Inflation dynamics in India since the outbreak of the pandemic have been influenced by various domestic and global factors. While the **pass-through of international prices to wholesale prices is relatively quick**, it impacts retail prices with a lag. This creates a **wedge between WPI and CPI inflation rates**.
- It is also due to the **difference in composition and weights assigned to different commodities** in the two indices.
- The headline inflation based on WPI and the CPI-C **started diverging in March 2021**, as WPI inflation touched double digits due to **unfavourable base effects** while CPI-C inflation remained stable. The wedge between CPI-C and WPI inflation continued to widen before reaching its peak at **10 per cent in November 2021**.
  - *Base effect refers to the impact of the rise in price level in the previous year over the corresponding rise in price levels in the current year.*



- It was only after global commodity prices, including crude oil, softened and the effects of strong supporting domestic factors like favourable monsoon, vaccination-led economic resumption, etc., started to be felt that the wedge began to narrow, and it **closed in November 2022, after 21 months.**

Figure V.18: Convergence of Headline WPI Inflation with Headline CPI-C Inflation



- The convergence between the WPI and CPI indices was mainly driven by **two factors**. Firstly, a **cooling in inflation of commodities** such as crude oil, iron, aluminium and cotton led to a **lower WPI**. These commodities occupy a **larger weight in the WPI** as compared to the CPI. Further, these commodities are **highly vulnerable to fluctuations in international prices and are used intensively by industries** producing wholesale goods.
- Secondly, **CPI inflation rose due to an increase in the prices of services**. Services form a part of the core component of the CPI-C but are **not included in the WPI basket**.

#### Monetary Policy Measures for Price Stability

- Reserve Bank of India's **Monetary Policy Committee (MPC)** increased the policy **repo rate** under the liquidity adjustment facility (LAF) by **2.25 per cent (225 basis points)** from 4.0 per cent to **6.25 per cent** between May and December 2022.

#### **Housing Prices:**

- Housing prices provide **helpful information on the state of the economy** via booms and busts in asset markets, which give rise to economic imbalances.
- The **National Housing Bank (NHB)** publishes two **Housing Price Indices (HPI)**, namely '**HPI assessment price**' and '**HPI market price quarterly**', with **FY18 as the base year**.
- HPI assessment price is based on the valuation prices of residential units collected from primary lending institutions. In contrast, the HPI market price is based on the market prices for unsold inventories collected from developers.
- A **composite index** is calculated for 50 cities across India using the population of the cities as weights. The composite index shows an overall increase which indicates a **revival in the housing finance sector**. A stable to moderate increase in HPI also offers confidence to homeowners and home loan financiers in terms of the retained value of the asset.

#### **Keeping check on Pharmaceutical Prices:**

- The principles for the regulation of the prices of drugs are based on the **National Pharmaceuticals Pricing Policy, 2012, administered by the Department of Pharmaceuticals** under the Ministry of Chemicals and Fertilisers. The key principles



of the policy are the **essentiality of drugs, control of formulation prices and market-based pricing.**

- Until 31 December 2022, ceiling prices for 890 formulations of 358 drugs/medicines across various therapeutic categories under **National List of Essential Medicines (NLEM), 2015** have been fixed by **National Pharmaceuticals Pricing Authority.**
- **Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP)** was launched to make quality generic medicines available at affordable prices to all. Under this scheme, dedicated outlets known as **Janaushadhi Kendras** are opened to provide quality generic medicines at affordable prices to all and especially to the poor and the deprived.

### **Conclusion**

- Both CPI-C and WPI have fallen below 6 per cent (which is the RBI tolerance limit for the former) and are on the descending slope of the surge that hit the economy in the first half of the current fiscal.
- RBI projects CPI inflation for Q1 - FY24 at **5.0 per cent** and for Q2 - FY24 at **5.4 per cent** on the assumption of a normal monsoon.
- India's inflation management has been particularly noteworthy and can be contrasted with advanced economies that are still grappling with sticky inflation rates.

## CHAPTER 06 - SOCIAL INFRASTRUCTURE AND EMPLOYMENT: BIG TENT

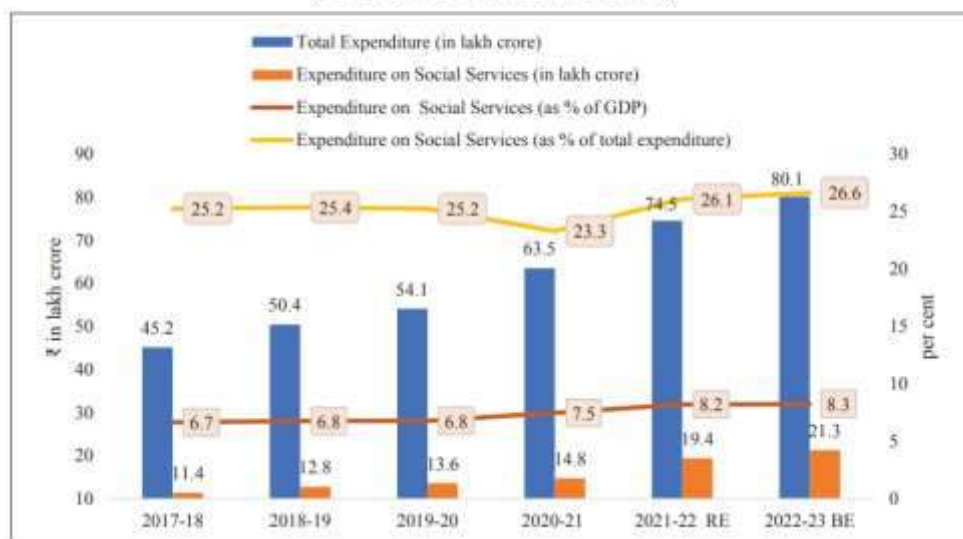
### Introduction

- The foundational services and structures that support society in availing various amenities important for a better quality of life, i.e the **social infrastructure**, **indirectly contributes to economic development** by laying the foundation for enhancement in income and employment opportunities, productivity growth, and technological advancement.
- In its **Amrit Kaal** for the **next 25 years**, India envisions rewarding itself with the dividends that can come from demographics.

### Social Sector Expenditure Keeping Pace with Growing Importance of the Sector

- The **Government's spending on social services has shown a rising trend** since FY16 with a focus on many aspects of the social well-being of citizens of the country.
- The **share of expenditure on social services in the total expenditure** of the Government has been around **25 per cent** from FY18 to FY20. It increased to **26.6 per cent** in FY23 (BE).

Figure VI.1: Trends in social service sector expenditure by General Government (Combined Centre and States)



- The **share of expenditure on health in the total expenditure on social services**, has increased from 21 per cent in FY19 to **26 per cent** in FY23 (BE). The **National Health Policy, 2017** recommended an **increase in the Government's health expenditure** from the existing 1.2 per cent to **2.5 per cent of GDP by 2025**.
- Also, the **Fifteenth Finance Commission**, in its report, had recommended that **public health expenditure of Union and States together** should be increased in a progressive manner to reach **2.5 per cent of GDP by 2025**.
- In keeping with this objective, **Central and State Governments' budgeted expenditure on the health sector** reached **2.1 per cent of GDP in FY23 (BE)** and **2.2 per cent in FY22 (RE)**, against 1.6 per cent in FY21.

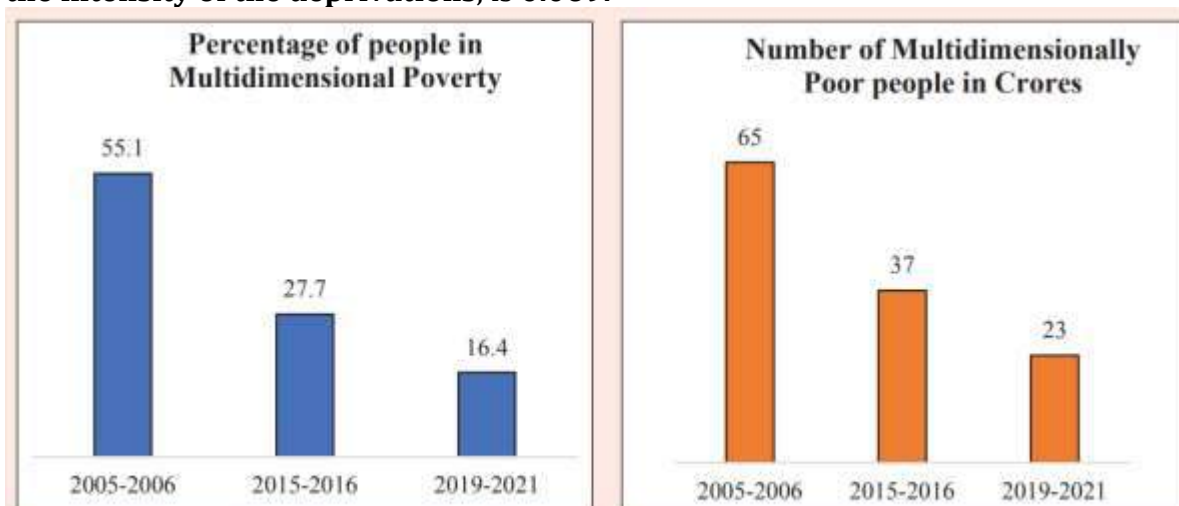
### Improving Human Development Parameters

- In the wake of Covid-19 pandemic and the Russia-Ukraine conflict, there was a **global decline in human development**. According to the **United Nations Development Programme (UNDP) report**, **90 per cent of countries have registered a reduction in their Human Development Index (HDI) value** in 2020 or 2021, indicating that human development across the world has stalled for the first time in 32 years.

- **India ranked 132 out of 191 countries** in the 2021-2022 HDI report. India's HDI value of **0.633** in 2021 places the country in the **medium human development category**. However, India's HDI value **continues to exceed South Asia's average** human development.
- On the parameter of gender inequality, **India's Gender Inequality Index (GII)** value is **0.490** in 2021 and is ranked **122**.

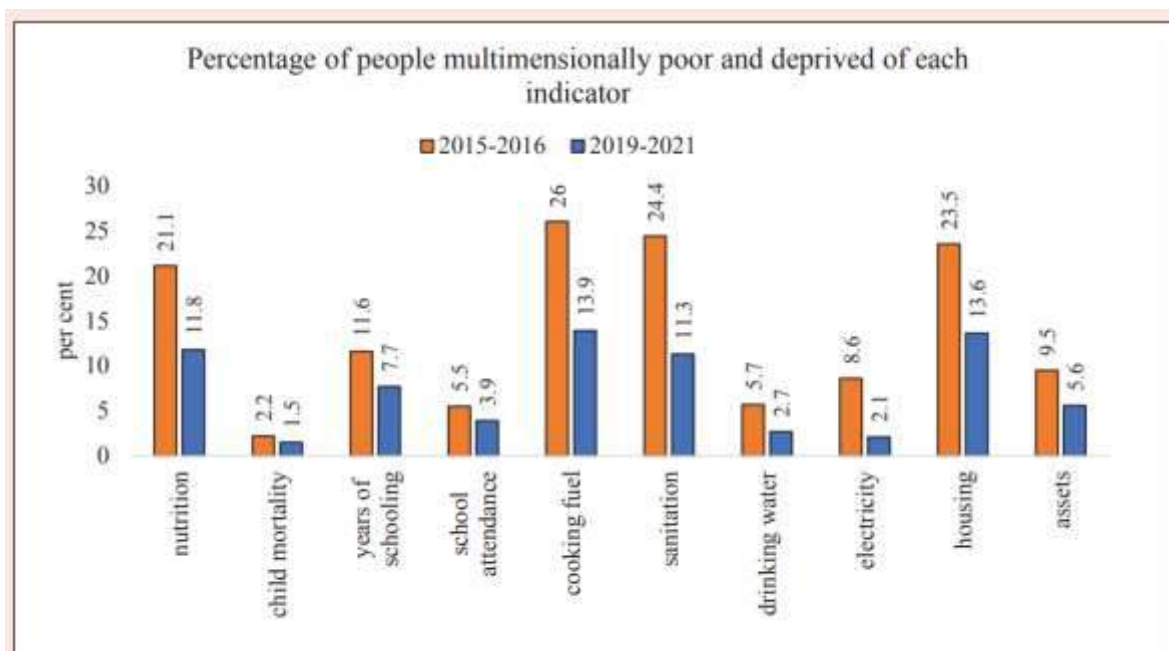
#### UNDP Multidimensional Poverty Index 2022

- Generally, poverty is primarily measured in terms of **lack of monetary means for a decent living**. However, by definition '**poverty**' has wider implications and leads to **multiple disadvantages** at the same time – such as poor health or malnutrition, lack of sanitation, clean drinking water or electricity, poor quality of education etc.
- **Multidimensional poverty measures** are hence used to create a **more comprehensive picture**. It reveals **who is poor** and **how they are poor** and the **range of different deprivations** experienced by them.
- One such measure is the **United Nations Development Programme's (UNDP) global Multidimensional Poverty Index (MPI)** which measures acute multidimensional poverty across more than 100 developing countries. The methodology involves measuring each person's overlapping deprivations across 10 indicators in three equally weighted dimensions: **health, education, and standard of living**.
- The MPI ranges from **0 to 1**, and **higher values imply higher multidimensional poverty**. The **2022 report of the UNDP on MPI** covers 111 developing countries. **16.4 per cent of the population in India** (228.9 million people in 2020) is **multidimensionally poor** while an **additional 18.7 per cent** is classified as **vulnerable** to multidimensional poverty (260.9 million people in 2020).
- The **intensity of deprivation** in India, which is the **average deprivation score among people living in multidimensional poverty**, is **42 per cent**. The **MPI value**, which is the **share of the population that is multidimensionally poor adjusted by the intensity of the deprivations**, is **0.069**.



Source: UNDP Report on Multidimensional Poverty, 2022

- The findings of the report suggest that in India, **41.5 crore people exited poverty between 2005-06 and 2019-21**.



### Transformation of Aspirational Districts Programme

- The Government of India launched the '**Transformation of Aspirational Districts' (Aspirational Districts Programme (ADP))** initiative in 2018 with a vision of a **New India by 2022** wherein the focus is to **raise living standards of its citizens and ensuring inclusive growth of all**.
- **117 Aspirational Districts (ADs)** across 28 States/UTs have been identified by **NITI Aayog** based upon **composite indicators** ranging from health and nutrition, education, agriculture, and water resources, financial inclusion and skill development, and basic infrastructure which have an impact on HDI.
- The districts are prodded and encouraged to catch up with the best district of their state, and subsequently aspire to become one of the best in the country, by competing with and learning from others in the **spirit of competitive and cooperative federalism**.
- The broad contours of the programme are **Convergence** (of Central & State Schemes), **Collaboration** (of Central, State level Nodal Officers & District Collectors), and **Competition** among districts through monthly delta ranking; all driven by a **mass movement**.
- With States as the main drivers, this programme **focuses on the strength of each district, identifying low-hanging fruits** for immediate improvement and **measuring progress by ranking districts** every month.

### **Template of Good Governance:**

- The ADP has emerged as a **template for good governance**, especially in remote and difficult areas. At present, two programmes have been conceptualised along the lines of ADP design, one is '**Mission Utkarsh**' and the other is '**Aspirational Blocks Programme**' (ABP).
- In 2022, '**Mission Utkarsh**' was launched, under which 15 Central Ministries, having an interface with the public, have identified their **low performing 10-15 districts**. Following the ADP template, the Ministries have launched actions to bring these districts at par with an average district in the state in one year and close to the all-India average in another.

- The Central Government and States have come together to use the ADP template to **identify backward blocks** and use similar data monitoring and competition-based programme to improve the most under-developed blocks in the country.
- In order to further strengthen this initiative, **500 most backward blocks across States and UTs** have been identified for rapid development.

#### Progressing Labour Reform Measures

- In 2019 and 2020, **29 Central Labour Laws** were amalgamated, rationalised, and simplified into **four Labour Codes**, viz., the **Code on Wages, 2019**, the **Industrial Relations Code, 2020**, the **Code on Social Security, 2020**, and the **Occupational Safety, Health & Working Conditions Code, 2020**.
- The Codes ease compliance mechanism aiming to promote ease of doing business/setting up of enterprises and catalyse creation of employment opportunities while ensuring safety, health and social security of every worker.
- As of 13 December 2022, 31 States also have prepublished the draft rules under the Code on Wages, 28 States under Industrial Relations Code, 28 States under Code on Social Security, and 26 States under Occupational Safety Health and Working Conditions Code.

#### e-Shram portal:

- The Ministry of Labour and Employment (MoLE) has developed the eShram portal for **creating a National database of unorganised workers, which is verified with Aadhaar**.
- It captures details of workers like name, occupation, address, occupation type, educational qualification, and skill types etc., for the optimum realisation of their employability and extend the benefits of the social security schemes to them.
- It is the **first-ever national database of unorganised workers**, including **migrant workers, construction workers, gig and platform workers, etc.**
- As on 31 December 2022, over 28.5 crore unorganised workers have been registered on eShram portal.

#### Aadhaar

- Aadhaar, a **12-digit unique identification number** provides a **digital identity to the residents of India and ensures authentication**.
- It connects the Government and the individual, replacing the disentangled web of multiple IDs for multiple purposes, and secures the **social contract** between the State and the Citizen.
- Aadhaar provides a conclusive connection between the **photograph of the Aadhaar holder, his/her fingerprints, and iris scan details**.
- 318 Central schemes and over 720 state DBT schemes are notified under section 7 of the Aadhaar Act, 2016, and all these schemes use Aadhaar for targeted delivery of financial services, subsidies, and benefits.
- The **Unique Identification Authority of India (UIDAI)** is mandated to develop the policy, procedure, and system for issuing an Aadhaar number to each resident individual and performing authentication. It also has the responsibility to take necessary measures to ensure that the information stored in the **Central Identities Data Repository (CIDR)** is **secured and protected** against unauthorised access or misuse.

#### Improving Employment Trends

- Employment trends can be studied from the **supply side of labour** through household surveys such as the **Periodic Labour Force Survey (PLFS)** conducted by the **Ministry of Statistics and Programme Implementation (MoSPI)**, and the



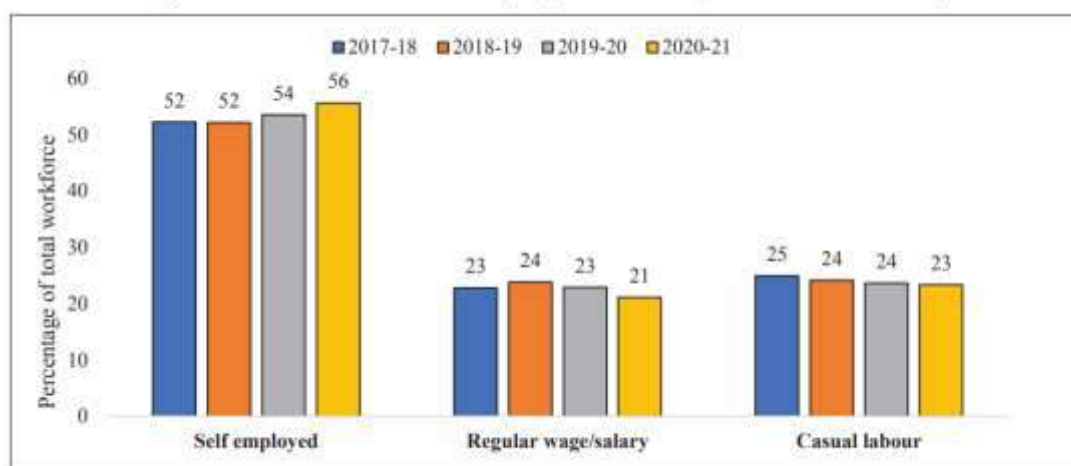
**demand side of labour** through enterprise or establishment surveys such as the **Annual Survey of Industries (ASI)** by MoSPI, **Quarterly Employment Survey (QES)** by Labour Bureau, etc. These enable a complete view of the labour market and the trends therein.

### Supply Side of Employment:

#### Annual Periodic Labour Force Survey

- As per **usual status**, the labour force participation rate (LFPR), worker population ratio (WPR) and unemployment rate (UR) in PLFS 2020-21 (July-June) have **improved for both males and females in both rural and urban areas** compared to PLFS 2019-20 and 2018-19.
- While **usual status** has a **long reference period of one year**, **current weekly status (CWS)** is a **stricter benchmark**. It can capture the loss in duration of employment during events such as a pandemic, with a **reference period of one week**.
- According to broad status in employment, the **share of self-employed increased** and that of **regular wage/salaried workers declined** in 2020-21 vis-à-vis 2019-20. The **share of casual labour declined slightly**, driven by rural areas.

Figure VI.3: Trends in broad employment status (Persons, rural+urban)



Source: Annual PLFS, MoSPI

- Based on the **industry of work**, the **share of workers engaged in agriculture rose marginally** from 45.6 per cent in 2019-20 to **46.5 per cent** in 2020-21, the **share of manufacturing declined faintly** from 11.2 per cent to **10.9 per cent**, the **share of construction increased** from 11.6 per cent to **12.1 per cent**, and **share of trade, hotel & restaurants declined** from 13.2 per cent to **12.2 per cent**, over the same period.
- This could be attributable to the impact of Covid on manufacturing and services employment, while agricultural growth remained strong during the period.
- **More than 75 per cent of rural female workers are employed in the agricultural sector**. This implies a need to **upskill and create employment for women in agriculture-related sectors** such as food processing.
- Here, the **self-help groups (SHGs)** can play a crucial role in shaping rural women's potential into concrete developmental outcomes of financial inclusion, livelihood diversification, and skill development.

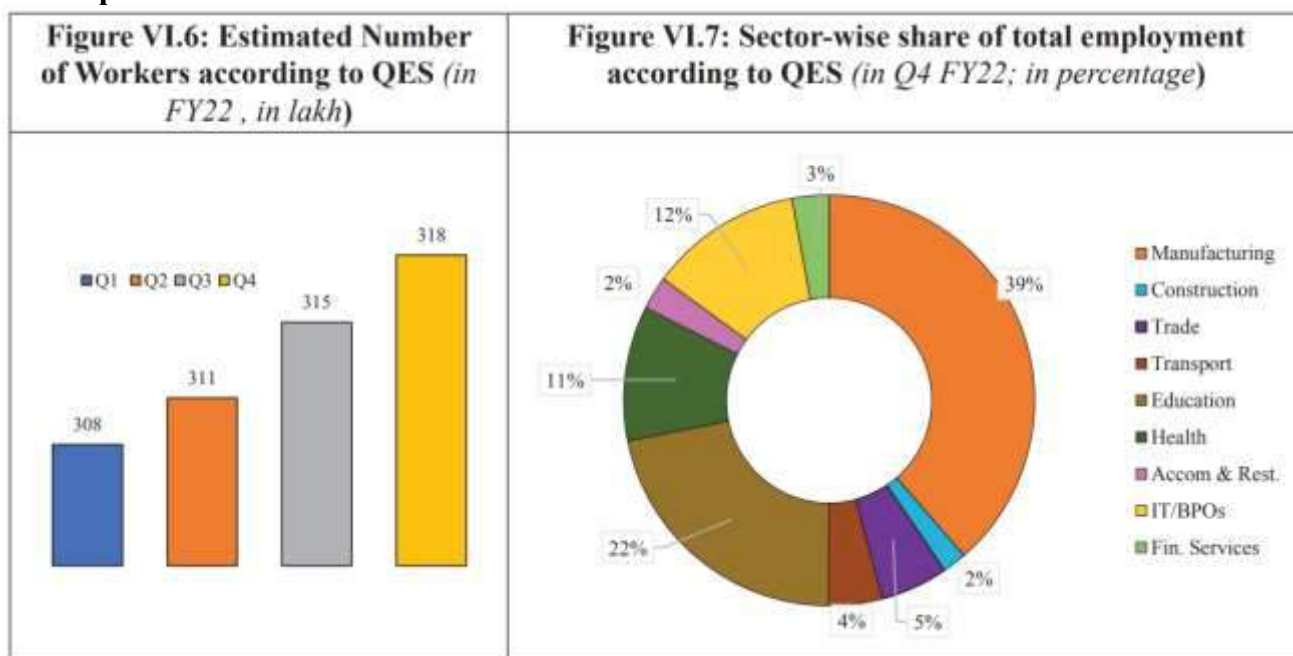
#### Self-Help Groups (SHGs):

- The SHGs movement, based on the **principles of group solidarity and microfinance**, has existed in India for 50 years in one form or another, with its roots tracing back to the formation of the **Self-Employed Women's Association in 1972**.

- India has around **1.2 crore SHGs**, **88 per cent** being **all-women SHGs**. Success stories include **Kudumbashree** in Kerala, **Jeevika** in Bihar, **Mahila Arthik Vikas Mahila Mandal** in Maharashtra, and recently, **Looms of Ladakh**.
- SHGs have a positive, statistically significant effect on **women's economic, social, and political empowerment**, with positive effects on empowerment achieved through various pathways such as familiarity with **handling money, financial decision-making, improved social networks, asset ownership and livelihood diversification**.
- During the Covid pandemic, SHGs emerged as pivotal players in crisis management, leading from the front in - creating awareness about the pandemic (e.g. **Patrakar Didis** of Jharkhand), delivering essential goods (e.g. **Floating supermarkets** in Kerala), running community kitchens (e.g. **Prerna Canteens** in Uttar Pradesh), etc.

#### **Demand Side of Employment Quarterly Employment Survey (QES):**

- The QES, conducted by the **Labour Bureau**, covers **establishments with ten or more workers** in **nine major sectors viz. manufacturing, construction, trade, transport, education, health, accommodation & restaurants, IT/BPOs, and financial services**.
- These nine sectors account for **around 83 per cent of the total employment** in establishments with ten or more workers.
- The estimated total employment in the nine selected sectors according to the fourth round of QES (January to March 2022) stood at **3.2 crore**, which is nearly **ten lakh higher** than the estimated employment from the first round of QES (April-June 2021).
- Gender-wise, **31.8 per cent of the total estimated employed are women** and **68.2 per cent are men**.



#### **Annual Survey of Industries (ASI):**

- The ASI, conducted by the **Ministry of Statistics and Programme Implementation (MoSPI)**, is an important source of industrial statistics of the registered organised **manufacturing sector** of the economy.
- It covers **all factories registered under Sections 2m(i) and 2m(ii) of the Factories Act, 1948**, i.e., those **factories employing ten or more workers using power**; and those **employing twenty or more workers without using power**.

- As per the latest ASI FY20, employment in the organised manufacturing sector has maintained a **steady upward trend** over time, with the employment per factory increasing gradually.
- In terms of **share of employment (total persons engaged)**, the **food products industry** (11.1 per cent) remained the **largest employer**, followed by **wearing apparel** (7.6 per cent), **basic metals** (7.3 per cent), and **motor vehicles, trailers, and semi-trailers** (6.5 per cent).
- State-wise, **Tamil Nadu** had the **largest number of persons engaged in factories** (26.6 lakh), followed by **Gujarat** (20.7 lakh), **Maharashtra** (20.4 lakh), **Uttar Pradesh** (11.3 lakh), and **Karnataka** (10.8 lakh).

#### **Formal Employment:**

- The **organised sector job market conditions** measured by **payroll data for Employees' Provident Fund Organisation (EPFO) and Employees' State Insurance Corporation (ESIC)** reveal the benefits of the government initiatives towards improvement in the labour market.
- EPFO data indicates a consistent **YoY increase in payroll addition, pointing towards improved formalisation** as economic activities picked up. The **net addition in EPF** subscriptions during FY22 was **58.7 per cent higher** than in FY21.
- The swift rebound of formal sector payroll addition can be attributed to the **Aatmanirbhar Bharat Rojgar Yojana (ABRY)**, launched in 2020. This scheme, being implemented through the **EPFO, reduces the financial burden of the employers** of various sectors/industries and encourages them to hire more workers.
- Under ABRY, the government is paying **Provident Fund contribution for workers with wages up to Rs 15,000**. The contribution of **24 per cent** for both employers and employees for establishments employing **up to 1,000 employees** will be borne by the government; and for establishments employing **more than 1,000 employees, 12 per cent of the employees' share will be contributed by the government**.

#### **National Career Service Project:**

- The 'National Career Service ('NCS') project was launched in 2015, as a **one-stop solution providing an array of employment and career-related services**.
- It works towards bridging the gap between candidates and employers; candidates seeking training and career guidance and agencies providing training and career counselling.
- NCS portal has a **job fair module** to streamline the process of job fair activity on a single online platform by engaging all stakeholders. It is also supported by a **dedicated helpline (multi-lingual)** for assisting users.

#### **Ensuring Quality Education for All**

- "**Quality Education**" which is enlisted as **Goal 4 under UN SDGs (SDG4)**, aims to "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030.
- This goal is of critical importance because of the **transformative effects that it can have on most other SDGs**, such as "no poverty", "zero hunger", "gender equality" etc.
- It is in this context that the **National Education Policy (NEP) 2020** was laid down to address the many growing developmental imperatives of the country. The NEP provides for nurturing all-around development and skill acquisition by youth in an inclusive, accessible, and multilingual set-up.
- As part of the **whole-of-ecosystem approach**, the Union Government launched **Samagra Shiksha** in 2018 as an **overarching programme for the school education**

**sector** extending from **pre-school to class XII** with an aim to ensure inclusive and equitable quality education at all levels of school education.

#### **School Enrolment:**

- The year FY22 saw **improvement in Gross Enrolment Ratios (GER)** in schools and **improvement in gender parity**.
- GER in the **primary-enrolment in class I to V** as a percentage of the population in age 6 to 10 years - **for girls as well as boys have improved** in FY22. GER in **Upper Primary** (enrolment in **class VI to VIII** as a per cent of the population in age 11-13 years), which was stagnant between FY17 and FY19, **improved** in FY22.
- In corresponding age groups in Primary and Upper-Primary levels, **girls' GER is better than boys**.

#### **School Infrastructure:**

- The **basic infrastructure facilities** in schools – both in terms of the number of recognised schools and teachers' availability reflected in the Pupil-Teacher Ratio, showed an **improvement** in FY22.
- **Priority to drinking water and sanitation** in schools under **Samagra Shiksha Scheme** as well as **Swachh Bharat Mission** have been instrumental in providing required resources and creating these assets in schools.
- Under the **Information & Communication Technology (ICT) component of the Samagra Shiksha Scheme**, the Government supports the establishment of **smart classrooms, and ICT labs** in schools, including support for hardware, educational software, and e-content for teaching.
- Further, the availability of teachers, measured by **pupil-teacher ratio**, an indicator which is **inversely related to improvement in quality of education**, has **improved at all levels continuously** from FY13 to FY22: from 34.0 to 26.2 at Primary, 23.0 to 19.6 at Upper Primary, 30.0 to 17.6 at Secondary, and 39.0 to 27.1 at the Higher Secondary level.

#### **PM Schools for Rising India:**

- The Government launched a **Centrally Sponsored Scheme (CSS)** called **PM Schools for Rising India (PM SHRI)** in 2022. These schools will be **equipped with modern infrastructure and showcase the implementation of the NEP** and emerge as **exemplary schools** over a period of time, while offering **leadership to other schools** in the neighbourhood.
- Under the scheme, there is a provision for setting up **more than 14,500 PM SHRI Schools**, over the period **FY23 to FY27** by strengthening the existing schools from those managed by Central Government/State/UT Government/local bodies.
- They shall also be developed as **green schools** with water conservation, waste recycling, energy-efficient infrastructure and integration of organic lifestyle in curriculum.

#### **The National Curriculum Framework (NCF) for Foundational Stage:**

- NCF for Foundational Stage has been launched as the **new 5+3+3+4 curricular structure** which **integrates early childhood care and education for all children of ages 3 to 8**.
- As articulated in NEP 2020, the NCF uses '**play**,' at the core of the conceptual, operational, and transactional approaches to curriculum organisation, pedagogy, time and content organisation, and the overall experience of the child.
- It will deal with the **role of teachers as well as parents and communities** in enabling and enhancing the developmental outcomes that are sought during this stage.

### **Vidyanjali (A School Volunteer Initiative):**

- With the aim of **strengthening schools and improving the quality of school education through community, Corporate Social Responsibility (CSR) and private sector involvement** across the country, the Government has initiated Vidyanjali (a **school volunteer management program**).
- The **Vidyanjali portal** (<https://vidyanjali.education.gov.in/en>) enables community and volunteers/organisations to interact and connect directly with the Government and Government aided schools of their choice and share their knowledge and skills and/or contribute in the form of assets/material/equipment to meet the requirement of the schools.

### **Equipping the Workforce with Employable Skills and Knowledge in Mission Mode**

- In order to address the incremental manpower requirement and to empower youth with adequate skills, the **Ministry of Skill Development and Entrepreneurship (MSDE)** was created in 2014 and **Skill India Mission** was launched in 2015.

### **Skill India Mission:**

- The Skill Indian Mission focuses on **skilling, re-skilling and up-skilling** through **short term and long term training programmes**.
- Under the Mission, the government, through more than 20 Central Ministries/Departments, is implementing various skill development schemes across the country. The schemes under the mission are as follows:

#### **1. Pradhan Mantri Kaushal Vikas Yojana (PMKVY):**

- PMKVY was first launched in 2015. PMKVY has **two training components**, viz., **Short Term Training (STT)** and **Recognition of Prior Learning (RPL)**.
- Pradhan Mantri Kaushal Kendras, set up at District level, are envisaged as state of the art, visible and aspirational model training Centres.

#### **2. Jan Shikshan Sansthan Scheme:**

- Under the scheme, a lump sum annual grant is released to Jan Shikshan Sansthans (NGOs) for **skill training to non-literate, neo-literates, persons with a rudimentary level of education and school dropouts up to class XII in the age group of 15-45 years**.
- The **priority groups** are **women, SC, ST, and other backward sections** of society.

#### **3. National Apprenticeship Promotion Scheme:**

- NAPS was launched in 2016 by the Government of India to **promote the Apprenticeship** in the country by providing financial incentives, technology and advocacy support.
- It provides financial support to industrial establishments undertaking apprenticeship programmes under the Apprentices Act, 1961.

#### **4. Skill Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP):**

- It is a **World Bank loan-assisted programme** launched in 2018 to **decentralise skilling initiatives** and align skill development programmes with local demand and aspirations of the youth.

### **Quality and Affordable Health for All**

- Under the **National Health Mission**, the Government has made concerted efforts to engage with all relevant sectors and stakeholders to move in the direction of achieving universal health coverage and delivering quality healthcare services to all at affordable cost.
- The results of an effective health approach are visible in the improvement in some of the important health-related indicators.



Table VI.17: Improvement in health-related Indicators

	NFHS-4 (2015-16)	NFHS-5 (2019-21)
Households with any usual member covered under a health insurance/ financing scheme (per cent)	28.7	41.0
Total fertility rate (children per woman)	2.2	2.0
Current Use of Family Planning Method- Any Method (per cent)	53.5	66.7
Mothers who had at least 4 antenatal care visits (per cent)	51.2	58.1
Institutional births (per cent)	78.9	88.6
Neonatal mortality rate (per 1000 live births)	29.5	24.9
Infant mortality rate (per 1000 live births)	40.7	35.2
Under-five mortality rate (per 1000 live births)	49.7	41.9
Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall (per cent)	62.0	76.4
Children under age 6 months exclusively breastfed (per cent)	54.9	63.7
Children under 5 years who are stunted (height-for-age) (per cent)	38.4	35.5
Children under 5 years who are wasted (weight-for-height) (per cent)	21.0	19.3
Children under 5 years who are underweight (weight-for-age) (per cent)	35.8	32.1
Children under 5 years who are overweight (weight-for-height) (per cent)	2.1	3.4
Women who are overweight or obese (BMI $\geq$ 25.0 kg/m <sup>2</sup> ) (per cent)	20.6	24.0
Men who are overweight or obese (BMI $\geq$ 25.0 kg/m <sup>2</sup> ) (per cent)	18.9	22.9
Women age 15-24 years who use hygienic methods of protection during their menstrual period (per cent)	57.6	77.3

- With concerted efforts made under the **Reproductive, Maternal, New-born, Child, Adolescent Health Plus Nutrition (RMNCAH+N) strategy**, India has made considerable progress in improving the health status of both mothers and children.
- As per the Sample Registration System (SRS) data, India has successfully achieved the major milestone to bring the **Maternal Mortality Ratio (MMR) to below 100 per lakh live births by 2020** (laid down in National Health Policy 2017) by bringing it down to **97 per lakh live births** in 2018-20 from 130 per lakh live births in 2014-16.
- **Eight states have already achieved the SDG target to reduce MMR to less than 70 per lakh live births by 2030.** These include Kerala (19), Maharashtra (33), Telangana (43) Andhra Pradesh (45), Tamil Nadu (54), Jharkhand (56), Gujarat (57), and Karnataka (69).

Table VI.18: Trends in Mortality indicators

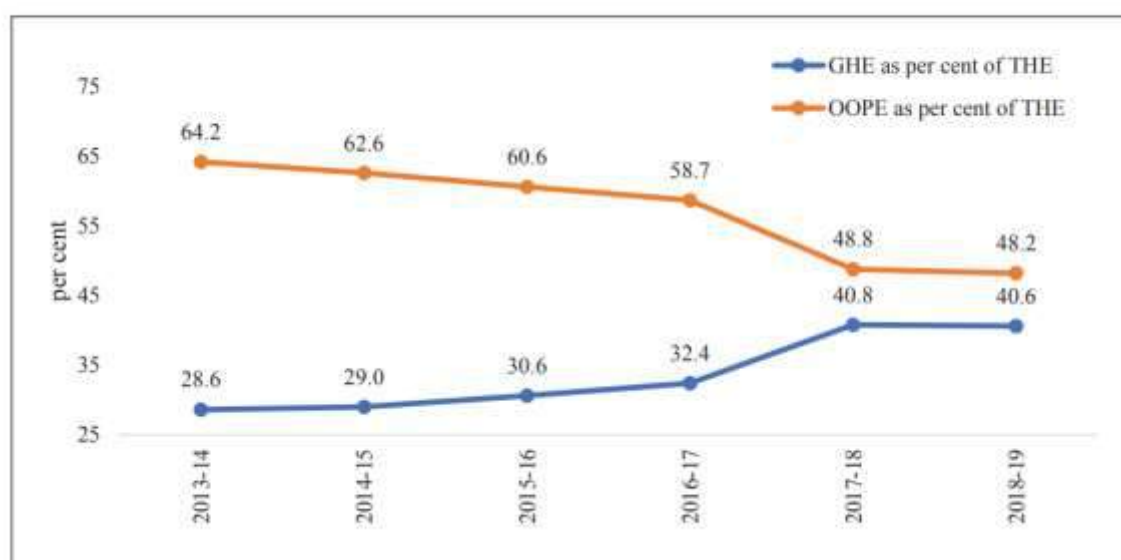
	2014	2016	2018	2020
Maternal Mortality Ratio (per lakh live births)	167	130	113	97
	(2011-13)	(2014-16)	(2016-18)	(2018-20)
Infant Mortality Rate (per 1000 live births)	39	34	32	28
Neonatal Mortality Rate (per 1000 live births)	26	24	23	20
Under 5 Mortality Rate (per 1000 live births)	45	39	36	32
Early Neonatal Mortality Rate – 0- 7 days (per 1000 live births)	20	18	18	15

### Health Expenditure Estimates:

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- The **National Health Account (NHA)** estimates show that there has been an **increase in the share of Government Health Expenditure (GHE) in the total GDP** from 1.2 per cent in FY14 to **1.3 per cent in FY19**.
- Additionally, the **share of GHE in Total Health Expenditure (THE)** has also **increased over time**, standing at **40.6 per cent** in FY19, substantially higher than 28.6 per cent in FY14.
- Of the GHE, the **Union Government's share is 34.3 per cent and the State Governments' share is 65.7 per cent**.
- Aligning with the focus on providing healthcare services to all, which comprises one of the policy recommendations of the **National Health Policy 2017**, the Government is focusing on **primary healthcare expenditure** which has increased from 51.1 per cent in FY14 to **55.2 per cent in FY19**. This not only ensures quality services at the grassroot level but also reduces the chances of ailments requiring secondary or tertiary healthcare services.
- Due to several such steps, **Out-of-Pocket Expenditure (OOPE) as a percentage of THE** has **declined substantially** from 64.2 per cent in FY14 to **48.2 per cent in FY19**.

**Figure VI.16: Government Health Expenditure (GHE) and Out of Pocket Expenditure (OOPE) as per cent of Total Health Expenditure (THE)**



### Progress under Major Government Initiatives for Health

#### **Immunisation:**

- Under **Universal Immunisation Programme (UIP)**, immunisation is being provided **free of cost against 12 vaccine-preventable diseases: Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, a severe form of Childhood Tuberculosis, Rotavirus diarrhoea, Hepatitis B, etc.**
- To reinforce universal immunisation, **Mission Indradhanush (MI)** was launched in 2014 with the aim to **rapidly increase full immunisation coverage of children to 90 per cent and sustain it thereafter**. The drive **focuses on unvaccinated and partially vaccinated children**.
- **Intensified MI** was then launched in 2017 in **identified 190 districts/urban areas**. In FY23, **Intensified MI 4.0** was conducted in 416 districts across 32 states/UTs, to cover children and pregnant women who missed routine immunisation during the Covid-19 pandemic.

- **NFHS-5** shows a **14.4 per cent increase in Full Immunisation Coverage (FIC)** from NFHS-4 and an increase in the percentage of FIC in 30 states/UTs.

#### **eSanjeevani:**

- eSanjeevani is an innovative, indigenous, cost-effective, and integrated cloud-based telemedicine system application to enable **patient-to-doctor teleconsultation** to ensure a continuum of care and facilitate health services to all citizens in the confines of their homes, free of cost.
- This innovative solution has served over 9.3 crore patients across the country and is currently serving around 4 lakh patients daily.
- eSanjeevani has evolved into the **world's largest outpatient services system**.

#### **Ayushman Bharat Pradhan Mantri – Jan Arogya Yojana (AB PM-JAY):**

- AB PM-JAY is the **world's largest health insurance scheme** that intends to **minimise the out-of-pocket expenditure (OOPE)** of the target beneficiaries arising due to expenditure on healthcare.
- The scheme provides **health cover of Rs 5 lakh per family per year for secondary and tertiary care hospitalisation** to over **10.7 crore poor and vulnerable families (approximately 50 crore beneficiaries)** that form the bottom 40 per cent of the Indian population identified based on the **deprivation and occupational criteria of the SECC 2011** and other State schemes.

#### **Ayushman Bharat – Health and Wellness Centres (AB-HWCs):**

- Under the scheme, **1.5 lakh AB-HWCs** were envisaged to be established by **upgrading the SHCs and PHCs in rural and urban areas** which will **ensure comprehensive primary health care** closer to the community.
- These AB-HWCs provide Comprehensive Primary Health Care, by expanding and strengthening the existing Reproductive & Child Health services and Communicable Diseases services and by including services related to Non- Communicable Diseases such as hypertension, diabetes and 3 common cancers, viz. Oral, Breast and Cervix.

#### **Ayushman Bharat Digital Mission (ABDM):**

- The Mission aims at creating a secure online platform based on open, interoperable digital standards. This will enable **access and exchange of health records of citizens** with their consent through Services such as the **issuance of Health ID, Healthcare Professionals Registry, Health Facility Registry and Health Records**.
- This will boost the adoption of digital technologies in healthcare, thereby making quality healthcare more accessible and affordable.

#### **Social Protection for the Rainy Day**

- It is important to protect citizens from risks posed by rainy days, such as health issues, natural disasters, old age, etc.

#### **Pradhan Mantri Vaya Vandana Yojana (PMVVY):**

- PMVVY is offered by the **Life Insurance Corporation of India** and supported by the Government of India, to provide **senior citizens of age 60 years or more an assured minimum pension for a term of 10 years**, linked to the price at which they purchase the pension policy.

#### **Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJY):**

- The Scheme is available to people in the **age group of 18 to 50 years** and provides **risk coverage of Rs 2 lakh in case of death** of the insured, due to any reason, at an **annual premium of Rs 436/.**

#### **Pradhan Mantri Suraksha Bima Yojana (PMSBY):**

- The Scheme is available to people in the **age group 18 to 70 years** providing a **risk coverage of Rs 2 lakh in case of accidental death or total permanent disability**

and **Rs 1 lakh for partial permanent disability** due to accident at a **premium of Rs 20 per annum**.

**Pradhan Mantri Shram Yogi Maan-Dhan Yojana (PM-SYMDY):**

- Launched in 2019, the PM-SYMDY is a **voluntary and contributory pension scheme** for providing a **monthly minimum assured pension of `3,000 upon attaining the age of 60 years**.
- The **workers in the age group of 18 to 40 years** having a **monthly income of Rs 15,000 or less** and **not a member of EPFO/ ESIC/ NPS (Govt. funded)** can join the scheme.

**PM Street Vendor's Atmanirbhar Nidhi Scheme (PM SVANidhi):**

- This is a **Central Sector Scheme** launched in 2020, to empower street vendors by extending **working capital loans of up to Rs 10,000 with a one-year tenure** and free onboarding of beneficiaries on digital payment platforms.
- Beneficiaries are also eligible for the second tranche of loan up to Rs 20,000 with 18 months tenure after timely repayment of the first tranche.

**Pradhan Mantri Mudra Yojana (PMMY):**

- To provide loans on **easier terms for income generating activities**, the Pradhan Mantri Mudra Yojana (PMMY) was launched in 2015 to **grant loans of up to Rs 10 lakh** for income-generating manufacturing, trading, and service sectors, including activities allied to agriculture such as poultry, dairy, beekeeping, etc.
- Loans are extended through **Member Lending Institutions (MLIs)** viz; Banks, Non-Banking Financial Companies (NBFCs) and Micro Finance Institutions (MFIs).
- The salient features of the Scheme are:
  - MUDRA has created **three products** namely '**Shishu**' (loans up to Rs 50,000/-), '**Kishore**' (loans above Rs 50,000/ and up to Rs 5 lakh) and '**Tarun**' (loans above Rs 5 lakh and up to Rs 10 lakh);
  - There is **no insistence on collateral(s)** during sanction of loan;
  - A **Credit Guarantee Fund for Micro Units (CGFMU)** was set up for guaranteeing loans extended to eligible micro units under PMMY by MLIs;

**Development of India's Aspiring Rural Economy**

- The **percentage of the population living in India's rural areas** was as high as around 80 per cent in the 1960s and remained over 70 per cent till 2007. It presently stands at **65 per cent for 2021**. Further, **47 per cent of the population is dependent on agriculture** for livelihood.

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

- NRLM aims to **enable economically weak households to access gainful self-employment and skilled wage employment opportunities** resulting in sustainable and diversified livelihood options for them.
- The Mission seeks to achieve its objective through investing in **four core components** viz., (a) social mobilisation and promotion and strengthening of self-managed and financially sustainable community institutions of the rural poor women; (b) financial inclusion; (c) sustainable livelihoods; and (d) social inclusion, social development, and access to entitlements through convergence.

**Mahatma Gandhi National Rural Employment Guarantee Scheme:**

- The Mahatma Gandhi National Rural Employment Guarantee Act 2005 (MGNREGA) aims at enhancing the livelihood security of households in rural areas of the country by providing **at least 100 days of guaranteed wage employment** in a financial year to every household whose adult members volunteer to do unskilled manual work.



- In case employment is not provided within 15 days from the date of registration of the demand for work or the date from which work has been demanded in case of advance applications, whichever is later, the worker is entitled to a **daily unemployment allowance**.

#### **Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY):**

- DDU-GKY is a **placement-linked skill development programme for rural poor youth** under the NRLM.
- It is a **market-led, placement-linked skill development programme** for providing wage employment to rural poor youth.

#### **Rural Housing:**

- **“Housing for All by 2022”** was rolled out to provide shelter with dignity for each and every one. With this target, the **Pradhan Mantri Awaas Yojana –Gramin (PMAY-G)** was launched in 2016 with the aim of providing around 3 crore pucca houses with basic amenities to all eligible houseless households living in kutcha and dilapidated houses in rural areas by 2024.
- The PMAY-G also addresses **basic needs** such as the construction of the toilet, piped drinking water, electricity connection, LPG gas connection, etc.
- PMAY-G selects beneficiaries using **housing deprivation parameters in the SECC, 2011** data which is to be **verified by the Gram Sabhas**.

#### **Drinking Water and Sanitation:**

- The **UN-SDG** aims to **“Ensure availability and sustainable management of water and sanitation for all.”**

#### **Jal Jeevan Mission:**

- In 2019, the Jal Jeevan Mission (JJM) was announced to provide **tap water connection to every rural household and public institutions in villages** like schools, Anganwadi centres, ashram shalas (tribal residential schools), health centres, Gram Panchayat building, etc., by 2024. 6.114
- At the time of the rollout of the JJM in August 2019, about 3.2 crore (17 per cent) households out of the total of 18.9 crore rural households had a tap water supply. Since the launch of the Mission, as of 18 January 2023, of 19.4 crore rural households, 11.0 crore households are getting tap water supply in their homes.
- Further, **four States**, i.e., Goa, Gujarat, Telangana & Haryana, and three UTs, i.e., Andaman & Nicobar Islands, Dadra Nagar Haveli & Daman Diu and Puducherry have become **‘Har Ghar Jal’ State/ UT**, i.e., 100 per cent households are having tap water supply.

#### **Mission Amrit Sarovar:**

- Mission Amrit Sarovar was launched in 2022 with the objective to **conserve water for the future**. The Mission is aimed at **developing and rejuvenating 75 water bodies in each district** of the country.

#### **Swachh Bharat Mission (Grameen) (SBM(G)):**

- SBM(G) was launched in 2014 to **ensure cleanliness in India and make it Open Defecation Free (ODF)**. Having achieved the ODF status in all villages in the country as of 2 October 2019, **Phase-II of SBM (G)** is now being implemented during FY21 to FY25, with the focus to **sustain the ODF status** of villages and covering all the villages with **Solid and Liquid Waste Management**, i.e., to convert the villages from **ODF to ODF Plus**.

#### **Pradhan Mantri Ujjwala Yojana (PMUY)**



- PMUY was launched in 2016 as a flagship scheme to **make clean cooking fuel such as LPG available to rural and deprived households** which were otherwise using traditional cooking fuels such as firewood, coal, cow-dung cakes, etc.
- Under the Union Budget for FY22, provision for the release of an additional one crore LPG connections under the PMUY scheme, i.e., **Ujjwala 2.0**, has been made. This scheme will offer **deposit-free LPG connection, first refill and hot plate free of cost** to beneficiaries, and a simplified enrolment procedure.

#### **Pradhan Mantri Gram Sadak Yojana (PMGSY):**

- The objective of PMGSY is to provide **single all-weather road connectivity to all eligible unconnected habitations of the designated population size** (500+ in plain areas, 250+ in North-Eastern and Himalayan States) in **rural areas** of the country.
- The programme also has an **upgradation component** for those districts, where all the eligible habitations of the designated population size have been provided all-weather road connectivity.
- The programme has been launched in three phases with the **latest third phase** having been launched in 2019 for consolidation of 1,25,000 km through routes and major rural links connecting habitations, inter-alia, to Gramin Agricultural Markets, higher secondary schools, and hospitals.
- Various independent impact evaluation studies were carried out on PMGSY, which have concluded that the scheme has had a **positive impact on agriculture, health, education, urbanization, employment generation, etc.**

#### **SAUBHAGYA - Pradhan Mantri Sahaj Bijli Har Ghar Yojana:**

- The government launched the Pradhan Mantri Sahaj Bijli Har Ghar Yojana – Saubhagya in 2017 with the objective to **achieve universal household electrification** by providing **electricity connections to all willing un-electrified households in rural areas and all willing poor households in urban areas** in the country by 2019.
- The connections were given **free for economically poor households** and for **others Rs 500 was charged** after the release of the connection in 10 installments. The Saubhagya scheme was successfully completed and **closed** on 31 March 2022.

#### **Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY):**

- This scheme was launched in 2014 with the objective to **improve the quality and reliability of power supply in rural areas**.
- It envisaged the **creation of basic electricity infrastructure** in villages/habitations, strengthening & augmentation of existing infrastructure, and **metering** of existing feeders/distribution transformers/consumers to improve the quality and reliability of power supply in rural areas.

#### **Rashtriya Gram Swaraj Abhiyan (RGSA):**

- RGSA was approved in 2018 with the primary aim of **strengthening Panchayati Raj Institutions (PRIs) for achieving SDG's** with the main thrust on convergence with Mission Antyodaya and emphasis on strengthening PRI's in the 117 Aspirational Districts.
- The scheme **extends to all states and UTs including non-Part IX of the Constitution of India areas where Panchayats do not exist**.
- The major focus of the scheme of RGSA was **Capacity Building and Training (CB&T)** to empower PRIs and to prepare **convergent plans** at the respective level of Panchayats.

#### **SVAMITVA Scheme:**

- SVAMITVA (Survey of Villages and Mapping with Improvised Technology in Village Areas) is a **Central Sector Scheme** launched in 2020.
- The scheme aims to **provide the 'Record of Rights'** to village household owners possessing houses in inhabited rural areas.
- The scheme covers multifarious aspects viz. facilitating monetization of properties and enabling bank loans; reducing property-related disputes; comprehensive village level planning, which would be the stepping-stone towards achieving Gram Swaraj in the true sense and making rural India Atmanirbhar.
- The scheme aims to create **accurate land records** for rural planning and reducing property-related disputes.

### Conclusion

- As India marches ahead, the ground lost as regards social sector improvements due to the pandemic, has largely been recouped, powered by prompt policymaking and efficient implementation interwoven with technology.
- Going forward with the vision of '**Minimum Government; Maximum Governance**', further developments will hold the key to attaining more equitable economic growth.

## **CHAPTER 07 - CLIMATE CHANGE AND ENVIRONMENT: PREPARING TO FACE THE FUTURE**

### **Introduction**

- Climate change is the **long-term change in temperature and weather patterns** that can occur due to **natural reasons**, but since the beginning of the **industrial revolution** in the 19th century, it has been **predominantly due to anthropogenic activities**.
- **Greenhouse gas (GHG) emissions** remain in the atmosphere for tens to hundreds of years, trapping the sun's heat from escaping. While within limits, these **make our earth more habitable**, the enhanced emissions have led to rising temperatures with the **potential to bring about sea level rise, change monsoon cycles and impact land systems**.
- It is estimated that **by 2030, about 700 million people worldwide will be at risk of displacement by drought alone** (U.N. SDG Portal).

### **Burden on Developing Countries**

- The **share of developing countries in the stock of GHGs** (usually measured as carbon dioxide equivalent) has been **minimal compared to developed countries**.
- This is corroborated by the **Inter-Governmental Panel on Climate Change (IPCC)**, which highlights that the challenges faced due to global warming are mainly due to cumulative historical and current GHG emissions of developed countries.
- The **IPCC's Sixth Assessment Report (AR6)** notes that **high human vulnerability global hotspots** are found particularly in **West, Central & East Africa, South Asia, Central, and South America, Small Island Developing States, and the Arctic**. Further, **Asia is most vulnerable to climate change**, especially to extreme heat, flooding, sea level rise, and erratic rainfall.
- Ironically, the **burden of adaptation is highest for those who have contributed the least to global warming**.
- **Nobel Laureate Thomas Schelling** (2005) argued that the **most effective way to combat climate change was to let nations grow first**.

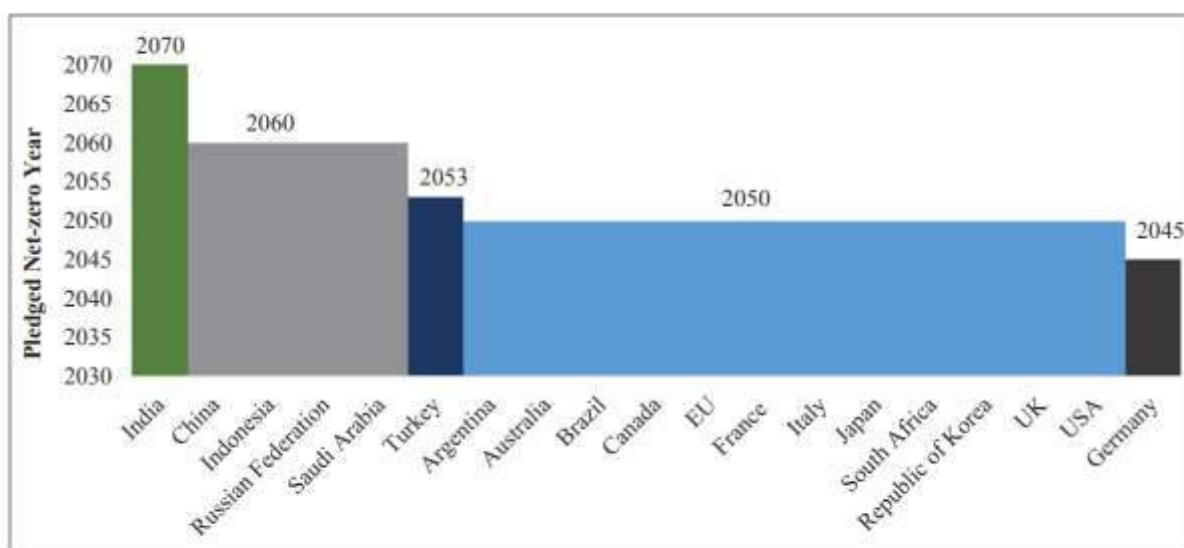
### **Scenario in India**

- **India**, considered to be **one of the most vulnerable countries** given its long coastline, monsoon-dependent agriculture, and large agrarian economy, is **one of the leading examples of climate action**.
- It has **contributed only 4 per cent (until 2019) to the cumulative global emissions** and its **per capita emission is far less than the world average**.
- The fact that climate change is a global phenomenon and requires **collective efforts** has been widely accepted and is the basis of the commitments in the **United Nations Framework Convention on Climate Change (UNFCCC)** and its **Paris Agreement**.
- Recognising the differentiated responsibility of countries (in view of their role in GHG emissions) and the higher developmental needs of the developing countries, they call for a collective action based on the principles of **equity and Common But Differentiated Responsibility and Respective Capabilities (CBDR-RC)**.
- The collective action has translated into **Nationally determined contributions (NDCs)** - through which each country has made a commitment to work towards a **collective goal of keeping temperature rise to below 2° C above pre-industrial levels**.

### Progress on India's Climate Action

- Action on addressing climate action was initiated in India even before the Paris Agreement came into being.
- In **2008**, India launched the **National Action Plan on Climate Change (NAPCC)**, establishing **eight National Missions**, covering several initiatives and a slew of measures in the area of solar, water, energy efficiency, forests, sustainable habitat, sustainable agriculture, sustaining Himalayan ecosystem, capacity building and research and development (R&D).
- **National Adaptation Fund for Climate Change (NAFCC)**, a central sector scheme, was initiated in **2015-16** to **support adaptation activities in the States and Union Territories (UTs) of India that are vulnerable to the adverse effects of climate change**. NAFCC supports adaptation action in agriculture, water, forestry, livestock, and restoring ecosystems.
- Demonstrating higher ambition in its climate action, the Government of India submitted its **updated Nationally determined contributions (NDCs)** in 2022. It includes:
  - To **reduce the Emissions Intensity of its GDP by 45 per cent by 2030**, from the 2005 level.
  - To achieve about **50 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030**.
  - To increase India's **non-fossil fuel power capacity to 500 gigawatts (GW)** by the end of the decade.
  - To create an **additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> equivalent** through additional forest and tree cover by 2030.
  - To achieve the **target of net-zero emissions by 2070**.

**Figure VII.1: Net Zero Pledges of countries (the Year pledged is on top of the bars)**



Source: Emissions Gap Report 2022, UNEP

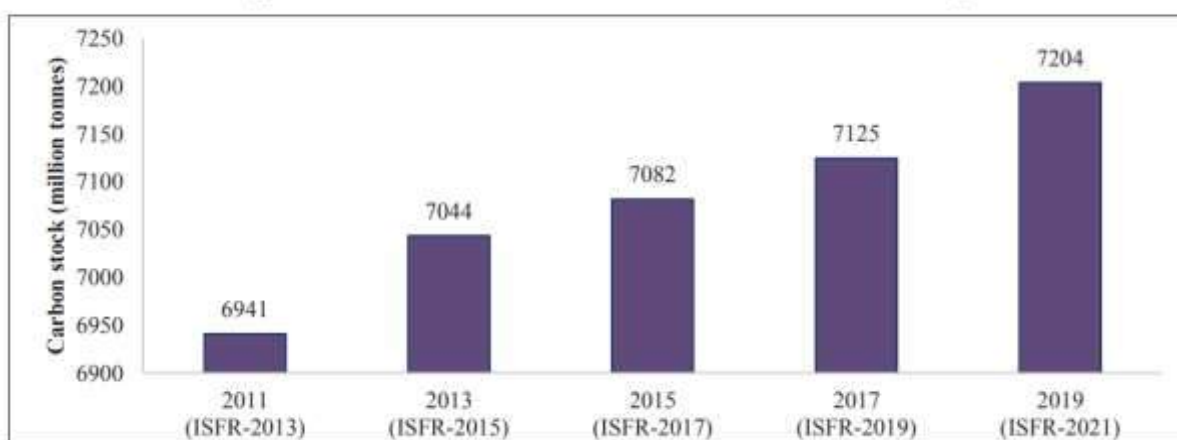
### **Status of Forest and Tree Cover:**

- The forest and tree cover in India has shown a **gradual and steady trend of increase** in the last one and a half decades.
- The **country ranks third globally** with respect to the **net gain in average annual forest area between 2010 and 2020**.

### **Carbon Stock in India's Forest and Tree Cover:**

- A robust forest ecosystem is a **vital sink of carbon**.
- The **Indian State of Forest Report (ISFR)**, released by **Forest Survey of India (FSI)**, estimates the **carbon stock of forests** (which is the **amount of carbon sequestered** from the atmosphere and stored in biomass, deadwood, soil, and litter in the forest) **to be about 7,204 million tonnes** in 2019, which is an increase of 79.4 million tonnes of carbon stock as compared to the estimates of the previous assessment for 2017.
- Among the Indian States, **Arunachal Pradesh** has the maximum carbon stock in forests (1023.84 million tonnes), followed by **Madhya Pradesh** (609.25 million tonnes). The **per-hectare forest carbon stock** among different States/UTs indicates that **Jammu & Kashmir** is contributing the maximum per-hectare carbon stock of 173.41 tonnes, followed by **Himachal Pradesh** (167.0 tonnes), **Sikkim** (166.2 tonnes) and **Andaman & Nicobar Islands** (162.9 tonnes).

**Figure VII.3: Carbon stock in forests in India has been rising**



### **Preservation of Ecosystems:**

- Ecosystems play an important role in carbon storage, protect the coastal areas, and enhance water quality besides other services, such as cultural, spiritual or tourist attractions.
- **Wetlands** are **natural buffers against floods, droughts, and tropical cyclones**. Wetlands can act as **sponges**, storing peak rainfall and releasing water gradually during the lean season. The **floods in Kashmir Valley** in September 2014 and **Chennai city** in December 2015 are reminders of the ways wetland destruction can make lives vulnerable.
- The **Ramsar Convention**, signed on February 2, 1971, is one of the oldest inter-governmental accords signed by member countries to preserve the ecological character of their wetlands of international importance. Wetlands declared as Ramsar sites are **protected**. India has **75 Ramsar sites** covering an area of 13.3 lakh ha.
- **Mangroves and coastal wetlands** form the **first line of defence for coastal communities** against increased storm surges, flooding, and hurricanes.
- The Government has taken both **regulatory and promotional measures** to protect and conserve mangroves. The **National Coastal Mission Programme on 'Conservation and Management of Mangroves and Coral Reefs'** is being implemented.
- **Regulatory measures** are implemented through Coastal Regulation Zone (CRZ) Notification (2019) under the Environment (Protection) Act, 1986; the Wild Life (Protection) Act, 1972; the Indian Forest Act, 1927; the Biological Diversity Act, 2002; and rules under these acts as amended from time to time.

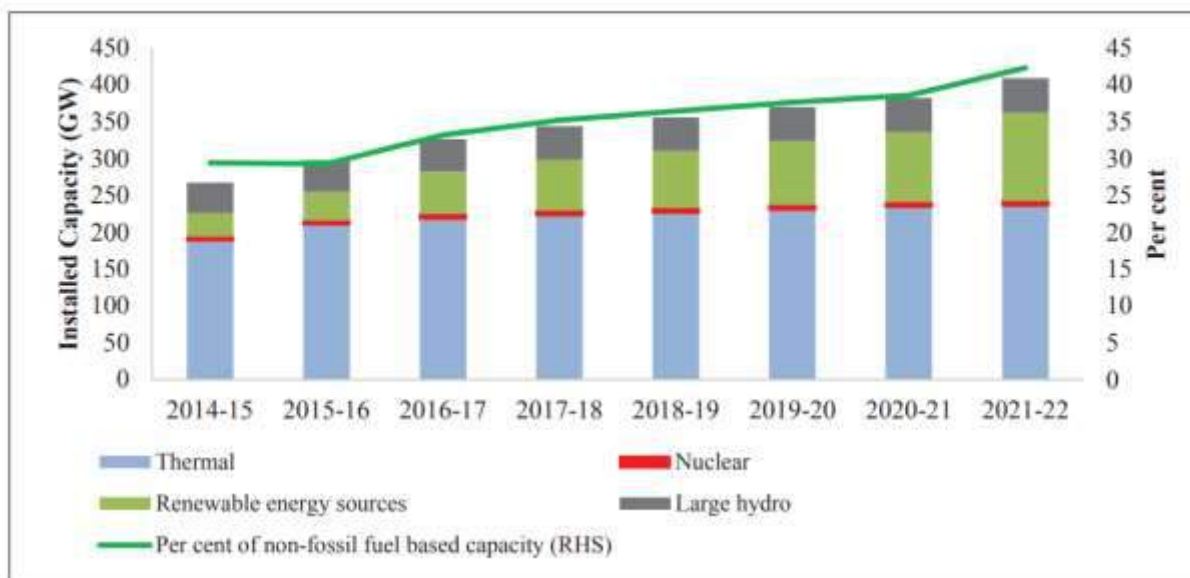


- As per the **ISFR 2021**, the **mangrove cover in the country has increased by 364 sq. km.** in 2021 as compared to 2013.

#### Approach to Transition to Renewable Energy Sources:

- India is now striving to **achieve the target of 50 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030**, in line with updated NDCs.

**Figure VII.5: Increasing installed Electricity Generation Capacity with a rising share of non-fossil fuel-based capacity**



- India is progressively becoming a **favoured destination for investment in renewables**. As per the **Renewables 2022 Global Status Report**, during the period 2014 -2021, total investment in renewables stood at US\$ 78.1 billion in India.

#### Green Hydrogen:

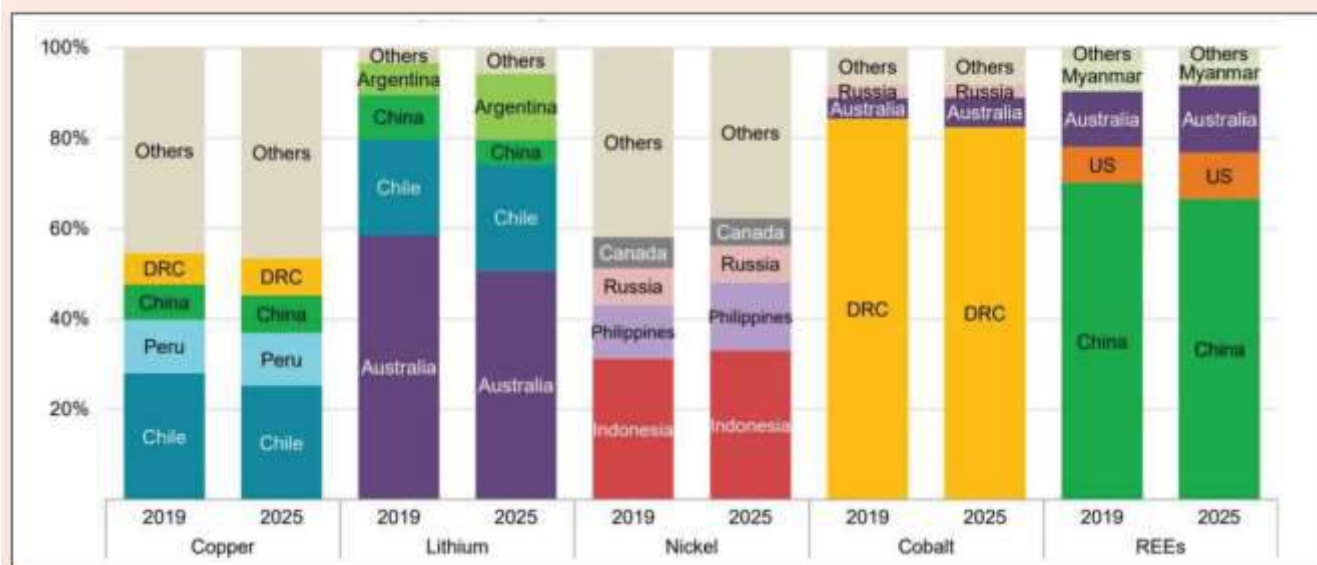
- From the emerging global momentum on green hydrogen, India can situate this decarbonisation opportunity not just within the context of a **low-carbon economy** but also as an **enabler of energy security and economic development** for the nation.
- The Government approved the **National Green Hydrogen Mission** with an initial outlay of ₹19,744 crore. The Mission will facilitate demand creation, production, utilisation and export of Green Hydrogen and mobilisation of over ₹8 lakh crore of investment by 2030.

#### Critical Minerals - Key to Green Transition:

- The shift to a clean energy system is set to drive a **huge increase in the requirements for critical minerals**.
- Cobalt, copper, lithium, nickel, and rare earth elements (REEs)** are critical for producing electric vehicles and batteries and harnessing solar power and wind energy. Solar photovoltaic (PV) plants, wind farms and electric vehicles (EVs) generally require **more minerals than their fossil fuel-based counterparts**.
- The types of mineral resources used vary by technology. **Lithium, nickel, cobalt, manganese and graphite** are crucial to **battery performance, longevity and energy density**. **REEs** are essential for **permanent magnets** that are vital for wind turbines and EV motors.
- Electricity networks** need a huge amount of **copper and aluminium**, with **copper being a cornerstone** for all electricity-related technologies.

- The **global supply chain** of the critical minerals is **highly concentrated and unevenly distributed**. The skewed distribution of the resource poses a **supply risk** in the face of its enhanced demand.

**Figure VII.11: Concentration of production of selected minerals in 2019 and 2025**



- A carefully crafted **multi-dimensional mineral policy** would reduce our dependence and address the problems for the future. The country has **resources of nickel, cobalt, molybdenum, and heavy REEs**, but **further exploration** would be needed to evaluate the quantities of their reserves.
- There is a need to **create strategic mineral reserves** along the lines of strategic petroleum reserves to ensure a continuous supply of minerals. Also, policies should consider **investing in internal research** including technological innovation for mineral exploration and processing and the **development of Recycling, Reusing, and Repurposing (R3) technologies**.
- In order to ensure the mineral security of the nation and to attain self-reliance in the area of critical and strategic minerals, the Ministry of Mines has created a Joint Venture company, namely **Khanij Bidesh India Ltd (KABIL)**.
- KABIL is **mandated to identify and acquire overseas mineral assets of critical and strategic nature**, such as Lithium, Cobalt etc.

#### **LT-LEDS:**

- India submitted its Long-Term Low Carbon Development Strategy (LT-LEDS) in November 2022, at COP 27.
- The salient features of LT-LEDS are:
  - Focus on the **rational utilisation of national resources** with due regard to energy security.
  - **Rapid expansion of green hydrogen production, increasing electrolyser manufacturing capacity** in the country, and a **three-fold increase in nuclear capacity** by 2032 are some of the other milestones that are envisaged alongside the overall development of the power sector.
  - **Increased use of biofuels**, especially **ethanol blending** in petrol.
  - **Climate-resilient urban development**.

- The LT-LEDS is **driven by the vision of LiFE, Lifestyle for the Environment** that calls for a worldwide paradigm shift from mindless and destructive consumption to mindful and deliberate utilisation.

### Finance for Sustainable Development

- Finance is a critical input in India's climate actions. The country's climate actions have so far been **largely financed from domestic sources**, including government budgetary support, a mix of market mechanisms, fiscal instruments, and policy interventions.

#### **Green Bonds:**

- Green bonds are financial instruments that **generate proceeds for investment in environmentally sustainable and climate-suitable projects**.
- Major countries that resorted to green bonds to raise funds include the UK, France, Germany, the USA, and China. As per SEBI's data on green debt securities, during the period of 2017 to September 2022, 15 Indian corporates have issued green bonds of value ₹4,539 crore.
- The Union Budget 2022-23 announced the issue of **Sovereign Green Bonds**. The issuance of Sovereign Green Bonds will help the government to tap the requisite finance from potential investors for deployment in public sector projects aimed at reducing the carbon intensity of the economy.

### Major Decisions at COP 27

- The COP 27 to the **UNFCCC** was held in November 2022 in **Sharm el-Sheikh, Egypt**. India participated in COP 27, with a focus on mainstreaming the theme of **LiFE - Lifestyle for Environment**. India invited all countries to join the LiFE movement, which is a **pro-people and pro-planet effort** seeking to shift the world from mindless and wasteful consumption to mindful and deliberate utilisation of natural resources.
- After negotiations, it was decided to establish **new funding arrangements for assisting developing countries** that are particularly vulnerable to the adverse effects of climate change in responding to loss and damage, with a focus on **addressing loss and damage**.
- It was also recognised that the **target of US\$ 100 billion per year is yet to be achieved**. The COP 21 decided that, prior to 2025, a **New Collective Quantified Goal (NCQG)** on climate finance from a floor of US\$ 100 billion per year, taking into account the needs and priorities of developing countries, shall be set. To further the agenda of setting the NCQG by 2024, COP 27 decided that **Four Technical Expert Dialogues (TEDs)** will be carried out prior to COP 28.

### COP 15

- The fifteenth meeting of the Conference of Parties (COP 15) to the **Convention on Biological Diversity (CBD)** took place in December 2022 in Montreal, Canada.
- Key outcomes of the COP 15 include:
  - **Effective conservation and management of at least 30 per cent of the world's lands, inland waters, coastal areas, and oceans by 2030 (30×30 target)**. Currently, 17 per cent and 10 per cent of the world's terrestrial and marine areas are under protection.
  - Reduce to **near zero the loss of areas of high biodiversity importance**.
  - **Cut global food waste in half and significantly reduce overconsumption and waste generation**.

- **Reduce by half both excess nutrients and the overall risk posed by pesticides and highly hazardous chemicals.**
- **Progressively phasing out or reforming subsidies that harm biodiversity by 2030 by at least US\$500 billion** per year while scaling up positive incentives for biodiversity's conservation and sustainable use.
- **Mobilise by 2030 at least US\$ 200 billion per year** in domestic and international biodiversity-related funding from all sources – public and private.
- **Raise international financial flows from developed to developing countries**, in particular, least developed countries, small-island developing States, and countries with economies in transition, to **at least US\$ 20 billion per year by 2025** and to **at least US\$ 30 billion per year by 2030**.

### India's Initiatives at the International Stage

#### **International Solar Alliance:**

- The International Solar Alliance (ISA) is a **treaty-based inter-governmental organisation** working to create a global market system to **tap the benefits of solar power and promote clean energy applications**.
- ISA's mission is to **unlock US\$ 1 trillion of investments in solar by 2030** while reducing the cost of the technology and its financing.
- ISA is the **first international intergovernmental organisation to be headquartered in India**.
- The ISA has expanded its coverage to **110 member countries**. It assists them with the adoption of solar energy with the view to improving energy access, ensuring energy security and facilitating the energy transition.

#### **Coalition for Disaster Resilient Infrastructure (CDRI):**

- The CDRI was launched by the Prime Minister of India during the **United Nations Climate Action Summit** in September 2019 in New York.
- It is a **global partnership** of National Governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and academic and knowledge institutions.
- It aims to **promote the resilience of infrastructure systems to climate and disaster risks, thereby ensuring sustainable development**.
- **Thirty-one Countries, six International Organisations and two private sector organisations** have joined as members of CDRI.

#### **Leadership Group for Industry Transition (LeadIT):**

- The LeadIT **gathers countries and companies that are committed to action to achieve the Paris Agreement**.
- It was launched by the **governments of Sweden and India** at the UN Climate Action Summit in September 2019 and is **supported by the World Economic Forum**.
- LeadIT members subscribe to the notion that energy-intensive industries can and must progress on low-carbon pathways, aiming to achieve net-zero carbon emissions.

### Initiatives Related to other Environmental Issues

#### **Ensuring the Conservation of Biodiversity:**

- **India ranks eighth in the world and fourth in Asia among the mega-diverse countries** in the world. It is also rich in fauna, and **nearly 62 per cent of the recorded amphibian species are endemic to India**, which is **majorly found in the Western Ghats**.

- In conformity with the spirit of the CBD, India enacted the **Biological Diversity Act in 2002**.  
The Act mandates the implementation of the objectives of CBD through a **decentralised system** with the **National Biodiversity Authority** at the national level, the **State Biodiversity Boards** at the State level, and **Biodiversity Management Committees** at the local body level.
- Each of these entities is a **statutory and autonomous body** with specific mandates and powers to facilitate the effective implementation of the provisions of the Act and the Rules.

#### **Wildlife - Its Preservation and Protection:**

- India has a rich heritage of wildlife and a long history and tradition of conservation. A comprehensive legislation was enacted in 1972 called the **Wildlife (Protection) Act 1972** to provide special legal protection to our wildlife and the endangered species of fauna.
- India is home to **53 Tiger Reserves** covering approximately 75,796.8 sq. km area in 18 States, with about **75 per cent of the wild tiger population at the global level**.
- India achieved the **goal of doubling the tiger numbers in 2018**, four years before the targeted year 2022. In addition, 17 Tiger Reserves in the country have **Conservation Assured|Tiger Standards (CA|TS) international accreditation**, a worldwide accreditation standard for the conservation of tigers.
- Similarly, the **population of Asiatic Lions has shown a steady increase**, with a population of 674 individuals (2020).
- The current population estimates indicate about 50,000 – 60,000 **Asian elephants** worldwide. **More than 60 per cent of the population is in India**.

#### **WPA Amendment Act, 2022:**

- Targeting further reforms in wildlife conservation, the government has brought in the **Wild Life (Protection) Amendment Act, 2022**. The Act seeks to **increase the number of species protected** under the law and **implement the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**.
- The Wild Life (Protection) Act 1972 has **six schedules**. The amendment Act aims to **rationalise the schedules** by (i) reducing the number of schedules for specially protected animals to two, (ii) removing the schedule for vermin species, and (iii) inserting a new schedule for specimens listed in the Appendices under CITES (scheduled specimens).
- Lastly, the Act empowers the government to regulate or prohibit the import, trade, possession or proliferation of **invasive alien species**.

#### **Project Cheetah:**

- The **introduction of Cheetahs** in India is being done under **Project Cheetah**, the **world's first intercontinental large wild carnivore translocation project**.
- The cheetah was **declared extinct from India in 1952**. Under the scheme, **eight Namibian wild cheetahs** were introduced in **Kuno National Park, Madhya Pradesh**.
- Cheetahs can help **restore open forest and grassland ecosystems** in India. This will help conserve biodiversity and enhance the ecosystem services like water security, carbon sequestration, and soil moisture conservation, benefiting society.

#### **Plastic Waste Management and Elimination of Identified Single-Use Plastics:**

- According to a report on Plastic Waste Management released by the Ministry of Housing and Urban Affairs, the **global average of plastic per capita consumption is 28 kg**, and **India has a per capita plastic consumption of 11 kg**.



- The Ministry of Environment, Forest and Climate Change has notified the **Plastic Waste Management Amendment Rules, 2021**.
- On July 1, 2022, a **ban was imposed on the manufacture, import, stocking, distribution, sale and use of identified single-use plastic items**, which have low utility and high littering potential, all across the country.
- In order to stop littering due to lightweight plastic carry bags, the **permitted thickness of plastic carry bags** has been increased from 50 microns to 75 microns with effect from 30th September 2021 and to **120 microns** with effect from the 31st December, 2022.
- The Ministry of Environment, Forest and Climate Change has notified the **Guidelines on Extended Producer Responsibility (EPR) for plastic packaging** vide **Plastic Waste Management Amendment Rules, 2022**.
- The key highlights of the Guidelines are:
  - **mandatory registration of Producers, Importers, and Brand Owners (PIBOs) and Plastic Waste Processors (PWPs)** through a centralised online portal;
  - **coverage of four categories of plastic packaging** viz. rigid, flexible, multi-layered plastic packaging, and compostable plastic packaging;
  - **clearly defined targets** for EPR;
  - **mandatory targets for reuse** of rigid plastic packaging, **minimum level of recycling** of plastic waste and **use of recycled plastic content** in plastic packaging;
  - **centralised online portal** to support the implementation of EPR;
  - **levy of environmental compensation** for non-fulfilment of EPR obligations.
- The **Plastic Waste Management (Second Amendment) Rules, 2022**, were notified in July 2022. The amendment **aligns the rules with the Guidelines on Extended Producer Responsibility for plastic packaging**.
- The rules mandate that **environmental compensation shall be levied based upon the polluter pays principle**, on persons not complying with the provisions of these rules, as per guidelines notified by the Central Pollution Control Board.

#### **Battery Waste Management:**

- The Government has published the **Battery Waste Management Rules, 2022** to ensure environmentally sound management of waste batteries.
- The rules **cover all types of batteries**, viz. Electric Vehicle batteries, portable batteries, automotive batteries, and industrial batteries.
- The rules function based on the **concept of Extended Producer Responsibility (EPR)**, where the producers (including importers) of batteries are responsible for the collection and recycling/refurbishment of waste batteries and the use of recovered materials from wastes into new batteries.
- EPR mandates that all waste batteries be collected and sent for recycling/refurbishment, prohibiting disposal in landfills and incineration.

#### **E-waste Management:**

- The Government has notified the **E-Waste (Management) Rules, 2022** which will be effective from April 1, 2023.
- These rules will launch a **new Extended Producer Responsibility (EPR) regime** for e-waste recycling.
- The salient feature of new rules are:
  - **Applicable to every manufacturer, producer, refurbisher, dismantler, and recycler who must register with CPCB.**

- No entity shall carry out any business without registration and not deal with any unregistered entity.
- **Management of solar PV modules /panels/ cells** added in new rules.
- Provision for generation and transaction of **EPR Certificate** has been introduced.
- Every producer of Electrical and Electronic Equipment (EEE) and their components shall **ensure that their products do not contain lead, mercury, and other hazardous substances beyond the maximum prescribed concentration.**
- It also provides for **recognition and registration, skill development, monitoring, and ensuring the safety and health of workers** involved in dismantling and recycling e-waste.

### Conclusion

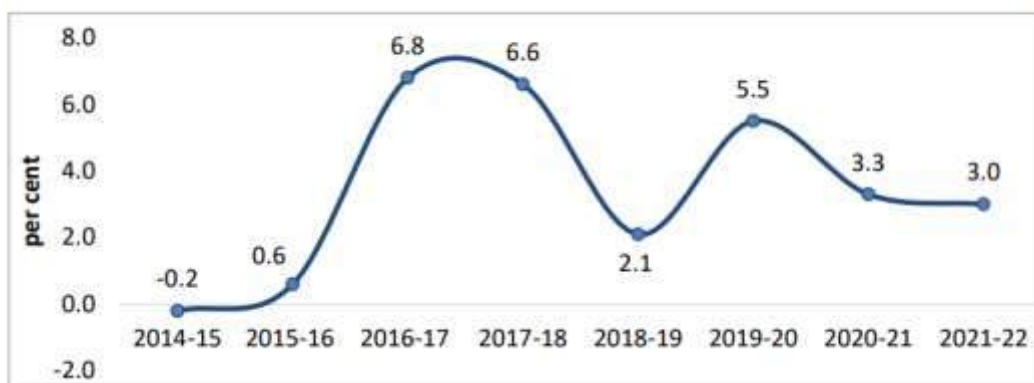
- India is spearheading one of the world's most ambitious clean energy transitions and remains steadfast in its commitment to combating climate change.
- **India's climate ambitions require resources** to be dedicated to the cause of climate change, in addition to, what is needed for the country's development goals. Obligations on climate should be matched with the **on-time availability of climate finance, technology, and inputs like critical minerals**, while not jeopardising the socio-economic development objectives and aspirations.

## CHAPTER 08 - AGRICULTURE AND FOOD MANAGEMENT: FROM FOOD SECURITY TO NUTRITIONAL SECURITY

### Introduction

- The agriculture and allied activities sector has significantly contributed to the country's overall growth and development by ensuring food security.
- The Indian agriculture sector has been **growing at an average annual growth rate of 4.6 per cent** during the last six years. It **grew by 3.0 per cent in 2021-22** compared to 3.3 per cent in 2020-21.

**Figure VIII.1: Despite Covid-19 shock agriculture and allied sector shows resilient growth**



- In recent years, India has also rapidly emerged as the **net exporter of agricultural products**. In 2020-21, exports of agriculture and allied products from India **grew by 18 per cent** over the previous year. During 2021-22, agricultural exports reached an **all-time high of US\$50.2 billion**.

### Record Production of Foodgrains

- The **production of food grains and oil seeds has been increasing** Year-on-Year (YoY).
- As per the First Advance Estimates for 2022-23 (Kharif only), **total food grains production** in the country is estimated at 149.9 million tonnes which is **higher than the average Kharif food grain production** of the previous five years (2016-17 to 2020-21).

### MSP to Ensure Returns Over the Cost of Production

- The **Union Budget for 2018-19** announced that farmers in India would be given an **MSP of at least one and a half times the cost of production**.
- Accordingly, the Government has been **increasing the MSP for Kharif, Rabi and other commercial crops** with a **margin of at least 50 per cent** over the all-India weighted average cost of production since the agricultural year 2018-19.
- Given nutritional requirements and changing dietary patterns and to achieve self-sufficiency in pulses and oilseeds production, the Government has fixed **relatively higher MSP for pulses and oilseeds**.

### Enhanced Access to Agricultural Credit

- Ensuring **hassle-free credit availability at a cheaper rate** to farmers has been the top priority of the Government of India. Accordingly, the **Kisan Credit Card Scheme (KCC)** was introduced in 1998 for farmers to empower them to purchase agricultural products and services on credit at any time.
- With the Government of India **extending the KCC facility to fisheries and animal husbandry farmers** in 2018-19, the number of such cards in the fisheries and animal husbandry sector has also grown.
- To ensure that the farmers pay a minimal interest rate to the banks, the Government of India has introduced the Interest Subvention Scheme (ISS), now renamed **Modified Interest Subvention Scheme (MISS)**, to provide **short-term credit to farmers at subsidised interest rates**.
- Under this scheme, **short-term agriculture loan up to ₹3 lakh is available at 7 per cent per annum** to farmers engaged in Agriculture and other Allied activities, including Animal Husbandry, Dairying, Poultry, Fisheries etc.
- An **additional 3 per cent subvention (Prompt Repayment Incentive)** is also given to the farmers for prompt and timely repayment of loans.

### Farm Mechanisation

- Farm mechanisation helps **increase productivity** through timely and efficient use of other inputs and natural resources while at the same time **reducing the cost of cultivation and the drudgery** associated with various farm operations.
- Under the **Sub Mission on Agricultural Mechanisation (SMAM)**, State Governments are being assisted in training and demonstrating agricultural machinery and helping farmers procure various farm machinery and equipment besides setting up **Custom Hiring Centres (CHC)**.
- **Increasing fragmentation of farm holdings** (with the **average size of household ownership holdings declining** from 1.23 ha in 2005-06 to 1.10 ha in 2010-11 and further to **1.08 ha in 2015-16**) requires machines that are viable and efficient for small farm holdings.

### Chemical-Free India

- Organic and natural farming provides **chemical fertiliser and pesticide-free food grains and other crops**, improves soil health and reduces environmental pollution.
- India has **44.3 lakh organic farmers, the highest in the world**, and about 59.1 lakh ha area was brought under organic farming by 2021-22.
- **Sikkim** in 2016 became the **first State in the world to become fully organic**, and other States, including **Tripura and Uttarakhand**, have set similar targets.
- The Government has been promoting organic farming by implementing two dedicated schemes, i.e., **Paramparagat Krishi Vikas Yojana (PKVY)** and **Mission**

**Organic Value Chain Development for North Eastern Region (MOVCDNER)** since 2015 through cluster/ Farmer Producer Organisations (FPOs) formation.

- PKVY Scheme is being implemented in a **cluster mode (with min. 20 ha size)**. **Financial assistance of ₹50,000 per ha for three years** is provided to the farmer, out of which ₹31,000 is given as incentives for organic inputs provided directly through Direct Benefit Transfer (DBT).
- MOVCDNER is dedicated to **promoting organic farming of niche crops of the North East Region through FPOs**.
- **Promotion of natural farming** began in 2019-20, when **Bhartiya Prakratik Krishi Paddhati (BPKP)**, a **sub-scheme of PKVY**, was launched to **assist farmers in adopting traditional indigenous practices** for encouraging all forms of ecological farming, including Zero-Budget Natural Farming (ZBNF).
- The scheme focuses on capacity building, training, handholding, and on-field demonstration of natural farming through **champion farmers**.

#### Other Important Initiatives in Agriculture

##### **PM KISAN Scheme:**

- It is a **Central Sector Scheme** to supplement the financial needs of land-holding farmers. The **financial benefit of ₹6,000 per year** is transferred into the bank accounts of farmer families through DBT.
- Many studies and findings indicate that the PM KISAN scheme has **helped farmers towards productive investment in agricultural activities**. For instance, the **International Food Policy Research Institute (IFPRI)** found that the scheme has **enabled addressing the liquidity constraints of farmers for buying agricultural inputs**. Further, for the small and marginal farmers, it has helped to meet their requirement of funds for their **daily consumption, education, health and other incidental expenses**.

##### **Agriculture Infrastructure Fund (AIF):**

- AIF is a **financing facility operational from the year 2020-21 to 2032-33 for the creation of post-harvest management infrastructure and community farm assets**, with benefits including **3 per cent interest subvention and credit guarantee support**.
- Under this, a provision of **₹1 lakh crore** for 2020-21 to 2025-26 has been made, and interest subvention and credit guarantee assistance will be given until 2032-33.
- Projects under AIF scheme include warehouses, primary processing units, custom hiring centres, sorting & grading units, cold store projects, assaying units and other kinds of post-harvest management projects and community farming assets.

##### **Pradhan Mantri Fasal Bima Yojana (PMFBY):**

- PMFBY was launched in 2016 to provide **comprehensive insurance coverage to farmers in case of crop failure**, with farmers paying only **1.5 per cent and 2 per cent of the total premium for the Rabi and Kharif seasons, respectively**, with Centre and State Governments bearing most of the premium cost. For **annual commercial and horticultural crops**, the premium to be paid by farmers will be **5 per cent**.
- The scheme is implemented through **empanelled general insurance companies**.
- The revamped Scheme w.e.f Kharif 2020 has many features, which include **voluntary participation for all farmers, a two-step process of crop yield estimation, use of smart sampling technique through satellite data for crop cutting experiments, etc.**



- To better resolve grievances within the scheme, **National Crop Insurance Portal** has been developed to handle all grievances from end to end.

#### **Mission for Integrated Development of Horticulture (MIDH):**

- The scheme to **promote horticulture** covering fruits, vegetables, root and tuber crops, spices, flowers, plantation crops etc., was introduced in **2014-15**.
- The interventions include **introducing improved varieties and quality seeds, incentives for plantation crops, cluster development, and post-harvest management**.
- The government has identified **55 horticulture clusters**, of which **12 have been selected for the Cluster Development Programme (CDP) pilot phase**. This programme is designed to **leverage the geographical specialisation of horticulture clusters** and promote integrated and market-led development of pre-production, production and post-harvest activities, including the entire supply chain.

#### **National Agriculture Market (e-NAM) Scheme:**

- The Government of India launched the National Agriculture Market (e-NAM) Scheme in 2016 to create an **online transparent, competitive bidding system to ensure farmers get remunerative prices for their produce**.
- Under the e-NAM Scheme, the Government provides **free software and assistance of ₹75 lakh per APMC mandi** for related hardware, including quality assaying equipment and the creation of infrastructure like cleaning, grading, sorting, packaging, compost unit, etc.
- More than 1.7 crore farmers and 2.3 lakh traders have been registered on e-NAM portal.

#### **International Year of Millets**

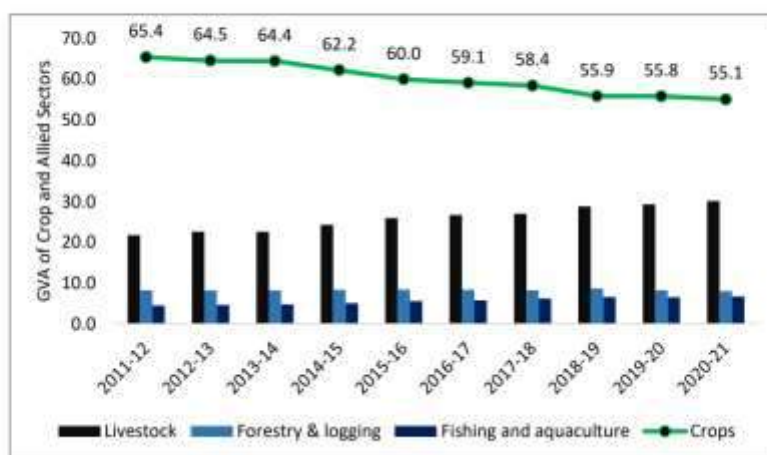
- The **United Nations General Assembly**, in its 75th session during March 2021, **declared 2023 the International Year of Millets (IYM)**.
- Millets are **Smart Food with high nutritional value**, are **climate resilient**, and **align with several UN Sustainable Development Goals (SDGs)**.
- These are also important by virtue of their mammoth potential to **generate livelihood, increase farmers' income and ensure food & nutritional security** all over the world.
- India produces more than 50.9 million tonnes of millet which accounts for **80 per cent of Asia's and 20 per cent of global production**.
- In India, millets are **primarily a Kharif crop mostly grown in rainfed conditions, requiring less water and agricultural inputs** than other staple crops.
- Given the nutritional value of the millets, the Government **notified Millets as Nutri-cereals** in 2018. Under the **National Food Security Mission (NFSM)**, millets have been introduced to provide nutritional support. A **sub-mission on Nutri-cereals** is being implemented from 2018-19 in 212 districts of 14 States.

#### **Allied Sectors: Animal Husbandry, Dairying and Fisheries**

- The allied sectors of Indian agriculture - livestock, forestry & logging and fishing & aquaculture are gradually becoming **sectors of buoyant growth** and a **potential source of better farm incomes**.
- The **livestock sector** grew at a **CAGR of 7.9 per cent** during 2014-15 to 2020-21 (at constant prices), and its **contribution to total agriculture GVA (at constant prices) has increased** from 24.3 per cent in 2014-15 to **30.1 per cent in 2020-21**.
- Similarly, the **annual average growth rate of the fisheries sector** has been about **7 per cent** since 2016-17 and has a **share of about 6.7 per cent in total agriculture GVA**.

- Recognising the growing importance of allied sectors, the **Committee on Doubling Farmers' Income (DFI, 2018)** considers **dairying, livestock, poultry, fisheries and horticulture as high-growth engines** and has recommended a focussed policy with a concomitant support system for the allied sector.
- The **dairy sector is the most critical component of the livestock sector, employing more than eight crore farmers directly**, and is the most prominent agrarian product.
- Other livestock products, such as eggs and meat, are also growing in importance. While **India ranks first in milk production** in the world, it ranks **third in egg production** and **eighth in meat production** in the world.

**Figure VIII.7: Though the Crop sector is still the major contributor to agriculture GVA, the livestock sector is catching up (per cent)**



- As a part of the Aatmanirbhar Bharat (ANB) stimulus package, the **Animal Husbandry Infrastructure Development Fund (AHIDF)** worth ₹15,000 crore was launched in 2020. Under this scheme, the Central Government provides a **3 per cent interest subvention to the borrower and credit guarantees up to 25 per cent** of total borrowing.
- The **National Livestock Mission (NLM)** scheme has been restructured for 2021-22 to 2025-26. The scheme focuses on **entrepreneurship development and breeds improvement** in poultry, sheep, goat and piggery, including feed and fodder development.
- Also, the **Livestock Health and Disease Control (LH&DC) Scheme** is being implemented to supplement the State/UT governments' efforts towards **preventing, controlling and containing animal diseases of economic and zoonotic importance by vaccination**.
- **National Animal Disease Control Programme (NADCP)** is being implemented to **control Foot & Mouth Disease and Brucellosis** by completely vaccinating cattle, buffalo, sheep, goat and pig populations against Foot & Mouth Disease and bovine female calves of 4-8 months of age against brucellosis.
- In 2020, the Government of India launched its flagship scheme **Pradhan Mantri Matsya Sampada Yojana (PMMSY)**, with a total outlay of ₹20,050 crore. PMMSY aims to **drive sustainable and responsible development of the fisheries sector** while ensuring socio-economic development of the fishers, fish farmers and fish workers.

- A dedicated **Fisheries and Aquaculture Infrastructure Development Fund (FIDF)** was established for five years, from 2018-19 to 2022-23, with an investment of ₹7,522 crore.

#### **Sahakar-Se-Samriddhi: From Cooperation to Prosperity**

- The **cooperative societies**, especially in the agriculture, dairy and fisheries sectors, provide the rural population with **livelihood opportunities** and a **financial safety net** with a **community based approach**. For instance, cooperative societies are responsible for around **19 per cent of agriculture finance**.
- There are 8.5 lakh registered cooperatives in the country, having more than 29 crore members mainly from the marginalised and lower-income groups in the rural areas, and 98 per cent of villages are covered by **Primary Agriculture Credit Societies (PACS)**.
- To realise the vision of **“Sahakar-see-Samriddhi” (prosperity through cooperation)**, a renewed impetus was given to the growth of the cooperative sector.
- A full-fledged **Ministry of Cooperation** was established in 2021 to provide greater focus to the cooperative sector.
- With the view to strengthening the cooperative movement in the country, deepening its reach to the grassroots, and promoting cooperative-based economic development, a **New National Cooperation Policy** is being formulated. The objective is to have a policy that **unlocks the true potential of the Cooperation sector**.

#### **Food Processing Sector - The Sunrise Sector**

- The food processing sector is of enormous significance for India's development because of the **strong connections and interactions it promotes between industry and agriculture**.
- During the last five years ending FY21, the food processing industries sector has been **growing at an average annual growth rate of around 8.3 per cent**.
- As per the latest Annual Survey of Industries (ASI) 2019-20, **12.2 per cent of persons in the registered manufacturing sector were employed in the food processing sector**.
- The **value of agri-food exports**, including processed food exports, was about **10.9 per cent of India's total exports** during 2021-22.
- Optimum development of the food processing sector will contribute significantly to **tackling several developmental concerns** such as disguised rural unemployment in agriculture, rural poverty, food security, food inflation, improved nutrition, prevention of wastage of food etc.
- The **NITI Aayog Strategy for New India** identifies the **lack of adequate and efficient cold chain infrastructure** as a critical supply-side bottleneck that leads to **massive post-harvest losses** (mostly of perishables) estimated at **₹92,561 crore annually**.
- Given that countries worldwide have **stringent guidelines** for importing food and agricultural products, the **probability of exports from India getting rejected increases with the lack of adequate cold chain infrastructure**.
- Further, **logistical barriers relating to connectivity** also pose **supply-side challenges**. For instance, **Indian national highways**, while accounting for **2 per cent of the total road network**, carry **40 per cent of all cargo** – exemplifying the burden on the existing road networks and potential for congestion, which is detrimental to food (and particularly perishables) transport.

#### **Initiatives:**

- The **Ministry of Food Processing Industries**, through the component schemes of **Pradhan Mantri Kisan SAMPADA Yojana (PMKSY)**, provides **financial assistance** for the overall growth and development of the food processing sector.
- The Ministry also launched in 2020 the **Prime Minister's Formalisation of Micro Food Processing Enterprises (PMFME) Scheme** to enhance the competitiveness of individual micro-enterprises in the unorganised segment and promote the formalisation of this sector by providing financial, technical and business support for upgradation/setting up of 2 lakh micro units in the country.
- The scheme adopts the **One District One Product (ODOP) approach** to reap the benefit of scale in procuring inputs, using shared services and marketing products.
- The **Production Linked Incentive Scheme for Food Processing Industry (PLISFPI)**, launched in 2022, has the specific mandate to incentivise investments to create global food champions.
- To focus on transporting perishable food products, including horticulture, fishery, livestock and processed products, from the Hilly Areas, North-Eastern States and Tribal Areas, **Krishi UDAN 2.0** was launched in 2021.
- The scheme covers around 25 airports focusing on North Eastern, Hilly and Tribal regions and 28 airports in other regions/areas. Under the scheme, the government provides a **full waiver** on landing, parking, terminal navigation and route navigation facilities charges for all domestic airlines.
- Thus, the scheme **assists farmers in transporting agricultural products and improves value realisation.**

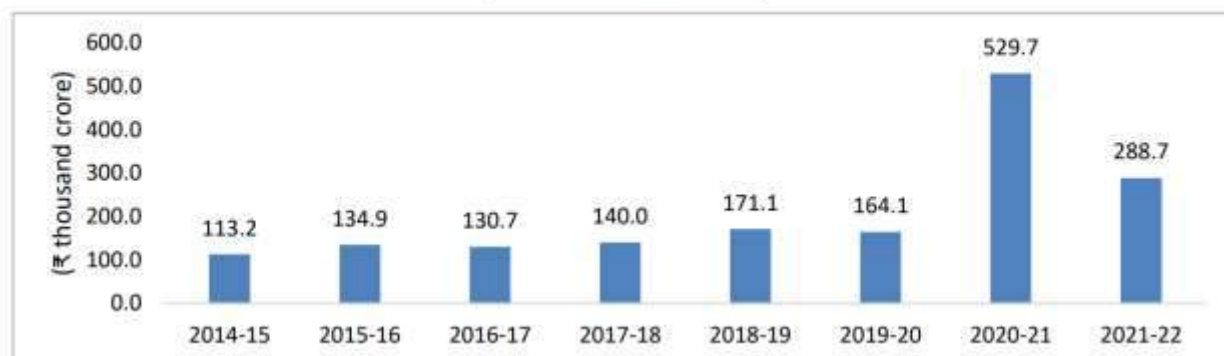
#### **Food Security - Social & Legal Commitment to the People of the Nation**

- Food security is not only a question of the **ability to produce food** but also of the **ability to access food.**
- The Government is currently running the **most extensive legislation-based food security programme** in the world, covering about **80 crore of India's population** under the **National Food Security Act (NFSA), 2013.**
- The Act legally entitled up to **75% of the rural population and 50% of the urban population** to receive subsidized foodgrains under the **Targeted Public Distribution System (TPDS).**
- The eligible persons will be entitled to receive **5 Kgs of foodgrains per person per month at subsidised prices of Rs. 3/2/1 per Kg for rice/wheat/coarse grains.** The existing **Antyodaya Anna Yojana (AAY) households**, which constitute the poorest of the poor, will continue to receive **35 Kgs of foodgrains per household per month.**
- In a recent decision, the government has decided to provide **free foodgrains** to about 81.35 crore beneficiaries under the NFSA **for one year** from January 1, 2023.
- To further ease the process of access to food, the Government has launched the **One Nation One Ration Card (ONORC) scheme.** The system enables **intra-State and inter-State portability of ration cards.**
- It helps the **migrant beneficiaries** access their food security entitlements from any fair price shop (FPS) of their choice by using the same ration card after biometric/Aadhaar authentication on electronic Point of Sale (e-PoS) devices at the FPS. Presently, the national/inter-State portability is **enabled in all 36 States/UT, covering 100 per cent of the total NFSA population.**
- To ease the hardships faced by the poor due to economic disruption caused by Covid-19, the Government launched **Pradhan Mantri Garib Kalyan Anna Yojana**

**(PMGKAY).** Under the scheme, NFSA beneficiaries were entitled to get **free of cost 5 kg foodgrain per person in a month over and above their monthly entitlements.**

- The **food subsidy bill was higher** during 2020-21 and 2021-22 in comparison to other years as a result of the **free food distribution programme** of the government under the PMGKAY. This dedicated support was provided to ensure that the farmers and vulnerable households remained protected from the Covid-19 led shocks.

**Figure VIII.10: Total Food Subsidy released by the Government of India since 2014-15.**  
(In ₹ thousand crore)



### Conclusion

- The performance of the agriculture sector remains critical to growth and employment in the country.
- Investment in the sector must be encouraged through an **affordable, timely and inclusive approach to credit delivery.** A greater focus on the **development of the food processing sector can reduce wastage/loss and increase the length of storage, ensuring better prices** for the farmers.



## CHAPTER 09 – INDUSTRY: STEADY RECOVERY

### Introduction

- Industry holds a prominent position in the Indian economy, accounting for **31 per cent of GDP**, on average, during FY12 and FY21 and **employing over 12.1 crore people**.
- The sector's relevance can be identified through **various direct and indirect linkages with other sectors**, contributing to economic growth and employment. First, it ensures that domestic production can accommodate domestic demand and **reduces the reliance on imports**. Second, industrial growth has **multiplier effects**, which translates into **employment growth**. Some industries, such as **textiles and construction**, have **high employment elasticities**. Third, industrial growth **spurs growth in services sectors** such as banking, insurance, logistics, etc.

**Table IX.1: Growth and Share of Industrial Components (in Per cent)**

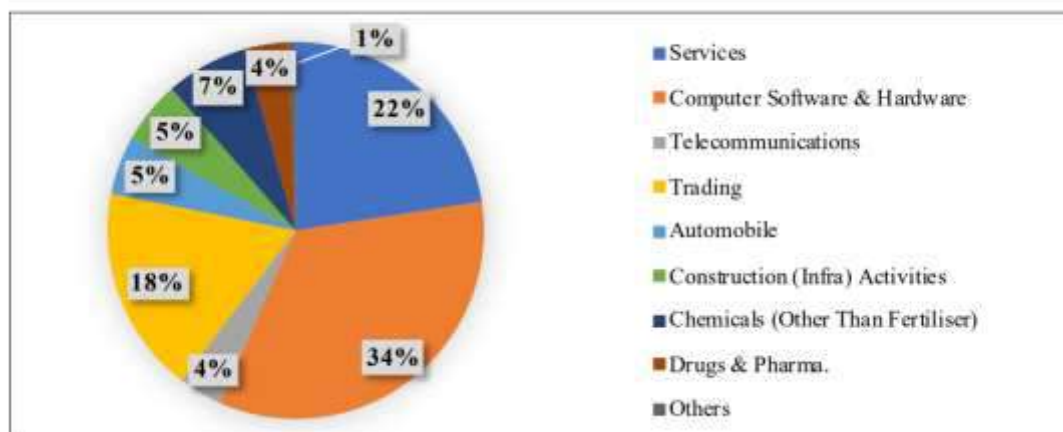
	Growth in Per cent		Real GVA growth in FY23 over FY22	Real GVA growth in FY23 over FY20	Share in total GVA FY23
	H1:FY23	H2:FY23 (Estimated)			
<b>Industry</b>	3.7	4.5	4.1	11.1	30.0
Mining & quarrying	2.2	2.6	2.4	4.4	2.3
Manufacturing	0.1	3.0	1.6	11.0	17.3
Electricity, gas, water supply & other utility services	10.0	7.9	9.0	13.0	2.3
Construction	11.5	7.3	9.1	12.8	8.1
<b>Overall GVA</b>	<b>9.0</b>	<b>4.7</b>	<b>6.7</b>	<b>9.8</b>	<b>-</b>

- In FY23, the Industry sector witnessed **modest growth of 4.1 per cent** compared to the strong growth of 10.3 per cent in FY22.

### Resilient FDI inflow in Manufacturing Sector

- **Annual FDI equity inflows** in the manufacturing sector have been **steadily increasing** over the last few years. It jumped from US\$ 12.1 billion in FY21 to **US\$ 21.3 billion in FY22** as the pandemic-driven expansionary policies of advanced economies led to a surge in global liquidity.
- With the rise in **global uncertainty** in the wake of the Russia-Ukraine conflict, **FDI equity inflow** in manufacturing in the first half of FY23 **fell below** its corresponding level in the first half of FY22. The **monetary tightening** at the global level has further restricted the FDI equity inflows.
- Notwithstanding an overall drop in FDI in the first half of FY23, **inflows have stayed above the pre-pandemic levels**, driven by structural reforms and measures improving the ease of doing business, making **India one of the most attractive FDI destinations in the world**.
- The government has implemented an **investor-friendly FDI policy** under which **FDI up to 100 per cent is permitted through automatic route in most sectors**.

Figure IX.8: Sector-wise FDI Equity Inflows in 2022-23 during April-September 2022



#### FDI Policy Reforms to bolster Investment:

- In FY20, **100 per cent FDI under automatic route** was permitted for the **sale of coal, and coal mining activities**, including associated processing infrastructure, subject to provisions of relevant acts.
- **26 per cent FDI under the government route** has been permitted for **uploading/streaming of News & Current Affairs through Digital Media**. **100 per cent FDI** has been permitted in **Intermediaries or Insurance Intermediaries**.
- To **curb opportunistic takeovers/acquisitions** of Indian companies due to the Covid-19 pandemic, the government amended the FDI policy, according to which an **entity of a country which shares a land border with India or where the beneficial owner of investment into India is situated in or is a citizen of any such country, can invest only under the Government route**.
- To simplify the approval process of foreign Investment and to promote ease of doing business, the erstwhile **Foreign Investment Promotion Board (FIPB) was abolished** in 2017, and a new regime has been put in place.
- Under the new regime, the **process for granting FDI approvals has been simplified**, wherein the work relating to the processing of applications for FDI has been **delegated to the concerned Ministries/ Departments**, and the **Department for Promotion of Industry and Internal Trade (DPIIT) is the nodal department for facilitating the process**.
- A revamped portal, "**Foreign Investment Facilitation Portal (FIF Portal)**", has been launched as the online single-point interface of the Government of India for investors to facilitate Foreign Direct Investment. The portal facilitates **single window clearance** of applications which are through the government approval route. The FIF Portal has been **integrated with the National Single Window System (NSWS)**.

#### Industry Groups and their Challenges

##### MSMEs post smart recovery from pandemic:

- While the **contribution of the MSME sector to overall GVA** rose from 29.3 per cent in FY18 to 30.5 per cent in FY20, the economic impact of the pandemic caused the sector's share to fall to **26.8 per cent** in FY21.
- **MSME contribution to the manufacturing sector's GVA** also marginally fell to **36.0 per cent** in FY21.

### MSME Performance

Figure IX.9a: MSME share in exports

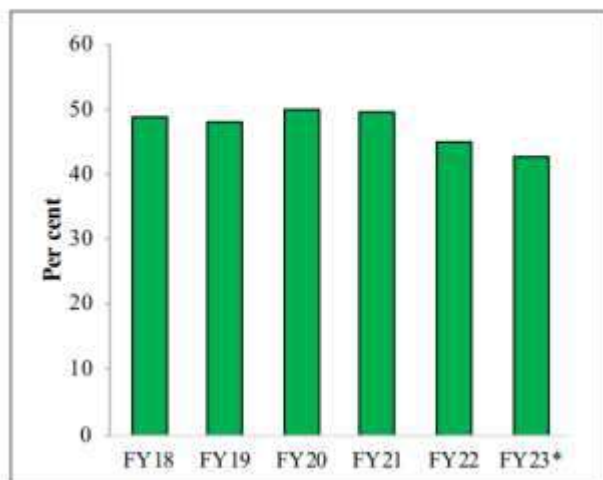
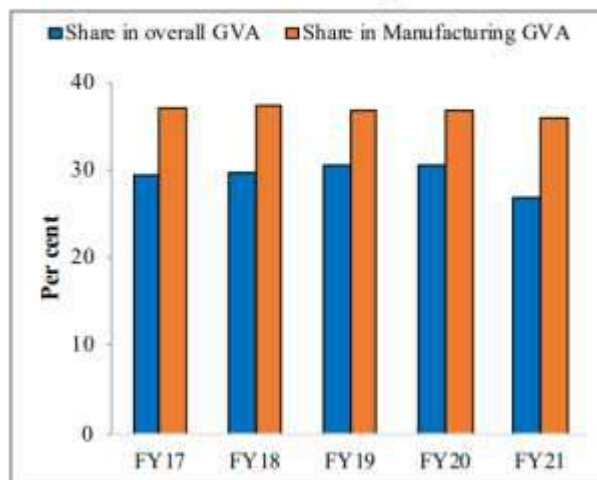


Figure IX.9b: MSME Share in overall GVA and Manufacturing GVA



- Through the **AatmaNirbhar Bharat Package**, the government has taken multiple steps to cushion the economic impact of the pandemic on MSMEs. Some of the measures undertaken include the **modification of the definition of MSMEs**.
  - In 2020, the government changed the basic definition of MSME and also **end the difference between the manufacturing and services sector**.
  - Till then, MSMEs were categorised based only on the investment in machinery or equipment. The new classification has **raised the investment limit** and included **annual turnover** as an additional criteria.
    - Accordingly, units having investment less than Rs 1 crore and turnover less than Rs 5 crore will be called **Micro units**.
    - Investment between Rs 1 and Rs 10 crore and turnover of Rs 5 crore to Rs 50 crore will be categorised as **Small Enterprises**.
    - Units having investment between Rs 10 crore but up to Rs 50 crore and turnover between Rs 50 crore and Rs 250 crore will now be known as **Medium Enterprises**.
- The government has also launched the **Udyam portal for MSME registration**, a paperless, zero-cost registration portal that is based on self-declaration and only requires Aadhaar.
- The government has also set up the **Samadhaan Portal to monitor the outstanding dues to the MSME sector**. The portal is helping MSMEs in resolving their cash flow difficulties.
- In order to fast-track this process, the government has instructed Central Public Sector Enterprises (CPSEs) and all companies with a turnover of ₹200 crore or more to get themselves onboarded on the **Trade Receivables Discounting System (TReDS) platform** for facilitating the **discounting of trade receivables of MSMEs through multiple financiers**.
  - The RBI launched the TReDS platform in 2018. It **allows MSME suppliers to discount their bills and invoices**. The platform **enables MSMEs to receive payments more quickly**. The TReDS' main purpose is to allow MSME sellers to discount invoices raised against major corporations, which helps them manage their working capital demands.
- CHAMPIONS**, the **single-window grievance redressal portal for MSMEs** launched by the Ministry of MSME in 2020, continues to be improved through initiatives such

as the localisation of the portal in 11 regional languages and the introduction of a Chatbot.

- The government has also initiated the **'Raising and Accelerating MSME Performance' scheme (RAMP)** in FY23. The **World Bank-supported scheme** aims at strengthening institutions and governance at the Centre and State, improving Centre-State linkages and partnerships and improving access of MSMEs to market and credit, technology upgradation and addressing issues of delayed payments and greening of MSMEs.

#### **Electronics Industry:**

- The **domestic electronics industry**, as of FY20, is valued at **US\$118 billion**. India aims to reach **US\$300 billion worth of electronics manufacturing** and **US\$ 120 billion in exports by FY26**, supported by the vision of a **US\$ 1 trillion digital economy by 2025**.
- Some of the initiatives and incentives provided by the government to nurture and enhance the electronics manufacturing base include the **PLI scheme for Large Scale Electronics Manufacturing**, the **PLI scheme for IT hardware**, the **Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS)**.
- Additionally, under the **Programme for Development of Semiconductors and Display Manufacturing Ecosystem in India**, the Cabinet approved the comprehensive development of a sustainable semiconductor and display ecosystem in the country with an outlay of ₹76,000 crore. The government will provide **financial support for 50 per cent of the capital expenditure** to be incurred by the investing firms.
- Recognising that even though **India possesses 20 per cent of the world's semiconductor design engineers but a minuscule share in the intellectual property (IP)**, the Government of India has also announced a **Design Linked-Incentive (DLI) scheme**. The scheme's objectives include the nurturing and facilitation of domestic companies of semiconductor design, achieving significant indigenisation of semiconductor products and IPs deployed across the country, and strengthening the infrastructure for design.
- The scheme will provide **financial support of 50 per cent of eligible expenditure** on the design, subject to a ceiling of ₹15 crore per applicant and a **deployment-linked incentive of 4 per cent to 6 per cent** of net sales achieved over five years, subject to a ceiling of ₹30 crore per applicant.

#### **Coal Industry:**

- Different measures have been initiated towards achieving self-reliance in coal production, including **private participation** in coal production, **FDI under the automatic route, auctioning of coal blocks for commercial production**, expansion of existing mines and opening of new mines, greater use of mass production technology in mining, mechanisation of loading, development of evacuation infrastructure etc.
- There has also been a persistent effort to **improve system capacity utilisation** from about 80 per cent to above **90 per cent**.

#### **Steel Industry:**

- Steel Sector plays a pivotal role in crucial sectors such as construction, infrastructure, automobile, engineering and defence. **India** is now a global force in steel production and the **2nd largest crude steel producer in the world**.

- The government's thrust towards infrastructure projects, pick-up in construction and real estate activity, and healthy demand from the automobile sector augur well for the demand for steel products.

#### **Textile Industry:**

- The Textile industry is one of the country's most significant sources of employment generation, with an estimated **4.5 crore people directly engaged** in this sector, including a **large number of women and the rural population**.
- In the current financial year, the textile industry has been facing the **challenge of moderating exports** compared to FY22.
- To develop **integrated large-scale and modern industrial infrastructure facilities for the entire value chain** of the textile industry, the government approved the setting up of **seven PM Mega Integrated Textile Region and Apparel (PM MITRA) Parks**. The parks will not only **reduce logistics costs** and **improve the competitiveness** of Indian Textiles but also **boost employment generation, attract domestic investment and FDI, and position India firmly in the global textile market**.
- Further, to boost the production capacity, the government launched the **Textile PLI Scheme** to promote investments and increase the production of Man-Made Fibre (MMF) Apparel, MMF Fabrics and Products of Technical Textiles.

#### **Pharmaceuticals Industry:**

- **India** is ranked **3rd worldwide in the production of pharma products by volume** and **14th by value**. The nation is the **largest provider of generic medicines globally**, occupying a **20 per cent share in global supply by volume**, and is the **leading vaccine manufacturer globally with a market share of 60 per cent**.
- The **Strengthening the Pharmaceutical Industry (SPI) scheme** was launched in 2022 to **strengthen the existing infrastructure facilities** by providing financial assistance to pharma clusters to create common facilities. It also aims to **upgrade the production facilities of MSMEs to meet national and international regulatory standards** by providing interest subvention or capital subsidy on their capital loans.

#### **Automobile Sector:**

- In December 2022, India became the **3rd largest automobile market, surpassing Japan and Germany** in terms of sales. In 2021, India was the **largest manufacturer of two-wheeler and three-wheeler vehicles** and the **world's fourth-largest manufacturer of passenger cars**.
- The sector's importance is gauged by the fact that it **contributes 7.1 per cent to the overall GDP and 49 per cent to the manufacturing GDP** while **generating direct and indirect employment of 3.7 crore** at the end of 2021.

#### **India's Prospects as a Key Player in the Global Value Chain**

- The risk of supply chain shocks has never been more palpable than today, following compounding crises from the **US-China trade war, the Covid-19 pandemic, and the war in Ukraine**.
- As global companies adapt their manufacturing and supply chain strategies to build resilience, **India has a unique opportunity to become a global manufacturing hub**.
- The **three primary assets** to capitalise on this unique opportunity are the **potential for significant domestic demand, the Government's drive to encourage manufacturing, and a distinct demographic edge**.
- The **'Make-in-India'** Initiative was launched in 2014 to **make India a hub for manufacturing, design, and innovation**. To further enhance India's integration



in the global value chain, 'Make in India 2.0' is now focusing on 27 sectors, which include 15 manufacturing sectors and 12 service sectors.

- The government launched the **Production Linked Incentive (PLI) Scheme to attract a capex of approximately ₹3 lakh crore** over the next five years. It has the potential to generate employment for over 60 lakh in India and **increase the share of the manufacturing sector in total capital formation**, which currently stands at around **17-20 per cent** between FY12 and FY20. The scheme, **spread across 14 sectors**, can **enhance India's annual manufacturing capex by 15 to 20 per cent from FY23**.
- PLI Scheme across these key specific sectors is poised to make Indian manufacturers globally competitive, attract investment in the areas of core competency and cutting-edge technology; ensure efficiencies; create economies of scale; and make India an integral part of the global value chain. The scheme will benefit the MSME ecosystem in the country. The anchor units built in every sector will require a new supplier base in the entire value chain.

#### **Shipbuilding Sector:**

- The Shipbuilding industry is a **strategically important industry** due to its role in **energy security, national defence and the development of the heavy engineering industry**.
- With its immense **direct and indirect linkages** with most other leading industries, such as steel, aluminum, electrical machinery and equipment etc., and its **huge dependence on infrastructure and services sectors** of the economy, the shipbuilding industry has the potential to strengthen the mission of an 'Aatmanirbhar' Bharat.
- The **Indian Navy (IN) shipbuilding projects** currently in progress at various Indian shipyards are poised to provide the requisite impetus to the industry.
- Among manufacturing activities, shipbuilding has **one of the highest employment multipliers of 6.4**. It is capable of generating **mass employment in remote, coastal and rural areas**, thereby absorbing the labour migrating from agricultural pursuits to manufacturing facilities established by shipyards and their ancillary industries.

#### **Fostering Innovation**

- The government's efforts towards fostering innovation include **incubation, handholding, funding, industry-academia partnership and mentorship**. This has resulted in a **46 per cent growth in the domestic filing of patents** over 2016-2021, signalling India's transition towards a **knowledge-based economy**.
- The **Global Innovation Index (GII)**, co-published by **World Intellectual Property Organization, WIPO, Cornell University and INSEAD Business School**, ranks the countries based on innovation performance, comprising around 80 indicators, including measures on the political environment, education, infrastructure and knowledge creation of each economy.
- As per the **GII 2022 report**, India occupied the **40th rank** in 2022 by improving its rank from 81 in 2015. Further, India became the **most innovative nation in the lower middle-income group** overtaking Vietnam (48th) and leading the Central and Southern Asia region
- India ranks **amongst the largest startup ecosystems in the world**. About **48 per cent of our startups** are from **Tier II & III cities**.
- As part of the umbrella schemes of the **National Initiative for Developing and Harnessing Innovations (NIDHI)** and **Atal Innovation Mission (AIM)**,

entrepreneurship and innovation are fostered across the start-up ecosystem in the country.

- The **Fund of Funds for Start-ups (FFS)** and **Credit Guarantee Scheme for Start-ups (CGSS)** support seed funding and successive credit needs.
- Further, the **Support for International Patent Protection in E&IT (SIP-EIT) Scheme** encourages international patent filing by Indian MSMEs and start-ups.

### Issue of 'Flipping'

- While external support from the government has made it relatively easier than before for entrepreneurship to thrive, there are **several inherent challenges** faced by start-ups. Be it **ever-elusive funding, revenue generation struggles, lack of easy access to supportive infrastructure, or wading through the regulatory environment and tax structures**.
- It has also been observed that many **Indian companies have been getting headquartered overseas**, especially in **destinations with favourable legal environments and taxation policies**.
- The survey identifies this as **'Flipping'**, which is the process of **transferring the entire ownership of an Indian company to an overseas entity**, accompanied by a transfer of all IP and all data hitherto owned by the Indian company.
- Typically, "Flipping" happens at the **early stage of the Start-ups**, driven by commercial, taxation and personal preferences of founders and investors. Better protection and enforcement of IP and tax treatment of licensing revenue from IP, residential status of Founders, and agile corporate structures have been the reasons for "Flipping" in the Past.
- However, of late, various measures taken by the government have not only slowed down the Flipping, but companies are also exploring **"Reverse Flipping"**.
- To accelerate 'Reverse Flipping', certain measures are possible, some of which are listed below:
  - Simplifying multiple layers of tax and uncertainty due to tax litigation;
  - Simplifying procedures for capital flows;
  - Facilitating improved collaboration and partnerships with established private entities to develop best practices and state-of-the-art start-up mentorship platforms;
  - Exploring the incubation and funding landscape for start-ups in emerging fields like social innovation and impact investment.
- The flipping phenomenon mentioned above reflects **start-ups venturing out for short-term gains** in the dynamic, uncertain geopolitical world. However, the flip can be reversed with the collective action by the Government related regulatory bodies and other stakeholders.

### India and Industry 4.0

- The advent of the **fourth industrial revolution or industry 4.0** as it's commonly referred to, has begun. The transformation **integrates new technologies such as cloud computing, IoT, machine learning, and artificial intelligence (AI) into manufacturing processes**, leading to efficiencies across the value chain.
- In recent years, India has made **significant strides in internet penetration** which is one of the key requisites of industry 4.0. The push towards **self-reliance in semiconductor technology and production** will help India erect another pillar of this revolution – **hyper-efficient processing technology**.
- The **Ministry of Heavy Industries and Public Enterprises** has launched the **SAMARTH (Smart Advanced Manufacturing and Rapid Transformation Hubs)**

**Udyog Bharat 4.0** initiative which aims to facilitate and create an ecosystem for propagation of Industry 4.0 set of technologies in every Indian manufacturing by 2025.

### **Conclusion**

- Despite global headwinds, industrial production expanded during FY23, backed by sustained demand conditions.
- On the downside, exports are slowing down and are likely to moderate along with the probable global economic slowdown. Industrial output in India should continue to grow steadily based on resilient domestic demand.

## CHAPTER 10 - SERVICES: SOURCE OF STRENGTH

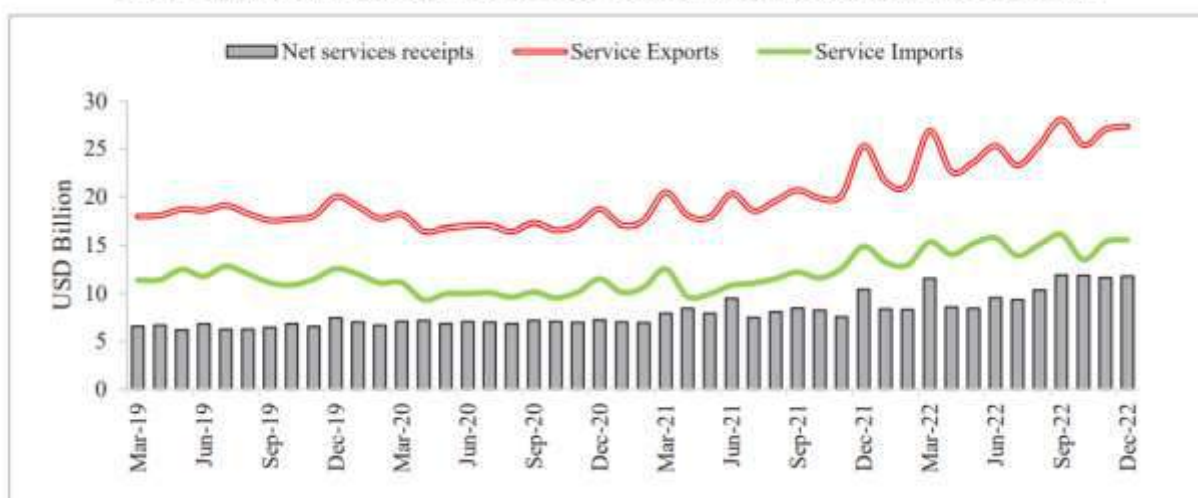
### Introduction

- The **Covid-19 pandemic** hurt most sectors of the economy, with the effect particularly profound for **contact-intensive services sectors** like tourism, retail trade, hotel, entertainment, and recreation. On the other hand, **non-contact services** such as information, communication, financial, professional, and business services **remained resilient**.
- However, the services sector witnessed a **swift rebound in FY22, growing Year-on-Year (YoY) at 8.4 per cent** compared to a contraction of 7.8 per cent in the previous financial year.
- The **growth momentum has continued in FY23** as well. As per the First Advance Estimates, **Gross Value Added (GVA) in the services sector is estimated to grow at 9.1 per cent** in FY23.

### Services Trade

- World services trade volume finally **surpassed its pre-pandemic peak** in the second quarter of 2022 and was expected to remain strong in the third quarter.
- India is a significant player in services trade, being **among the top ten services exporter countries in 2021**, having **increased its share in world commercial services exports** from 3 per cent in 2015 to **4 per cent in 2021**.
- A further increase in the share is likely, with the services exports registering **growth of 27.7 per cent** during April-December 2022 as compared to 20.4 per cent in the corresponding period last year.
- Among services exports, **software exports** have remained relatively resilient during the Covid-19 pandemic as well as amid current geopolitical uncertainties, driven by higher demand for digital support, cloud services, and infrastructure modernisation catering to new challenges.

**Figure X.5: Services Exports remained resilient amid geopolitical uncertainties.**



### Foreign Direct Investment (FDI) in Services

- The **World Investment Report 2022** of UNCTAD places **India as the seventh largest recipient of FDI** in the top 20 host countries in 2021.
- In **FY22** India received the **highest-ever FDI inflows of US\$ 84.8 billion** including **US\$ 7.1 billion FDI equity inflows in the services sector**.

- To facilitate investment, various measures have been undertaken by the Government, such as the launch of the **National Single-Window system**, a one-stop solution for approvals and clearances needed by investors, entrepreneurs, and businesses.
- To ensure the liberalisation of investment in various industries, the Government has permitted **100 per cent foreign participation in telecommunication services**, including all services and infrastructure providers, through the **Automatic Route**.
- The **FDI ceiling in insurance companies** was also raised from 49 to **74 per cent, under Automatic Route**.
- Further, the Government has allowed **20 per cent foreign investment in Life Insurance Corporation (LIC) under the automatic route**.

#### Major Services: Sub-Sector-Wise Performance

##### **Tourism and Hotel Industry:**

- The post-pandemic scenario of global tourism is gradually converging to the pre-pandemic one.
- As per the **World Tourism Barometer of the United Nations World Tourism Organisation**, international tourism showed **robust performance** in January-September 2022.
- **India is ranked 10th out of the top 46 countries** in the World in the **Medical Tourism Index FY21** released by the **Medical Tourism Association**.
- India has also attempted to improve its attractiveness as a **destination for specialised tourism**. Recent initiatives like the **Ayush visa** for tourists who desire to visit India for medical treatment, the launch of the **National Strategy for Sustainable Tourism & Responsible Traveller Campaign** and the introduction of the **Swadesh Darshan 2.0 scheme** can assist in capturing a larger share of the global medical tourism market.
- Going forward, the **G20 presidency** presents a unique opportunity for the Indian travel and tourism industry to take advantage of this chance to promote India as a **"major tourism destination"**.

##### **IT-BPM Industry:**

- India's Information Technology and Business Process Management (IT-BPM) industry has been **exceptionally resilient** during the pandemic, driven by increased technology spending, accelerated technology adoption, and digital transformation.
- IT-BPM revenues registered **YoY growth of 15.5 per cent** during FY22 compared to 2.1 per cent growth in FY21.
- Within the IT-BPM sector, **IT services** constitute the **majority share** (greater than 51 per cent). **Exports** (including hardware) witnessed a **growth of 17.2 per cent** in FY22 compared to 1.9 per cent growth in FY21. Growth in exports was seen across all the major markets, with **the USA, Europe (excl. UK), and the UK continues to be the major market**.



Figure X.12: Geographic distribution of IT-BPM exports (excluding hardware)

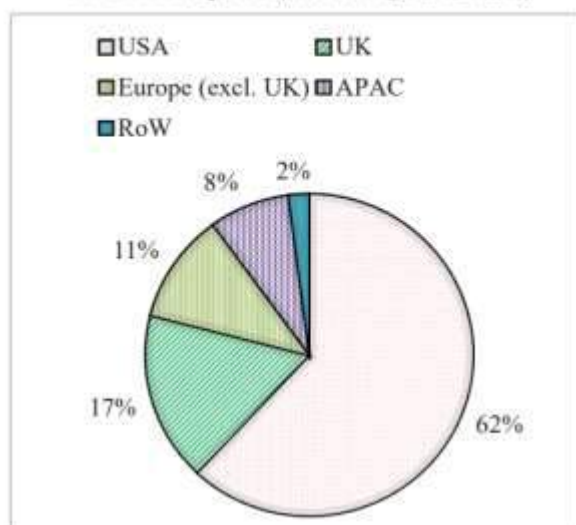
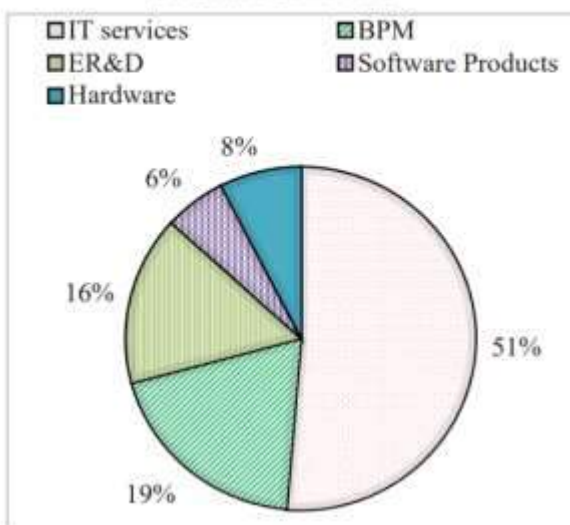


Figure X.13: Segment-wise break-up of Revenues in FY22



- Many firms are now focusing on **new markets**, more prominently the **Middle East and Latin America** leading to **market diversification** which will increase the IT-BPM sector's resilience in the coming years.

#### E-Commerce:

- India's e-commerce market is projected to post impressive gains and **grow at 18 per cent annually through 2025**.
- The E-commerce platform has not only **empowered small businesses by removing geographical barriers** and **providing a large customer base** but also allowed them to **deal directly with manufacturers and suppliers**, thus **reducing the cost of procurement**.
- The **Government E-Marketplace (GeM)** has also witnessed tremendous growth in Gross Merchandise Value (GMV) and is catching up with E-commerce giants like Amazon and Flipkart.
- GeM attained an **annual procurement of ₹1 lakh crore within FY22**, representing a **160 per cent growth** compared to last FY. GeM has taken a host of steps to **onboard products of Self-Help Groups (SHGs), tribal communities, artisans, weavers, and MSMEs**. **57 per cent of the total business on GeM has come through the MSME units**, and **female entrepreneurs have contributed over 6 per cent**.
- E-marketplace www.tribesindia.com portal** through Tribal Cooperative Marketing Development Federation of India Limited (TRIFED) has been onboarding tribal artisans with their products for online sales, ensuring tribal products find a larger audience in the international market as well.

#### Neobanks:

- Over the last few years, the number of **neobanking platforms** and global investments in the neo-banking segment has also risen consistently. **Neobanks** operate under mainstream finance's umbrella but empower specific services long associated with traditional institutions such as banks, payment providers, etc.
- In India, these firms don't have a bank license of their own **but rely on bank partners to offer licensed services**. Examples of Neobanks in India: Instantpay, Jupiter Neobank, RazorpayX, etc.
- Neobanks operate **entirely online**, with **no physical presence** apart from office space in the offline world. The growth of these institutions is spurred by the need for on-demand and easier-to-access financial solutions by a young and increasingly

digitally savvy demographic. Neobanks have **eased availability and provided access to financial services to MSMEs and underbanked customers and areas.**

- The government also, through various initiatives, has given a push to digital banking solutions. **75 Digital Banking Units (DBU)** across 75 districts announced in Union Budget 2022-23 to take banking solutions to every nook and corner of the country have been launched.

#### **CBDC:**

- The introduction of the Central Bank Digital Currency (CBDC) **by the RBI** will also significantly boost digital financial services.
- Issuance of CBDC in India offers several benefits, which include **reduction in operational costs** involved in physical cash management, **fostering financial inclusion, bringing resilience, efficiency, and innovation** in the payments system, **boosting innovation** in cross-border payments space, and **providing public with uses that any private virtual currencies can provide, without the associated risks.**
- RBI has recently launched **pilots of CBDC in both the Wholesale and Retail segments.**

#### **Outlook**

- India's services sector growth which was highly volatile and fragile during the last 2 fiscal years, has shown resilience in FY23 driven by the release of pent-up demand, ease of mobility restriction, near-universal vaccination coverage and pre-emptive government interventions.

## CHAPTER 11 - EXTERNAL SECTOR: WATCHFUL AND HOPEFUL

### Introduction

- **Global growth is forecast to slow** from 6.0 per cent in 2021 to **3.2 per cent in 2022** and **2.7 per cent in 2023** according to the International Monetary Fund (IMF). This is the **weakest growth profile since 2001** except for the global financial crisis and the acute phase of the pandemic.

### Trade Helping India Reap the Benefits of Globalised World

- Over time, the **trade openness of countries** across the globe has been **increasing as measured by trade as a proportion of GDP**.
- For the world as a whole, the **share of trade as a percentage of world GDP** has been in the **range of 50-60 per cent** since 2003 and stood at **52 per cent in 2020**. The global trade volume **grew by 4.8 per cent** in H1 2022.
- However, the **global trade outlook turned grimmer in the second half (H2) of 2022** on the back of a confluence of adverse factors including the increasing likelihood of a recession in the major economies and the tapering demand for consumer durables; aggressive monetary policy tightening by several central banks; disorderly financial conditions; continued supply-chain disruptions and elevated freight charges.



### **India's growing and diversifying trade:**

- International trade has been an important pillar of the resilience of India's external sector.
- For **India** as well, the **share of trade as a percentage of GDP has been steadily increasing**, being **above 40 per cent since 2005** (except 2020 being the pandemic year). The ratio stands at **46 per cent in 2021** and **50 per cent** for H1 of 2022.

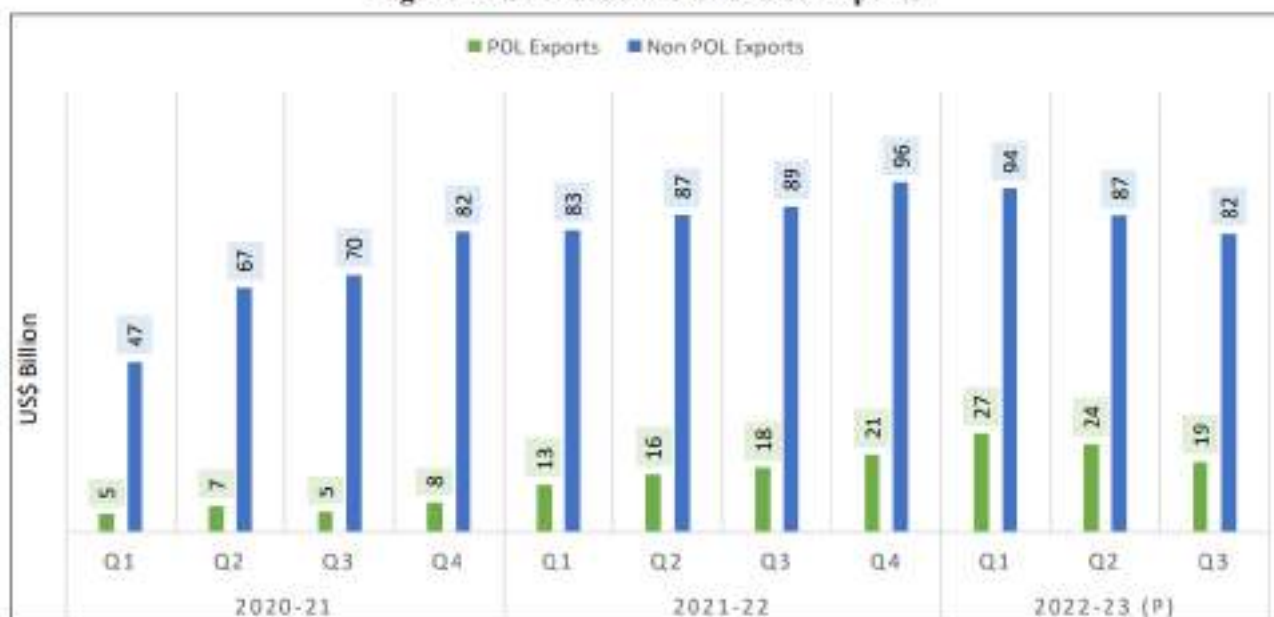
Table XI.1: Key aspects of India's trade (Calendar year-wise)

	2019	2020	2021
<b>Export performance (in per cent)</b>			
Share in World Merchandise Exports	1.7	1.6	1.8
Share in World Commercial Services Exports	3.5	4.0	4.0
Share in World Merchandise Plus Services Exports	2.1	2.1	2.2
<b>Import Performance (in per cent)</b>			
Share in World Merchandise Imports	2.5	2.1	2.5
Share in World Commercial Services Imports	3.0	3.2	3.5
Share in World Merchandise Plus Services Imports	2.6	2.3	2.7
<b>India's rank in world trade</b>			
Merchandise Exports	18	21	
Merchandise Imports	10	14	
Services Exports	8	7	
Services Imports	10	10	

**Trends in Merchandise Trade:**

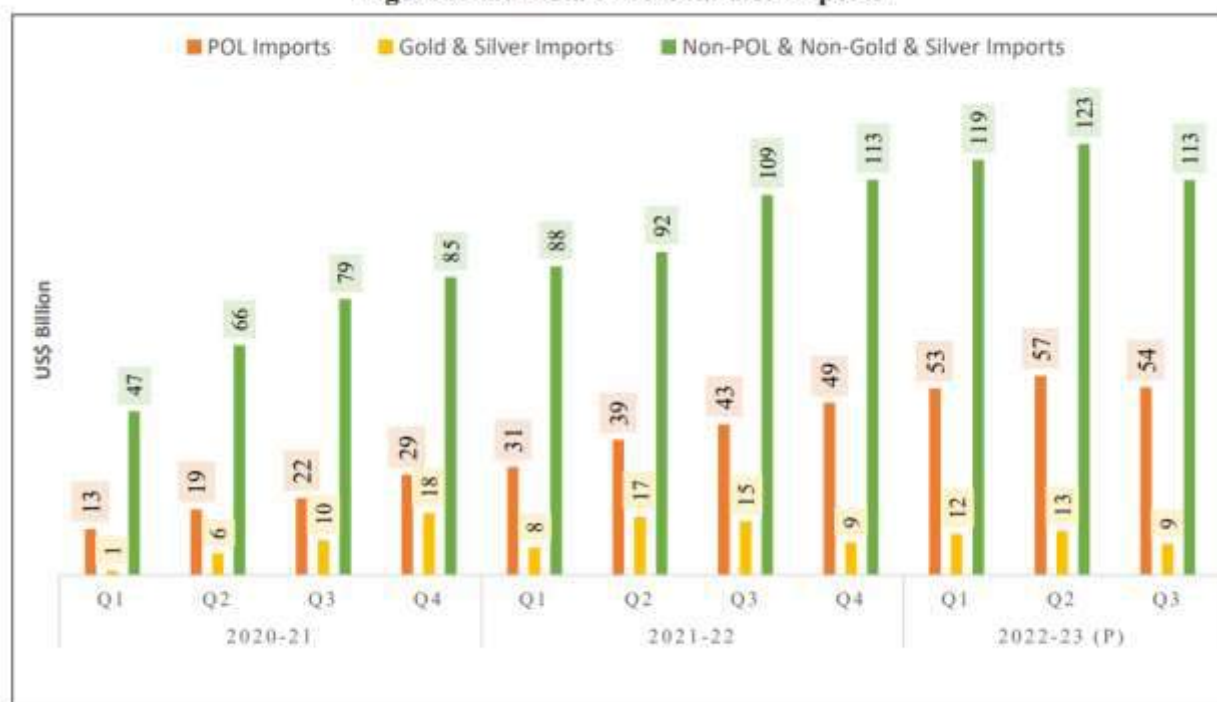
- India achieved an **all-time high annual merchandise export of US\$ 422.0 billion in FY22**.  
Merchandise exports were **US\$ 332.8 billion** over April-December 2022 against US\$ 305.0 billion during the period April-December 2021.
- Non-Petroleum and non-gems & jewelry exports** in April-December 2022 were **US\$ 233.5 billion**, as compared to US\$ 230.0 billion in April-December 2021. **Petroleum, oil, and lubricants (POL) exports constituted about 21.1 per cent** and **non-POL exports were 78.9 per cent** of total exports during FY23 (until December 2022).
- Owing to the rise in global crude oil prices, **petroleum products continued to be the most exported commodity** in FY22 and April-December, 2022, followed by **gems and jewellery, organic & inorganic chemicals, and drugs & pharmaceuticals**.

Figure XI.3: India's Merchandise Exports



- **Merchandise imports** for the period April-December 2022 were **US\$ 551.7 billion** as against US\$ 441.5 billion during the period April-December 2021. Among major import commodities, **petroleum crude & products imports increased by 45.6 per cent to US\$ 163.9 billion** in April-December 2022 compared to US\$ 112.6 billion in April-December 2021 and continue to be the **highest imported commodity**.
- **Energy demand may be pushing India's imports for fuel including coal and Petroleum, Oil & Lubricants (POL)**, whose share rose to **37.1 per cent in total imports** in April-December 2022 against 30.4 per cent in the corresponding period last year.
- **Other principal imports** included **electronic goods; coal, coke & briquettes; machinery electrical & non-electrical, and organic & inorganic chemicals**.

Figure XI.4: India's Merchandise Imports





- The **merchandise trade deficit** for April-December 2022 was estimated at **US\$ 218.9 billion** as against US\$ 136.5 billion in April-December 2021.

Figure XI.5: Trends in merchandise imports, exports, and trade balance

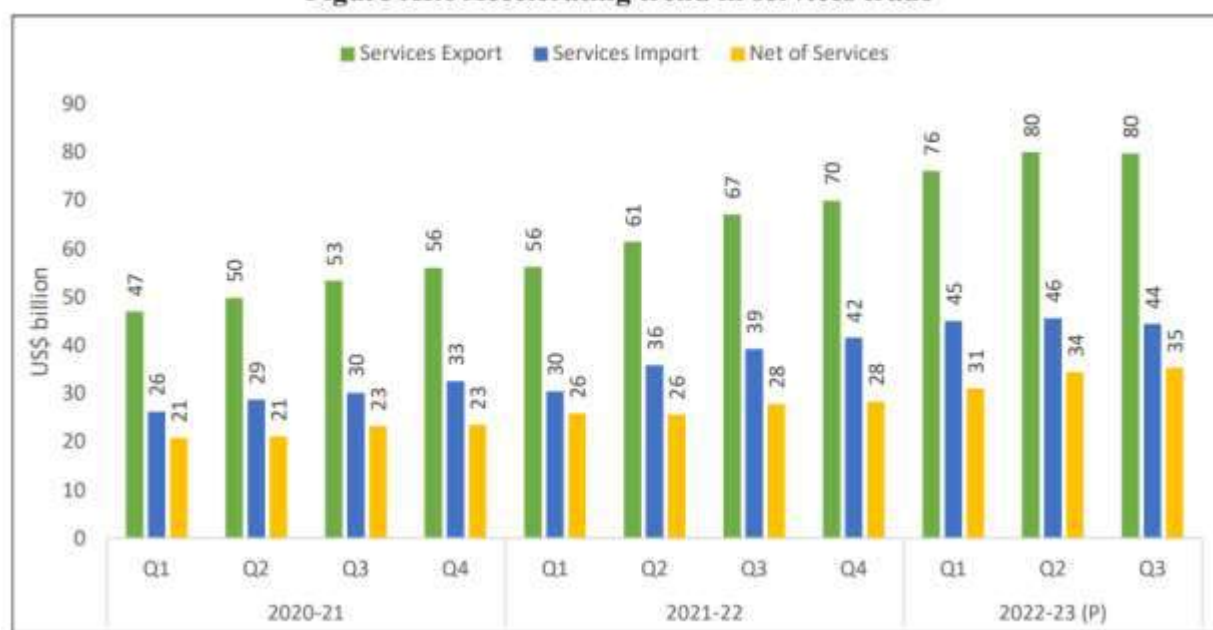


- The **USA** remained the **top export destination** in April-November, 2022 followed by **UAE** and the **Netherlands**. The Netherlands has **displaced China** from the 3rd spot as India's exporting partner.
- India has **diversified its export destinations over time**. For example, the **share of South Africa in total exports has risen** from 1.2 per cent in FY19 to **2.0 per cent** in FY23 (April to November). Over the same period, the **share of Brazil** has increased from 1.2 per cent to **2.5 per cent** and that of **Saudi Arabia** from 1.7 per cent to **2.3 per cent**.
- As regards **imports**, **China, UAE, USA, Russia, and Saudi Arabia** have a **joint share of 40 per cent** of the total imports of India. However, the **share of China declined to 13.8 per cent** during April-November 2022 from 15.5 per cent a year ago.

#### Trade in Services:

- Despite pandemic induced global restrictions and weak tourism revenues, India's **services exports stood at US\$ 254.5 billion** in FY22 and registered a **growth of 32.7 per cent** in April-September 2022. The estimated value of services export for April-December 2022 is **US\$ 235.8 billion**.
- Software and business services** together constitute **more than 60 per cent of India's total services exports**.
- Services imports rose by 25.1 per cent** between FY22 and FY21 to reach **US\$ 147.0 billion** and registered **growth of 36.7 per cent** in April-September 2022. The estimated value of services imports for April- December 2022 is **US\$ 135.0 billion**. The increase in services imports is mainly on account of payments for transport services, travel and other business services.

Figure XI.6 Accelerating trend in services trade



- Supported by the services sector, **India's overall exports** (Merchandise and Services combined) in April-December 2022 are estimated to be **US\$ 568.6 billion**, exhibiting a **positive growth of 16.1 per cent** over the same period last year. **Overall imports** in April-December 2022 are estimated to be **US\$ 686.7 billion**, displaying a **positive growth of 25.6 per cent** over the same period last year.

#### Foreign Trade Policy

- India's Foreign Trade Policy (FTP) has, conventionally, been **formulated for five years** at a time. The focus of the FTP has been to provide a framework of rules and procedures for exports and imports and a set of incentives for promoting exports.
- The **latest FTP for 2015- 2020** is in vogue at present. To provide policy stability during the pandemic period, the five year FTP 2015-20 was **extended from 2020 to 2022**. The policy has been **further extended till March 2023** on account of volatile global economic and geopolitical situations and currency fluctuations.
- The **Export Preparedness Index** has also been introduced by the **NITI Ayog** to evaluate States' potentials and capacities. It will guide all stakeholders towards strengthening the export ecosystem at both the national and sub-national levels.

#### International Trade Settlement in Indian Rupees

- In 2022, the **Reserve Bank of India (RBI)** issued a circular permitting an additional arrangement for **invoicing, payment, and settlement of exports/imports in Indian Rupees (INR)** to promote the growth of global trade with emphasis on exports from India and to support the increasing interest in the global trading community in INR as an international currency.
- The framework involves **invoicing of exports and imports in INR, market-determined exchange rates** between the currencies of the trading partner countries, and **settlement through special Rupee Vostro accounts** opened with authorised dealer banks in India.
- Under this arrangement for settlement,
  - Indian importers** undertaking imports through this mechanism shall make **payment in INR** which shall be credited into the **Special Vostro account** of the correspondent bank of the partner country, against the invoices for the supply of goods or services from the overseas seller /supplier, while

(b) **Indian exporters**, undertaking exports of goods and services through this mechanism, shall be **paid the export proceeds in INR** from the **balances in the designated Special Vostro account** of the correspondent bank of the partner country.

- The framework could **largely reduce the net demand for foreign exchange**, the **US dollar** in particular, for the settlement of current account related trade flows.
- Further, the use of INR in cross-border trade is expected to **mitigate currency risk for Indian businesses**.
- **Protection from currency volatility** not only **reduces the cost of doing business** but also **enables better business growth**, improving the chances for **Indian businesses to grow globally**.
- It also **reduces the need for holding foreign exchange reserves and dependence on foreign currency**, making the Indian economy **less vulnerable to external shocks**.
- Further, it could assist Indian exporters in getting advance payments in INR from overseas clients and in the longer term **promote INR as an international currency** once the rupee settlement mechanism gains traction.
- One of the prerequisites for the **emergence of an international currency** is that the said currency needs to be **increasingly used for trade invoicing**. In terms of foreign exchange market turnover (daily averages), as per the BIS Triennial Central Bank Survey 2022, the **US dollar** is the **dominant vehicle currency** accounting for **88 per cent of the global forex turnover**. The **INR** accounted for **1.6 per cent**.
- If the INR turnover rises to equal the share of non-US, non-Euro currencies in global forex turnover of **4 per cent**, **INR could be regarded as an international currency**, reflecting India's position in the global economy.

#### Initiatives to enhance trade

- The commendable performance of India's exports, standing at **US\$ 422.0 billion in FY22**, exceeding the target of US\$ 400 billion, has been the culmination of efforts from all quarters and across stakeholders.
- **Remission of Duties and Taxes on Exported Products (RoDTEP) scheme**: The scheme seeks **remission of Central, State and Local duties/taxes/levies at different stages** at the Central, State, and local level, which are incurred in the process of manufacturing and distribution of exported products, but are currently not being refunded under any other duty remission scheme.
- **Export Credit Guarantee**: The **Export Credit Guarantee Corporation (ECGC)** supports Indian exporters and banks by providing export credit insurance services. ECGC provides **insurance cover** on the export consignment to protect exporters from the consequences of the payment risks. It also provides **Export Credit Insurance to Banks (ECIB)** to protect the Banks from losses on account of export credit given to exporters due to the risks of insolvency and/or protracted default of the exporter borrower.
- **Krishi Udan Scheme**: Krishi Udan Scheme was launched in 2020 on international and national routes to **assist farmers in transporting agricultural products** so that it improves their value realisation, mainly focusing on transporting perishable food products from the **hilly areas, NorthEastern states, and tribal areas**.
- **Districts as Export Hubs – One District One Product Initiative**: The Districts as Export Hubs - ODOP initiative is aimed at **targeting export promotion, manufacturing, and employment generation** at the grassroots level. It seeks to **select, brand, and promote products/services from each district of the country**

for enabling holistic socioeconomic growth across all regions, attract investment in the district to boost manufacturing and exports.

### India's Global Trade Engagements

- India has always stood for an **open, equitable, predictable, non-discriminatory, and rule-based international trading system**. India considers **Regional Trading Arrangements (RTAs)** as 'building blocks' towards the overall objective of trade liberalisation and as complementing the multilateral trading system.
- The economic rationale for FTAs/RTAs was the **diversification and expansion of India's exports** to its trading partners, providing a **level playing field vis-à-vis the competing countries** having preferential access in our trading partners, as well as **gain easier access to raw materials and intermediate products**, at lower costs, for stimulating value-added domestic manufacturing.
- In the case of the **India-Association of Southeast Asian Nations (ASEAN), India-Korea, and India-Japan Agreements**, this was also part of a **geopolitical strategy** that dovetailed well into India's "**Look East Policy**."
- India has so far concluded **13 Free Trade Agreements (FTAs)** and **6 Preferential Trade Agreements (PTAs)**. The most recent in the list are the **India-UAE Comprehensive Economic Partnership Agreement (CEPA)** which entered into force in May 2022 and the **India-Australia Economic Cooperation and Trade Agreement (Ind-Aus ECTA)**, which entered into force in December 2022.
- Further, India is presently engaged in **FTA negotiations** with some of its trading partners, notable among these FTAs are – (i) India-UK FTA, (ii) India-Canada CEPA/ Early Progress Trade Agreement (EPTA), (iii) India-EU FTA.
- Moreover, India has also initiated action to **review some of the existing FTAs**, namely, India-Singapore CECA, India-South Korea CEPA, and India-ASEAN Trade in Goods Agreement.

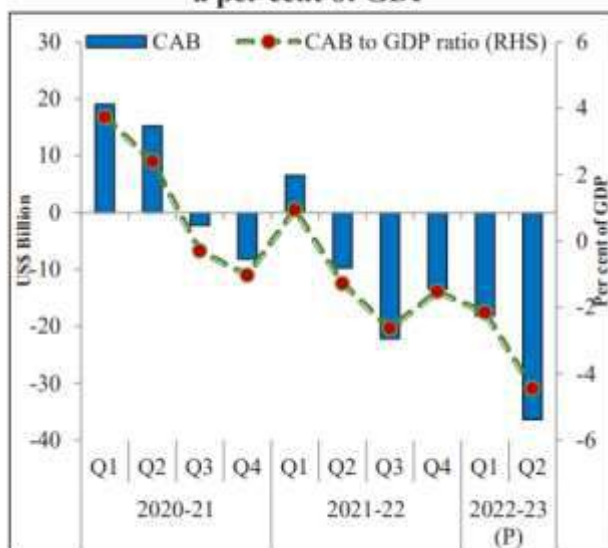
### Balance of Payments in Challenging Times

#### **Current Account Balance:**

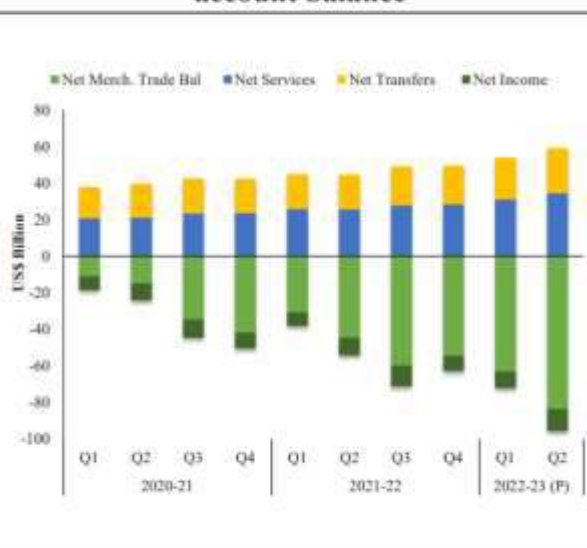
- India's current account balance (CAB) recorded a **deficit of US\$ 36.4 billion (4.4 per cent of GDP)** in Q2FY23 in contrast to a deficit of US\$ 9.7 billion (1.3 per cent of GDP) during the corresponding period of the previous year.
- For the period **April- September 2022 (H1FY23)**, India recorded a **CAD of 3.3 per cent of GDP** on the back of an increase in the merchandise trade deficit, as compared with 0.2 per cent in H1FY22. However, a comparison with the position of the CAB for selected countries shows that **India's CAD is modest and within manageable limits**.

### XI.7: Current Account Balance (CAB): Magnitude and Composition

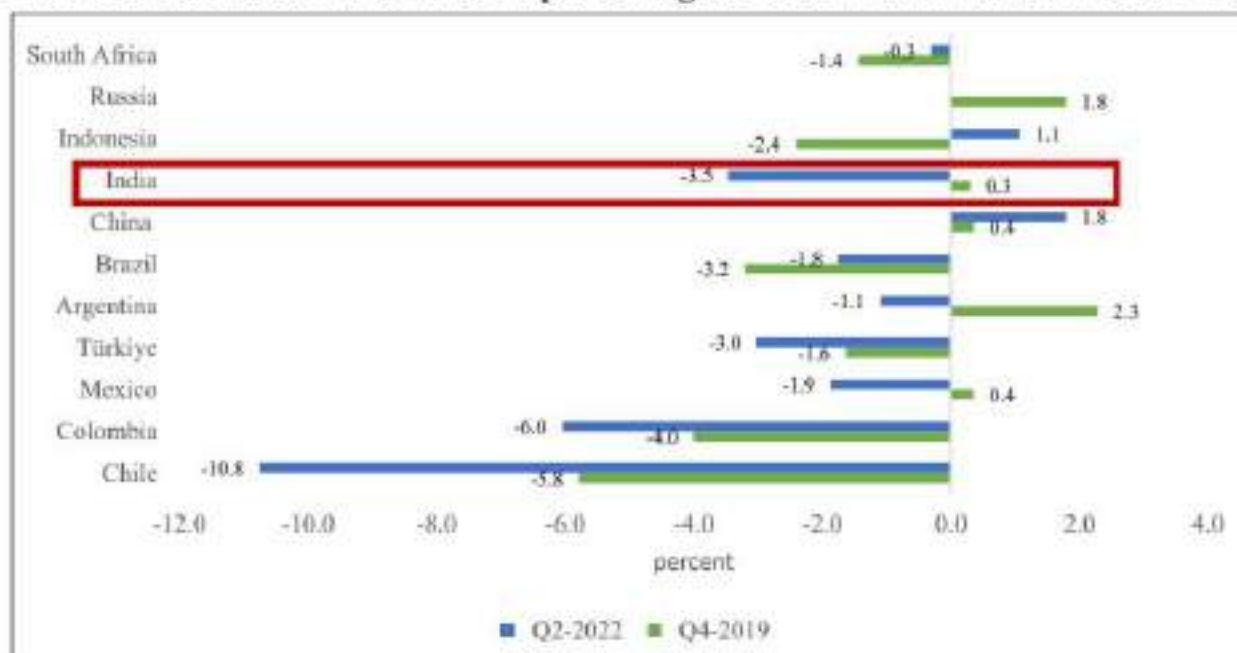
a. Current account balance and as a per cent of GDP



b. Composition of Current account balance



### XI.8: Current account balance as percentage of GDP: India vs Select Countries



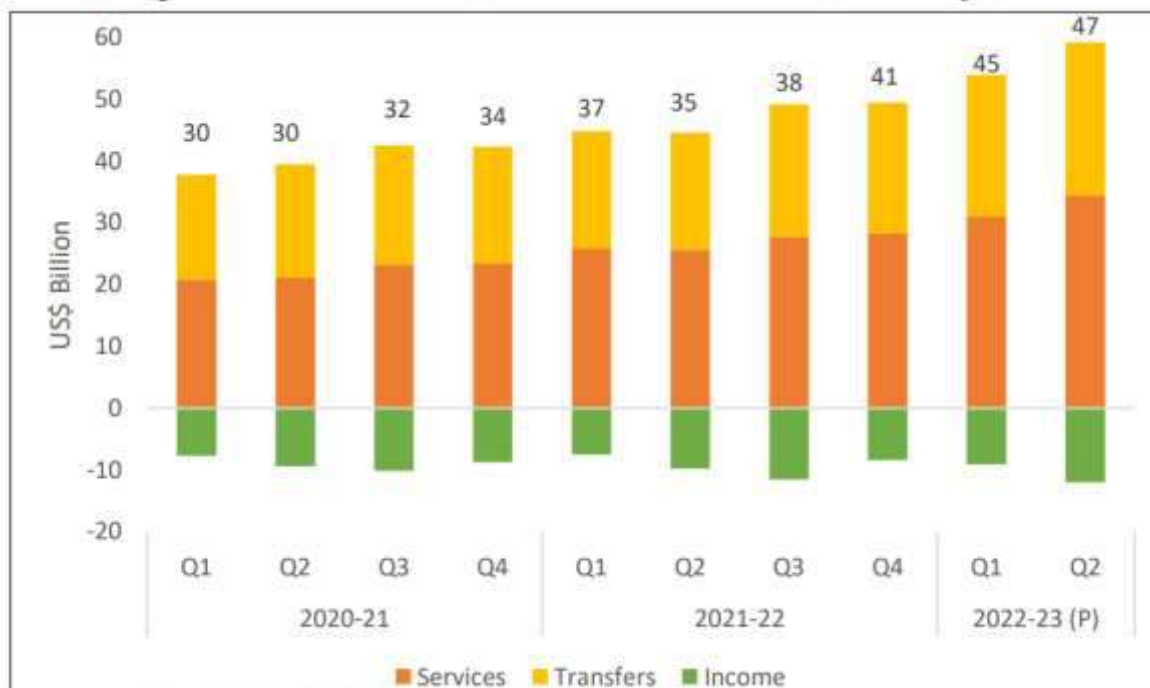
#### Invisibles:

- **Net services receipts increased** from US\$ 51.4 billion in H1FY22 to **US\$ 65.5 billion in H1FY23**, primarily on account of robust computer and business services receipts.
- Similarly, the **net private transfer receipts**, mainly representing **remittances by Indians employed overseas**, was **US\$ 48.0 billion in H1 FY23** against their level of US\$ 38.4 billion during the same period a year ago.
- A **sharp rise in crude oil prices and the depreciation of the INR** seem to have boosted remittance flows into India. Net services exports and remittances



contributed to the **surplus on the invisible account**, which cushioned the **merchandise trade deficit**.

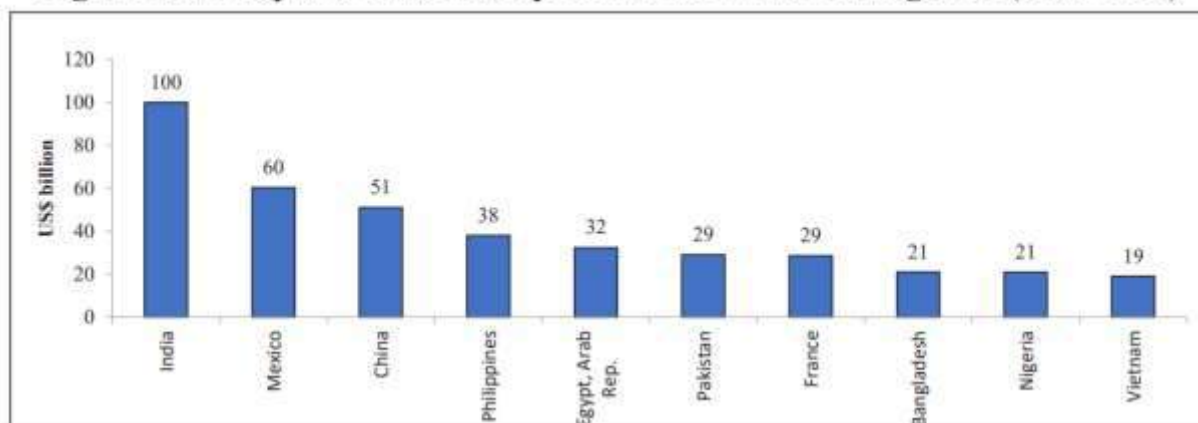
#### XI.9: Composition of Net Invisibles: Robust services and buoyant transfers



Source: RBI P: Provisional

- **Remittances** are the **second largest major source of external financing after service export**, which contribute to narrowing the CAD and has always been a stable constituent of the BoP.
- **India has the largest emigrant population and is the top remittance recipient country** with remittances anticipated to reach a milestone of **US\$100 billion** in 2022 according to the **World Bank**.
- Remittances have benefitted from a **gradual structural shift** in Indian migrants' key destinations **from largely low-skilled, informally employment in the Gulf Cooperation Council (GCC) countries** to a dominant share of **high-skilled jobs in high-income countries** such as the **United States, the United Kingdom, and East Asia (Singapore, Japan, Australia, New Zealand)**.

Figure XI.10 Top Remittance recipients of the World during 2022 (Estimated)



### Capital Account Balance:

- **Foreign investment**, consisting of **Foreign Direct Investment (FDI)** and **foreign portfolio investment (FPI)**, is the **largest component of the capital account**.
- On a BoP basis, the **net capital inflows declined to US\$ 29.0 billion** in H1FY23 from US\$ 65.0 billion in H1FY22 primarily driven by the **FPI outflow of US\$ 14.6 billion** in Q1FY23.
- Repercussions of the Russia-Ukraine conflict and **aggressive monetary policy tightening** by the US Fed escalated **global financial market volatility leading to net outflow by FPIs**.
- During April-September 2022, **gross FDI inflows were US\$ 39.3 billion** as compared to US\$ 42.5 billion a year ago. **Computer Software and Hardware** attracted the highest share of FDI equity inflow (23.4 per cent) followed by **Services** (15.4 per cent) and **Trading** (12.2 per cent).
- In terms of FDI inflow, **Singapore was the top investing country** with a 37.0 per cent share, followed by **Mauritius** (12.1 per cent), **UAE** (11.0 per cent), and the **USA** (10.0 per cent).

### Balance of Payments and Foreign Exchange Reserves:

- Overall, the adverse global economic situation placed **India's BoP under pressure** in 2022. While the impact of a **sharp rise in oil prices** was discernible in the **widening of the CAD**, **policy tightening by the US Fed and the strengthening of the US dollar led to FPI outflows**.
- As a result, as the **net financial inflows fell short of the CAD**, there was a **depletion of foreign exchange reserves** on a BoP basis to the tune of **US\$ 25.8 billion** in H1FY23.
- **India's foreign exchange reserves stood at US\$ 532.7 billion** as of end-September 2022, **covering 8.8 months of imports**. India is the **sixth largest foreign exchange reserves holder** in the world.
- The **import coverage of foreign currency reserves has declined since the pre-pandemic levels in most emerging market economies**; however, that of **India has increased** from 95% in Q4 2019 to **96.5%** in Q3 2022.

**Figure XI.15 Adequacy of India's Forex Reserves (as a percentage of Annual Imports):  
A Cross-country perspective**



- Foreign Exchange Reserves are required for various purposes, such as to **maintain the exchange rate within a certain range**, or to **maintain a certain level of exchange rate** if the country follows a fixed exchange rate system; **maintain**

**liquidity and allow time to absorb shocks** in situations where access to borrowing is curtailed or very costly.

### Exchange Rates Moving in Tandem with Global Developments

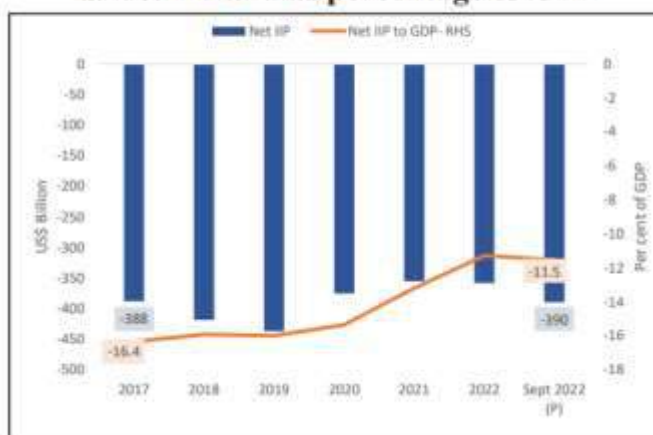
- The exchange rate of the Indian Rupee is **market-determined** as the RBI's **intervention** in the foreign exchange market is **mainly to contain instances of excessive volatility**.
- From April to December 2022, the **INR has depreciated against US\$ by 8.3 per cent**. Over the same period, the US dollar has appreciated by 4.4 per cent in terms of the US dollar index.
- The **Nominal Effective Exchange Rate (NEER) of the US dollar** (27 economies) **appreciated by 7.8 per cent** in the calendar year 2022, up to December, while the **NEER of India** (64 economies) **depreciated by 4.8 per cent**. In other words, it is not that the INR has weakened, but it is the US dollar that has strengthened. Several other currencies depreciated even more value against the US dollar than the INR.
- Further, the **INR appreciated against select major currencies barring the US dollar**.

### International Investment Position

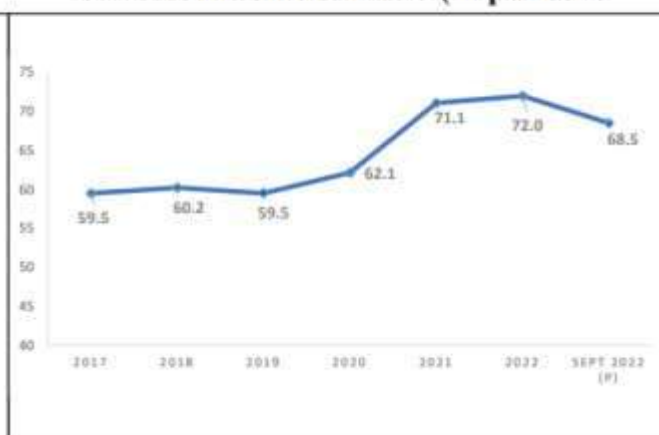
- The international investment position (IIP) is a statistical statement that shows at a point in time the value and composition of
  - (a) **financial assets of residents of an economy** that are claims on non-residents and gold bullion held as reserve assets, and
  - (b) **liabilities of residents of an economy to non-residents**.
- The **difference between** an economy's external financial assets and liabilities is the **economy's net IIP**, which may be positive or negative.
- The Net IIP position **determines whether a country is a net creditor or debtor nation** by measuring the difference in its external assets and liabilities. These statistics serve as an **indicator of a country's financial condition and soundness**. The Net IIP, along with the BoP transactions, **reflects the domestic economy's set of international accounts**.
- For India, as of end-September 2022, **Indian residents' overseas financial assets at US\$ 847.5 billion** were lower by US\$ 73.0 billion or 7.9 per cent compared to the level as of end March 2022. **International liabilities at US\$ 1,237 billion** as of end-September 2022 were lower by US\$ 41.6 billion (3.2 per cent) as compared to the level as of end-March 2022.
- **India's international financial assets covered 68.5 per cent of international financial liabilities** as of end September 2022.

### XI.18: India's net International Investment Position in end-September 2022

a. Net IIP and as percentage to GDP



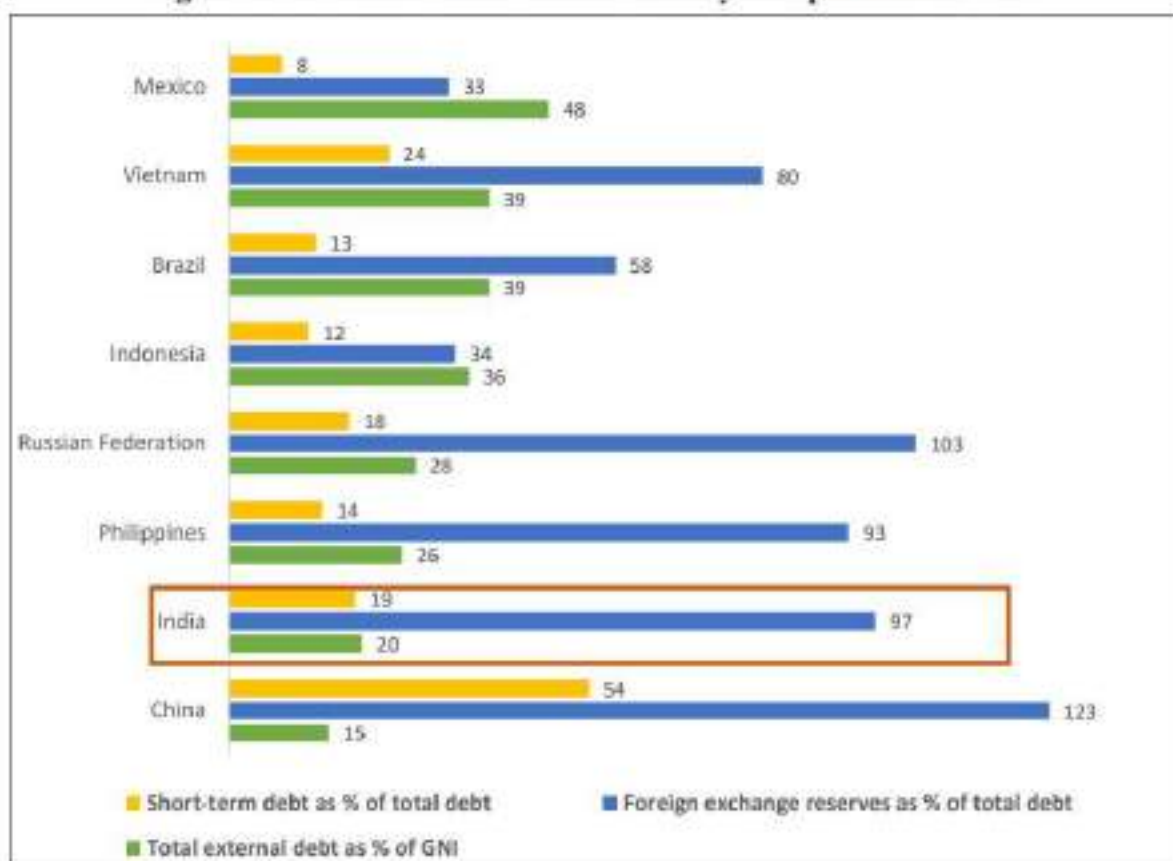
b. Asset Liabilities Ratio (in per cent)



#### Safe and Sound External Debt Situation

- **India's external debt**, at **US\$ 610.5 billion** as of end-September 2022, **grew by 1.3 per cent** (US\$ 7.6 billion) over US\$ 602.9 billion as of end-September 2021. However, **external debt as a ratio to GDP fell to 19.2 per cent** as of end-September 2022 from 20.3 per cent a year ago.
- The **optimal threshold** for India's external debt is **around 23-24 per cent of GDP**. Thus, India has the potential growth positive space as far as the external debt level is concerned.
- The **long-term debt was lower at US\$ 478.7 billion** as of end-September 2022 than US\$ 498.1 billion a year ago with the **share of long-term debt falling to 78.4 per cent** from 82.8 per cent during the same period.
- On the other hand, the **short-term debt at US\$ 131.7 billion** as of end-September 2022 was higher than US\$ 104.8 billion as of end-September 2021. Accordingly, the **share of short-term debt in total debt went up to 21.6 per cent** from 17.4 per cent.
- **About 97 per cent of short-term debt is in the form of trade credit** to finance imports and hence the rise in short-term debt is **stability-friendly**. Further, while a **major part of India's external debt is denominated in the US dollar** (55.5 per cent as at-September 2002), the **Indian rupee-denominated component** (30.2 per cent) occupies the **second largest position**, insulating the external debt from foreign currency risk.
- As of end-September 2022, **Sovereign External Debt (SED)** amounted to **US\$ 124.5 billion**, decreasing by 5.7 per cent over the level a year ago. **Non-SED**, estimated at **US\$ 486.0 billion** as of end-September 2022, posted a growth of 3.2 per cent over the level a year ago.
- **Deposit-taking Corporations (except the Central Bank) and non-financial corporations** accounted for the bulk of non-SED.
- The **debt service ratio (principal repayments plus interest payments)** as of end-September 2022 stood at **5.0 per cent** vis-à-vis 5.2 per cent as of end-March 2022.
- Comparing various debt vulnerability indicators of India with peer countries for 2021 informs that the **country is in a better position in terms of relatively low levels of total debt as a percentage of Gross National Income (GNI) and short-term debt as a percentage of total debt**. The current stock of external debt is **well shielded by the comfortable level of foreign exchange reserves**.

**Figure XI.19 Debt ratios: Cross-country comparison for 2021**



### Outlook for the External Sector

- India is facing **competition from South Asian countries** in a few of its export competitive products. In the textile sector, **Bangladesh and Vietnam** are seen to be expanding their exports globally, in recent years. Further, Vietnam has been able to expand its exports in machinery and equipment; computers, electronic products, certain agriculture products etc.
- However, given the benefits of the **lower average age of the working population** along with the **advantage of economies of scale**, India has the potential to cater to the global demand for several products in a cost-effective manner.
- While India's external sector faces challenges, it is performing relatively better as compared to many of its peers as it has inbuilt shock absorbers to weather them.



## CHAPTER 12 - PHYSICAL AND DIGITAL INFRASTRUCTURE: LIFTING POTENTIAL GROWTH

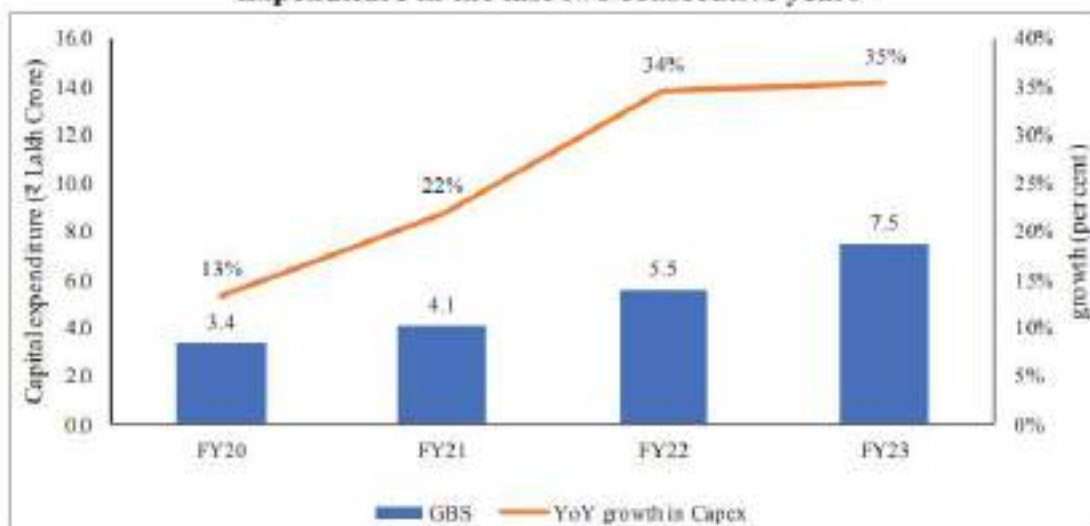
### Introduction

- India is the **world's fifth largest economy** and the prospect of steady progress in the coming years is bright. Investing in high-quality infrastructure is crucial for accelerating economic growth and sustaining it in the long run. It further plays a significant role in **poverty reduction** and **promotes both rural and agricultural development**.

### Government's Vision and Approaches to Infrastructure Development in India

- The government, in recent years, provided an increased impetus for infrastructure development and investment through the enhancement of capital expenditure.
- The **outlay (target) for capital expenditure** in 2022-23 (BE) was **increased sharply by 35.4 per cent** from ₹ 5.5 lakh crore in the previous year (2021-22) to ₹7.5 lakh crore.

**Figure XII.2: Central Government has sharply increased Capital Expenditure in the last two consecutive years\***



- The steady increase in public capital expenditure has helped **support economic growth** while **laying the foundation for future growth** as capital assets boost economic efficiency and potential growth.
- As physical infrastructure requires **continuous support over its long gestation period**, the government has also set up **National Bank for Financing Infrastructure and Development (NaBFID)** as a **development financial institution** to set in motion a virtuous investment cycle.
- An institutional mechanism to fast-track investments has been put in place, in the form of **Project Development Cells (PDCs)** in all concerned Ministries/Departments of Government of India.

### Public-Private Partnerships (PPPs)

- PPPs are vital instruments for governments in **channeling the strength of the private sector in critical areas of infrastructure**. It helps to **address infrastructure gaps and improve efficiency** in infrastructure service delivery.
- In India, private participation in infrastructure programmes supports several PPP models, including management contracts like **Build-Operate-Transfer (BOT)**, **Design-Build-FinanceOperate-Transfer (DBFOT)**, **Rehabilitate-Operate-**

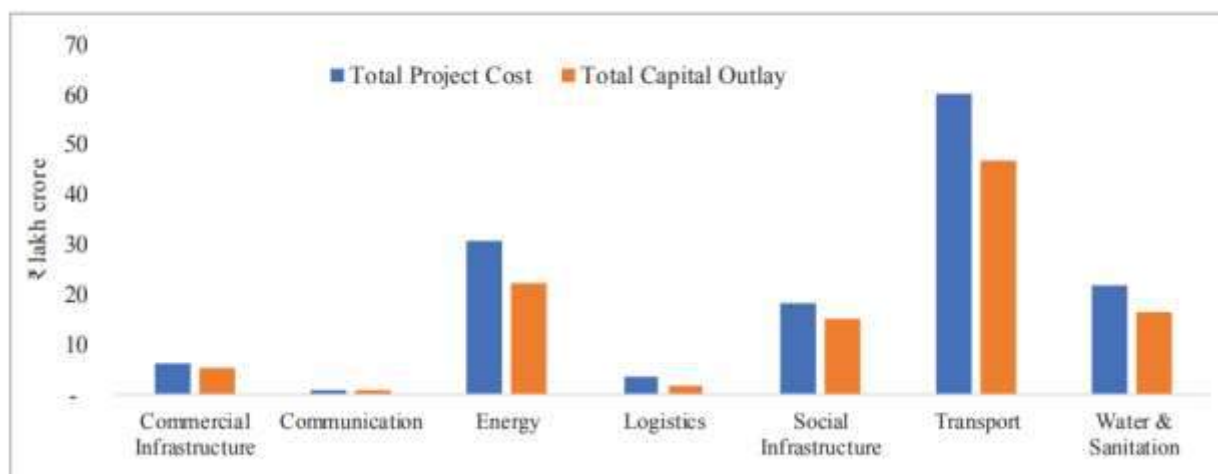
### **Transfer (ROT), Hybrid Annuity Model (HAM), and Toll-Operate-Transfer (TOT) model.**

- Under the **BOT model**, there are two variants – **BOT (Toll)** and **BOT (Annuity)** depending on who bears the traffic risk. In the case of BOT (Toll), the **traffic risk is borne by the PPP concessionaire**, while in the case of BOT (Annuity), it is **borne by the public authority**.
- The **Public Private Partnership Appraisal Committee (PPPAC)**, the apex body for appraisal of PPP projects in the Central Sector, has streamlined the appraisal mechanism to ensure speedy appraisal of projects, eliminate delays, adopt international best practices and have uniformity in appraisal mechanism and guidelines.
- The PPPAC is chaired by **Secretary, Department of Economic Affairs (DEA)** with Secretaries of Department of Expenditure, Department of Legal Affairs, the Sponsoring Ministry/Department and CEO, NITI Aayog as members to consider and appraise the proposals for Central Sector PPP Projects.
- DEA launched the **Viability Gap Funding (VGF) scheme** in 2006. Under this scheme, economic sector projects may get **up to 40 per cent of Capex as a VGF grant**. The Scheme includes **higher provisions of VGF grant for social sectors**.
- A scheme for financial support for project development expenses of PPP Projects – the '**India Infrastructure Project Development Fund Scheme**' (IIPDF) – was notified by the government in November 2022. The aim of the scheme is to **develop quality PPP projects by providing necessary funding support** to the project-sponsoring authorities, both in the Central and State Governments.
- Under the scheme, a **maximum amount of ₹5 crore for a single proposal**, inclusive of any tax implications, can be funded.

### **National Infrastructure Pipeline (NIP)**

- The government launched the National Infrastructure Pipeline (NIP) with a **projected infrastructure investment of around ₹111 lakh crore during FY20-25** to provide high quality infrastructure across the country.
- It also envisages **improving project preparation** and **attracting domestic and foreign investment** in infrastructure.
- The NIP includes **both greenfield and brownfield infrastructure projects** and the **transport sector constituted more than half of the projects**.

**Figure XII.4: Transportation sector dominates the NIP**



- NIP is hosted on the **Invest India Grid (IIG) platform** and provides opportunities for States/UTs and Ministries to collate all major infrastructure projects at a single

location. IIG thus acts as a **centralised portal to track and review project progress** across all economic and social infrastructure sub-sectors. The portal also enables project-sponsoring authorities to **showcase investment opportunities** to national and international investors.

### National Monetisation Pipeline

- The need for scaling up infrastructure investment despite fiscal pressures from Covid-19 pandemic required **unlocking of capital from various projects across sectors**.
- The National Monetisation Pipeline (NMP) was announced in 2021 based on the **principle of 'asset creation through monetisation'**. It **taps private sector investment for new infrastructure creation**.
- It is expected that **private players would operate and maintain the assets**. The NMP provides an opportunity for **deleveraging balance sheets and providing fiscal space for investment in new infrastructure assets**.
- The estimated aggregate monetisation potential under NMP is **₹6.0 lakh crore** through core assets of the Central Government, over a **four-year period, from FY20-25**.
- The process of monetisation entails a **limited period license/ lease of an asset, owned by the government or a public authority, to a private sector entity for upfront or periodic consideration**.
- Funds received by the public authority are **reinvested in new infrastructure or deployed for other public purposes**. Such contracts include provisions for the **transfer of assets back to the authority at the end of the contract period**.
- It includes a selection of **de-risked and brownfield assets** with a stable revenue generation profile.
- The **top 5 sectors** (by estimated value) capture around **83 per cent of the aggregate pipeline value: roads** (27 per cent) followed by **railways** (25 per cent), **power** (15 per cent), **oil & gas pipelines** (8 per cent), and **telecom** (6 per cent).

### National Logistics Policy

- **Logistics costs in India** have been in the **range of 14-18 per cent of GDP against the global benchmark of 8 per cent**.
- Key dimensions to be addressed to improve logistics for trade include: **ensuring efficiency of the clearance process** (i.e., speed, simplicity, and predictability of formalities) by border control agencies, including customs; **improving the quality of trade and transport-related infrastructure** (e.g., ports, railroads, roads, information technology); **easing of arranging competitively priced shipments; enhancing the competence and quality of logistics services** (e.g., transport operators, customs brokers); providing for **tracking and tracing of consignments** and **ensuring timeliness of shipments** in reaching destinations within the scheduled or expected delivery time.
- These aspects have been captured by the **World Bank** in the form of a **Logistics Performance Index (LPI)**.
- The National Logistics Policy (NLP) was launched in 2022 to **improve the competitiveness of Indian goods, enhance economic growth and increase employment opportunities**.
- The targets for achieving the vision of the NLP are to
  - **reduce the cost of logistics in India to be comparable to global benchmarks by 2030;**

- **improve the Logistics Performance Index ranking** - endeavour is to be **among the top 25 countries** by 2030, and
- create a **data driven decision support mechanism** for an efficient logistics ecosystem.

### LEADS Index

- The Government undertook a survey-based **assessment of logistics ease in various States and UTs** in the form of the Logistics Ease Across Different States (LEADS) index in 2018 to gauge their logistics ecosystem. It was followed by surveys in 2019, 2021, and 2022.
- It is based on a stakeholders' survey and **uses the World Bank's Logistics Performance Index (LPI) methodology**.
- The State LPI is arrived at using a ranking methodology for stakeholder engagement based on a **series of meetings and online surveys** in the **key areas of logistics - infrastructure, services timelines, traceability, competitiveness, security, operating environments, and efficiency of regulation**.
- The LEADS 2022 survey adopted a **classification-based grading**, and States have been now **classified under four categories viz., coastal States, hinterland/landlocked States, North-Eastern States, and UTs**.
- States have **not been ranked** in order. They have been **allotted three performance categories**, namely, **Achievers**: States/UTs achieving a percentage score of 90 per cent or more, **Fast Movers**: States/UTs achieving percentage scores between 80 to 90 per cent, and **Aspirers**: States/UTs achieving percentage scores below 80 per cent.

Achievers	Fast Movers	Aspirers
Uttar Pradesh	Kerala	Goa
Tamil Nadu	Sikkim	Bihar
Uttarakhand	Madhya Pradesh	Chhattisgarh
Telangana	Tripura	A&N Islands
Punjab	Puducherry	Mizoram
Odisha	Rajasthan	J&K
Karnataka		Arunachal Pradesh
Himachal Pradesh		Ladakh
Assam		Lakshadweep
Delhi		Nagaland
Chandigarh		
Haryana		

### PM GatiShakti

- Introducing **holistic planning** in the case of infrastructure projects, the government launched PM GatiShakti, charting a **transformative approach to infrastructure development**.
- The PM GatiShakti National Master Plan entails **creation of a common umbrella platform with all infrastructure projects** pertaining to various ministries/departments incorporated within a comprehensive database for **efficient planning and implementation on a real-time basis**.

- The projects pertaining to **seven engines (roads, railways, airports, ports, mass transport, waterways, and logistic infrastructure)** in the NIP will be aligned with **PM GatiShakti framework**.
- The focus is on **integrated planning and synchronised implementation** across ministries/ departments, with innovative use of technology. The aim is to **improve multimodal connectivity and logistics efficiency** while **addressing the critical gaps** for the seamless movement of people and goods, with a focus on minimising disruptions and timely completion of infrastructure projects.
- A **GIS-based and data-driven decision support platform** called **PM GatiShakti National Master Plan** has been introduced. Around 1950 data layers of 22 ministries/departments and 36 States/UTs were mapped up to the village, district, and taluka levels on the national master plan.
- It can be integrated with various applications of different ministries/agencies to **prevent duplication of work** and create a **single window system for infrastructure planning**.
- Use cases of GatiShakti National Master Plan include connectivity to model schools and disaster management planning etc.

### Developments in Physical Infrastructure Sectors

#### **Road Transport:**

- Road infrastructure in the form of a network of **national highways, state highways, district roads, rural roads, and urban roads** acts as a major mode of transportation and connectivity for the country's diverse population of consumers and businesses. Roads supplement the other modes of transport through **last-mile connectivity to the far-flung regions of the country**.
- The National Highways Authority of India (NHAI) launched its **Infrastructure Investment Trust (InvITs)** in FY22 not only to **facilitate monetisation of roads** but also to **attract foreign and domestic institutional investors** to invest in the roads sector.

#### **Railways:**

- The Indian Railways (IR), with over 68,031 route kms, is the **fourth largest network in the world under single management**.
- The **capital expenditure (Capex) on infrastructure** in railways has seen a continuous increase in the last four years with **Capex (B.E.) of ₹2.5 lakh crore in FY23**.
- **Major initiatives of the Indian Railways:**
  - **Dedicated Freight Corridor (DFC) Project:** One of the most ambitious and biggest ever infrastructure project in the railways, which comprises **construction of two dedicated freight corridors, i.e., Eastern and Western DFCs along the golden quadrilateral**, will offer higher transport output in the country with reduced transit time and cost.
  - **GatiShakti Multi-Modal Cargo Terminal (GCT):** GCTs are being **developed by private players on non-railway land as well as fully/ partially on railway land**, based on demand from industry and potential of cargo traffic. This will boost investment from industry in the **development of additional terminals for handling rail cargos**.
  - **Induction of semi-high-speed Vande Bharat Trains:** Semi High-Speed Self-Propelled Vande Bharat Trains were manufactured by **Integral Coach Factory, Chennai**, with **indigenous efforts**. These trains have **ultra-modern features** like quick acceleration, substantial reduction in travel time, having



maximum speed of 160 kmph, on-board infotainment and Global Positioning System (GPS) based passenger information system, etc.

- **Electrical/Electronic Interlocking System:** It envisages **centralized operation of points and signals to enhance safety** in train operations. These systems have been provided at 6,322 stations covering **99 per cent stations of Indian Railways**.
- **Development of Hyperloop technology:** Hyperloop is an emerging transportation technology that can be **faster and greener** than airplanes and railways. In this system, **vehicles run in the levitating state** (with the help of **Linear Induction Motors/Electromagnets**) and in **vacuum environment**. The technology is still in the development phase. Indian Railways intends to develop a demonstrative project on Hyperloop Technology.
- **Kisan Rail trains** were introduced in FY21 to enable **speedy movement of perishables** from production or surplus regions to consumption or deficient regions.

#### **Civil Aviation:**

- The civil aviation sector in India has great potential owing to **growing demand from the middle class, growth in population and tourism, higher disposable incomes, favourable demographics, and greater penetration** of aviation infrastructure.
- This is further supported by the government through schemes such as **UDAN**, which has considerably enhanced regional connectivity through the **opening of airports in India's hinterland**.
- Under this scheme, the government has approved a budget of ₹4500 crore for **revival of existing unserved/ underserved airports/airstrips** of the State governments, Airports Authority of India (AAI), public sector undertakings and civil enclaves.
- The scheme focuses on the **connectivity between the Tier-2 and 3 cities in the country**.

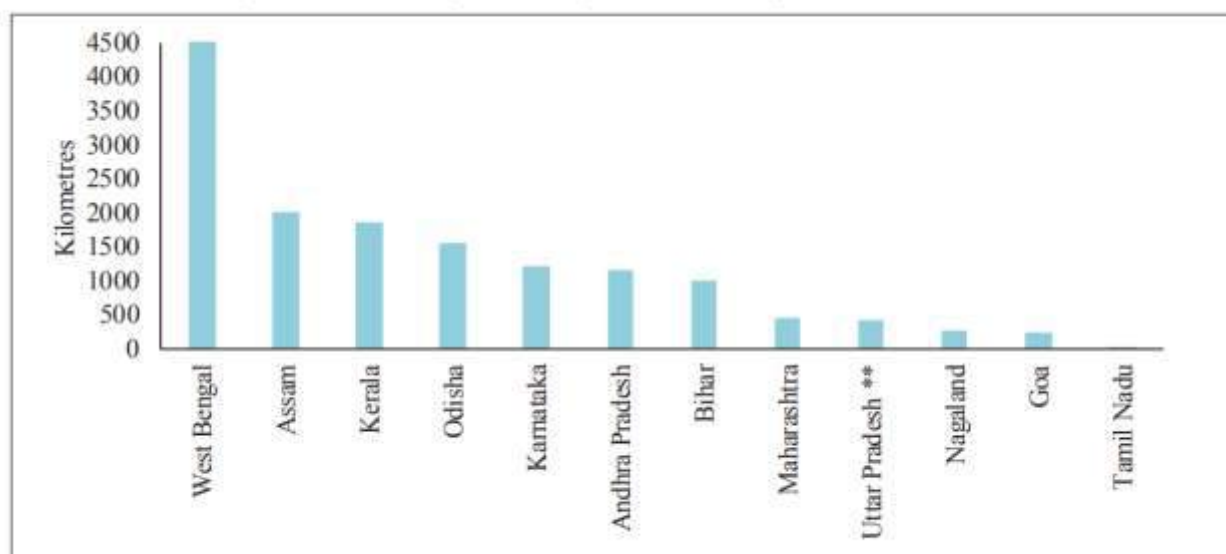
#### **Ports:**

- The development of ports is crucial for the economy, given that **most of the international trade is handled through ports (around 90 per cent of international trade cargo by volume and 79.9 per cent by value)**.
- For streamlining the **port compliances** and for **reducing the Turn Around Time (TAT)** for vessels, long strides have been taken at the major ports towards the **digitisation of key EXIM processes**.

#### **Inland Water Transport:**

- Inland water transport holds **great untapped potential** as a means for the transportation of goods and passengers. India has a large endowment of rivers, canals, and other waterways. The **total navigable length of waterways in India is around 14,850 kilometres**.

Figure XII.9: Navigable Length of Waterways in Different States



Source: Statistics of Inland Water Transport 2020-21, Ministry of Port, Shipping and Waterways

Note: Data pertains to 2020-21. \*\*Data for Uttar Pradesh pertains to 2016-17

- Under the **National Waterways Act 2016**, **106 new waterways have been declared as National Waterways (NWs)**, taking the total number of NWs in the country to **111**. Developmental activities have been initiated in the 14 most viable NWs.
- The **Inland Vessels Act 2021** has been passed by the Parliament to **bring uniformity** in the application of the law relating to inland waterways and navigation within the country.
- Some salient features of the Act include:
  - **State governments** may declare by notification any inland water area as a **"Zone"** depending on the maximum significant wave height criteria as prescribed in the Act.
  - **Any mechanically propelled vessel** would have to obtain a **certificate**, which would indicate the zone in which the vessel is to be operated.
  - A **central database** of inland vessels would be maintained by the government.
  - The **standards for qualification, training, training institutes, examination, and grant of certificate of competency** would be prescribed by the **Central Government**.
  - Constitution of a **Development Fund** by the **State Government** to be utilised for meeting emergency preparedness, containment of pollution, removal of unidentified wrecks or obstruction, boosting development works of inland water navigation, etc.

#### Electricity:

- The **total installed power capacity of utilities and captive power plants** (industries having demand of 1 Mega Watt (MW) and above) was **482.2 GW** on 31 March 2022.
- **Thermal sources of energy** make up the largest (59.1 per cent) share of total installed capacity in utilities, followed by **renewable energy resources** with 27.5 per cent and **hydro** with 11.7 per cent.

Table XII.2: All India Installed Capacity Mode-Wise (GW)

	Hydro	Thermal	Nuclear	Renewables	Total
2020-21	46.3	307.4	6.8	100.1	460.7
2021-22@	46.9	312.2	6.8	116.4	482.2
Growth (in per cent)	1.1	1.6	0	16.2	4.7

- The **total electricity generated**, including that from captive plants during the year FY22 was **17.2 lakh GWh**.
- Between FY22 and FY21, the **maximum rise in electricity generation** was recorded in **renewable energy resources**. India has put in place a target of achieving **50 per cent cumulative installed capacity for generating electric power from non-fossil fuel-based energy resources by 2030**.
- In order to reduce the carbon footprint of the farm sector, Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (**PM-KUSUM**) aims to provide **energy and water security, de-dieselise the farm sector and generate additional income** for farmers by producing solar power.
- In addition, the government has introduced the **Solar Park Scheme** to facilitate necessary infrastructure like land, power evacuation facilities, road connectivity, water facility, etc. along with all statutory clearances.
- **Indian Railways**, which is a major user of electricity in the country, has announced its intention to achieve **net zero carbon emission by 2030**.

#### Developments in Digital Infrastructure

- The government's **Digital India programme**, which aims to transform India into a **digitally empowered society and knowledge economy**, envisions digital infrastructure as a core utility to every citizen.
- The focus areas include the **availability of high-speed internet** as a core utility for delivery of services to citizens, **unique digital identity, enabling citizen participation** in digital and financial space, **shareable private space on a public cloud** (citizens can digitally store their documents, certificates, etc. and share them with public agencies or others without the need to physically submit them), and a **safe and secure cyber-space**.

#### **Telecommunications:**

- Today, the **total telephone subscriber base** in India stands at **117 crore**. The **overall tele-density** (number of subscribers per 100 inhabitants) **in India stood at 84.8 per cent**, with wide differences across states. It ranged from 55.4 per cent in Bihar to 270.6 per cent in Delhi.
- Apart from the **interstate disparity** in tele-density, **in rural areas the tele-density continues to be at much lower levels** compared to urban areas.
- However, the catch-up by the rural areas is visible as the **YoY change in internet subscribers is greater in rural** than in urban areas.
- This has been a result of dedicated digital drives across rural areas through ambitious government schemes, like the flagship **BharatNet Project Scheme, Telecom Development Plan, Aspirational District Scheme**, initiatives in North-Eastern Region through **Comprehensive Telecom Development Plan (CTDP)** and initiatives towards areas affected by Left Wing Extremism (LWE) etc.

### Growth Story of Digital Public Infrastructure

- The emergence of Digital Public Infrastructure (DPI), aimed at **improving financial literacy, innovation, entrepreneurship, employment generation, and empowering beneficiaries** has played a critical role in uplifting the economy.
- **Unified Payments Interface (UPI)** was introduced in 2016 to revolutionize the payment landscape through **universal operability, single payment address, and low-cost mobile-first payment system**.
- UPI is a **single mobile application for accessing different bank accounts**. As the application is user-friendly and fast, consumers and merchants have displayed a great affinity to digital technology, leading to rapid growth in this digital payment infrastructure.
- In FY22, **UPI accounted for 52 per cent of the total 8,840 crore financial digital transactions**.
- With **Aadhaar** establishing the authentication framework for verifying the identity of beneficiaries of welfare schemes, the next logical step was to make major government services available digitally.
- **'MyScheme'** is an **e-Marketplace for schemes** where users can look for suitable schemes based on their eligibility. More than 181 Central and State/UT government schemes across 14 diverse categories have been hosted on the portal.
- To reduce the search cost for the commoners, the government launched **Unified Mobile Application for New-Age Governance (UMANG)**, which enables citizens to **access e-Government services offered by the Central and State Government** in various sectors such as agriculture, education, health, housing, employees, pensioners, and students' welfare, the Public Distribution System, and others.
- The government has also launched the **Open Network for Digital Commerce (ONDC)** which aims to **go beyond the current platform-centric digital commerce model** where the **buyer and seller can use the same platform or application for transactions**.
- ONDC is a **network-based open protocol** that would connect all the buyers and sellers on the network thus bringing better visibility across the Business-to-Consumer (B2C) & Business-to-Business (B2B) landscape.
- In the ONDC framework, consumers can potentially **discover any seller, product, or service by using any compatible application or platform**. This will increase the freedom of choice for the consumers and will enable them to match demand with the nearest available supply, allowing them to choose their preferred local businesses.
- In order to **promote open collaborative software development of e-governance applications**, a platform called **OpenForge** has been developed. Through OpenForge, the use of open-source software and sharing and reuse of e-governance-related source code is promoted.
- The **national Artificial Intelligence (AI) portal** has been developed with a view to strengthening the AI ecosystem in the country by pooling together and highlighting the latest developments happening in Central and State Governments, industry, academia, NGOs, and civil societies.
- **'Bhashini'**, the **National Language Translation Mission**, aiming at nurturing Indian language technologies and solutions as a public good, was launched in 2022. It is a public digital platform on which AI models are available for speech-to-text conversion, machine translation, and text-to-speech conversion in 11 Indian languages and English for various purposes.

- Another important initiative is the **Open Credit Enablement Network (OCEN)**, an open network which **codifies the flow of credit** between borrowers, lenders, and credit distributors under a common set of standards. It aims to ensure that small borrowers are able to avail themselves of the best terms under which credit is available.
- It was created by **iSPIRT**, a **non-profit think tank** that was key in implementing public digital infrastructure such as Aadhar and UPI. By allowing platforms and marketplaces to connect with banks and non-banking lenders to digitize the process of originating, underwriting and servicing a loan, OCEN aims to democratize credit access to small business and vendors across the country.

### **Conclusion**

- The synergy between physical and digital infrastructure will be one of the defining features of India's future growth story.