GS SCORE

An Institute for Civil Services

GIST OF ECONOMIC SURVEY - 2018-19

VOL-II

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CHAPTER: 1

STATE OF THE ECONOMY IN 2018-19

A MACRO VIEW

Global Economic Scenario

- Growth of both advanced economies and emerging economies are expected to decline.
- World output declined to 3.6% in 2018 due to various reasons such as:
  - US-China trade tensions
  - Change in credit policy of China
  - Financial tightening in the advanced economies
- According to World Economic Outlook report, India forms part of 30% of the global economy, whose growth is not projected to decline in 2019 whereas other economies are going to slow down.
- India's contribution to GDP of EMDE's and world economy has increased over the years.
- WEO report of IMF states that growth of world economy will be boosted mainly by the growth in India and China and their increasing weights in world income.

Indian Economy

- India is still the fastest growing major economy and 7th largest economy in terms of GDP in 2018-19.
- India's GDP at current international dollar with PPP adjustments ranks 3rd in the world.
- Growth of India's GDP moderated to 6.8% in 2018-19 from 7.2% in 2017-18.
- Various reasons behind moderation is mainly due to:
  - "Agriculture and allied" – Decline in rabbi crop production and contraction in food prices.
  - Lower growth in trade, hotel, transport, communication and service related to broadcasting.
  - Moderation in public administration and defence sectors.
- Election related uncertainty may have contributed too.
- Deceleration in manufacturing sector has hindered growth of industry sector. IIP of manufacturing sector grew at 0.3% compared to 7.5% in the same quarter of previous year.
- Slowdown in auto sector.
- Stress in NBFC's also contributed to slowdown.
- GDP deflator has become small as gap between nominal and real growth rate has reduced.
- Decline in CPI inflation during the last few years. Headline CPI declined to 3.4 per cent in 2018-19 from 3.6 per cent in 2017-18.
- Headline WPI inflation stood at 4.3 per cent in 2018-19, higher as compared to 3.0 per cent in 2017-18.
- On the external front, current account deficit (CAD) increased from 1.9 per cent of GDP in 2017-18 to 2.6 per cent in April-December 2018. The widening of the CAD was largely on account of a higher trade deficit driven by rise in international crude oil prices.
- Trade deficit increased from US$ 162.1 billion in 2017-18 to US$ 184 billion in 2018-19.
- Rupee depreciated by 7.8 per cent vis-à-vis US dollar, 7.7 per cent against Yen, and 6.8 per cent against Euro and Pound Sterling in 2018-19.
- The foreign exchange reserves in nominal terms (including the valuation effects) decreased by US$ 11.6 billion at end-March 2019 over end-March 2018.
- FDI inflows grew by 14.2% in 2018-19. Among the top sectors attracting FDI equity inflows, services, automobiles and chemicals were the major categories.
- As per Provisional Actual (PA) for 2018-19, fiscal deficit stood at 3.4 per cent of GDP.
- Direct taxes grew by 13.4% owing to improved performance of corporate tax. However, indirect taxes fell short of budget estimates by about 16% following a shortfall in GST revenues.

Banking Sector

- Indian banking sector has been dealing with twin balance sheet problem, which refers to stressed corporate and bank balance sheets. The increase in Non-Performing Assets (NPA) of banks led to stress on balance sheets of banks, with the Public Sector Banks (PSBs) taking in more stress.
- But, the performance of the banking sector (domestic operations), and PSBs in particular, improved in 2018-19.

Drivers of Growth

- Consumption has always been a strong and major driver of growth in the economy. Especially private final consumption has always been a strong and major driver of growth in the economy. Although the share of private consumption in GDP remains high, the pattern of consumption has undergone some change over time – from essentials to luxuries and from goods to services.
- Second component of consumption is the government final consumption expenditure (GFCE). Growth of GFCE decelerated from 15.0 per cent in 2017-18 to 9.2 per cent in 2018-19.
- The third major component of demand is investment. Investment (Gross Capital Formation) accounts for nearly 32 per cent of GDP, within which fixed investment (Gross fixed capital formation) accounts for about 29 per cent of GDP.
- Green shoots (fresh investments) in the investment activity appear to be taking hold as also seen in the pickup in credit growth to industry. Credit to, large and micro, small & medium enterprises has also witnessed pickup ingrowth.
- Investment rates have been declining since 2011-12, though the investment rate in services is displaying signs of bottoming out. In 2017-18, investment rate in services sector became the highest. Investment rate in agriculture still continues to lag behind and now is half the investment rate in the industry sector.
- There has been a decline in savings rate as well, with the household sector entirely contributing to the decline.

Exports and Imports

- Exports are the external component of demand of domestic goods, and imports are a leakage of income of the country for demand of products from other countries. While the growth of both export and import declined in US$ terms, it increased in rupee terms (at current prices) in 2018-19.
- Exports of both service and merchandise (in rupee terms) picked up in 2018-19 in nominal terms.
- Import prices as compared to export prices in rupee terms increased sharply in 2018-19
- There was improvement in contribution of net exports to GDP growth, owing to higher growth of exports and lower growth of imports at constant prices as compared to previous year.

Supply Side of the Economy

- Gross Value Added (GVA), reflects the supply or production side of the economy to which net indirect taxes on products are added to get GDP at market prices.
- Growth of net indirect taxes was 8.8 per cent in 2018-19, lower than that of 2017-18, on account of loss of momentum of economic activity.
- Real growth in 'Agriculture & allied' sector was lower in 2018-19 at 2.9 per cent, after two years of good agriculture growth. Share of agriculture sector in total GVA has been consistently falling and now stands at 16.1 per cent in 2018-19.
- Crop sector's growth rate remains volatile largely because of vagaries of nature, although the growth in livestock and fishing has remained stable during the past four years.
- Modest compositional shift within the 'Agriculture and allied' sectors, i.e., from crop to livestock sectors and within crop sector from cereals to horticultural produce is been witnessed.
- Manufacturing accounted for 16.4 per cent in total GVA in 2018-19, marginally higher than that of 'Agriculture & allied' sector.
- Construction sector growth is estimated using growth of production of cement and consumption of finished steel. Production of cement and consumption of finished steel grew at 13.3 per cent and 7.5 per cent respectively in 2018-19, higher than their growth rates in 2017-18.
- The 'Financial, real estate and professional services' sector grew at 7.4 per cent in 2018-19, higher as compared to 6.2 per cent in 2017-18

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CHAPTER: 2

FISCAL DEVELOPMENTS

Introduction

- Budget 2018-19 affirmed Government's intent on fiscal consolidation. The new fiscal targeting framework was adopted, which rests on twin pillars of reducing debt and fiscal deficit.
- The debt-GDP ratio of Central Government was projected at 48.8 per cent at end-March 2019. It is targeted to decline to 46.7 per cent by end-March 2020 and 44.6 per cent by end-March 2021, restoring the long-term trend of decline in the debt to GDP ratio.
- Broadening and deepening the direct tax base and stabilization of Goods and Services tax are the other priorities.
- Improving the quality of expenditure remains the key target.

Central Government Finances

- The salient changes in the Central Government finances include improvement in the tax to GDP ratio, significant consolidation of revenue expenditure and gradual tilt towards capital spending over the years. These have led to progressive reduction in primary and fiscal deficits.
- Central government receipts can broadly be divided into non-debt and debt receipts where non-debt receipts comprise of tax revenue, non-tax revenue, recovery of loans, and disinvestment receipts and Debt receipts mostly consist of market borrowings and other liabilities, which the government is obliged to repay in the future.

Tax Revenue

- Budget 2018-19 envisaged a growth of 16.7 per cent in gross tax revenue (GTR) over the revised estimates (RE) of 2017-18. Here, 51 per cent of GTR was estimated to accrue from direct taxes and the remaining 49 per cent from indirect taxes.
- Direct taxes have grown by 13.4 per cent owing to improved performance of corporate tax. Whereas, indirect taxes have fallen short of budget estimates by about 16 per cent. This is largely owing to the shortfall in GST revenues.
- Better tax administration, widening of TDS carried over the years, anti-tax evasion measures and increase in effective tax payers base have contributed to direct tax buoyancy.

Non Tax Revenue

- Non-tax revenue consists mainly of interest receipts on loans to States and Union Territories, dividends and profits from Public Sector Enterprises including surplus of Reserve Bank of India transferred to GOI, and external grants and receipts for services provided by the Central Government.
- Non-tax revenue constitutes about 1.3 per cent of GDP in 2018-19. Receipts from non-tax revenue have exceeded the budget estimate. Increased realisation from dividends and profits has offset slight declines in its other components.

Non-Debt Capital Receipts

- Non-debt capital receipts mainly consist of recovery of loans and advances, and disinvestment receipts.
- The share of recovery of loans has declined over the years following disintermediation of loan portion of Central assistance to States consequent to the recommendation of the Twelfth Finance Commission, and States allowed borrowing directly from the market.

Trends in Expenditure

- Government faces the challenge of providing sufficient funds for investment and infrastructure expansion while maintaining fiscal discipline.

- Composition of government expenditure reveals that expenditure on defence, salaries, pensions, interest payments and subsidies account for more than sixty per cent of total expenditure.

Defence Initiatives

- Capital Expenditure in absolute terms has gone up in the past few years.
- Several measures as part of "Business Process Re-engineering" have been undertaken to make the acquisition process industry friendly, provide a level playing field for various stakeholders and reduce the complexities.
- To achieve self-reliance in the defence sector and make India a global hub in defence manufacturing, the Ordinance Factories (OFs), Defence Public Sector Undertakings (DPSUs) and the private industry ecosystem have enhanced their capabilities and widened the product range.
- In order to encourage participation of Indian industry in design and development of defence items, a 'Make-II' procedure was notified wherein a number of industry friendly provisions have been introduced, such as relaxation of eligibility criteria, minimal documentation, and provision for consideration of suo-moto proposals suggested by industry/ individual.
- An innovation ecosystem for Defence, titled **"Innovation for Defence Excellence" (iDEX)** was launched. iDEX is aimed at creating an ecosystem to foster innovation and technology development in Defence and Aerospace.
- iDEX intends to engage industries including MSMEs, Start-ups, Individual Innovators, R&D institutes and Academia and provide them grants/funding and other support to carry out R&D, which has potential for future adoption for Indian defence and aerospace needs.
- A **Defence Investor Cell** has been made functional in the **Department of Defence Production (DDP).** It has played an important role as one-stop solution for all types of defence production related queries.
- Continuous efforts are being made to increase indigenization wherever technologically feasible and economically viable to facilitate private sector participation.
- The Defence Industry sector has been opened up to 100 per cent for Indian private sector participation, with Foreign Direct Investment (FDI) up to 26 per cent, both subject to licensing.

Composition of Expenditure in 2018-19 RE

- Growth in revenue expenditure in 2018-19 PA though moderate, has been led by salaries, pensions and interest payments.
- Major subsidies comprising food, fertiliser and petroleum have continued their downward trend and have further declined by 0.1 percentage point of GDP in 2018-19 PA over 2017-18. Major subsidies comprising food, fertiliser and petroleum have continued their downward trend and have further declined by 0.1 percentage point of GDP in 2018-19 PA over 2017-18.
- Expenditure on defence, salaries, pensions, interest payments and subsidies account for more than 60% per cent of total expenditure.

Transfers to States

- Transfer of funds to States comprises essentially of three components: **share of States in Central taxes devolved to the States, Finance Commission Grants,** and **Centrally Sponsored Schemes (CSS),** and other transfers.
- In 2014-15, direct transfers to State implementing agencies were discontinued and all transfers to States including for the CSS were routed through the Consolidated Funds of the States.
- Another significant development has been award of the Fourteenth Finance Commission to devolve **42 per cent** of the divisible pool of taxes to the States, up from 32 per cent earlier.

Central Government Debt

- Total liabilities of the Central Government include debt contracted against the Consolidated Fund of India, technically defined as Public Debt, as well as liabilities in the Public Account.
- 90 per cent of total liabilities of the Central Government was public debt.
- Central government debt is characterised by low currency and interest rate risks.
- Other salient feature is the gradual elongation of the maturity profile of the Central Government's debt leading to reduced rollover risks.

State Finances

- State budgets expanded considerably on account of increase in revenue expenditure.
- Capital expenditure consists of capital outlay and loans and advances by the State Governments.
- The loans and advances by the State Governments declined sharply in 2017-18 RE owing to reduction in loans and advances by States for power projects and food storage and warehousing.
- The RBI study on State Finances points to the deterioration in fiscal deficit to GDP ratio in 2017-18 RE when compared to the budget estimate.
- The issuance of **UDAY bonds** in 2015-16 and 2016-17, farm loan waivers, and the implementation of Pay Commission awards have led to higher debt to GDP ratio.
- However, despite rising States' debt to GDP ratio, interest payment as proportion of revenue receipts has not deteriorated.

General Government Finances

- The General Government (Centre plus States) has been on the path of fiscal consolidation and fiscal discipline.
- The combined liabilities of Centre and States have declined to 67 per cent of GDP as on end-March 2018.
- The fiscal deficit of General Government is further expected to decline from 6.4 per cent of GDP in 2017-18 RE to 5.8 per cent of GDP in 2018-19 BE.

Outlook

- There are apprehensions of slowing of growth, which will have implications for revenue collections.
- The financial year 2018-19 has ended with shortfall in GST collections.
- Resources for now expanded **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)** and **Ayushmaan Bharat,** as well as new initiatives of the new Government, will have to be found without compromising the fiscal deficit target as per the revised glide path.
- US sanctions on oil import from Iran is likely to have impact on oil prices and thereby on the petroleum subsidy, apart from implications for current account balances.
- Fifteenth Finance Commission will submit its report for next five years beginning April 2020. Its recommendation especially on tax devolution will have implications for Central Government finances.

 # RE - Revised Estimates

 # PA - Provisional Actuals

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CHAPTER: 3

MONETARY MANAGEMENT & FINANCIAL INTERMEDIATION

Important terms

- **Insurance penetration** is measured as the percentage of insurance premium to GDP.
- **Insurance density** is calculated as the ratio of premium to population (measured in US$ for convenience of international comparison).

Introduction

- Banking system improved as NPA ratios declined and credit growth accelerated. Insolvency and Bankruptcy Code led to recovery and resolution of significant amount of distressed assets and improved business culture.
- During 2018-19, the growth rate of monetary aggregates back on to the track after experiencing demonetisation and remonetisation.

Year-on-Year Growth in Monetary Aggregates (per cent)

Items	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Currency in Circulation	19.2	14.1	12.2	9.9	10.6	11.9	-4.0	9.8	22.6
Cash with Banks	18.8	18.7	16.7	6.8	14.4	13.3	45.8	-20.1	3.5
Currency with the Public	19.2	13.9	12.0	10.0	10.4	11.8	-6.2	11.9	23.5
Bankers' Deposits with the RBI	29.1	14.8	-10.9	4.6	7.6	11.0	8.6	7.9	7.9
Demand Deposits	14.2	-3.8	5.9	8.6	10.5	9.7	20.0	13.8	7.9
Time Deposits	16.0	19.3	14.7	14.7	12.3	10.6	10.8	6.4	8.5
Reserve Money (M0)	21.5	13.9	6.2	8.8	10.1	12.1	-1.3	9.6	19.5
Narrow Money (M1)	16.8	5.8	9.5	9.6	10.6	11.3	3.9	12.9	16.5
Broad Money (M3)	16.2	15.9	13.5	13.6	11.9	10.7	9.3	7.8	10.2
Source: RBI.									
Note: Growth rates have been calculated for financial year averages of the monetary aggregates.									

Liquidity Conditions and its Management

- Due to tighten position of liquidity since August 2018, RBI infused money through Open Market Operations (OPOs) and continued to scale up in November and December. The tight liquidity is also shown in interest rates as well. The responsible key factors:
  - Apart from bank deposits remained indifferent; its growth has improved in last two quarters of 2018-19.
  - The growth in currency in circulation also accelerated during this period.
  - The RBI had to draw down its foreign exchange reserves to smoothen exchange rate volatility.

- Moreover, based on an assessment of financial market conditions, the RBI increased the **Facility to Avail Liquidity for Liquidity Coverage Ratio (FALLCR)** which supplemented the ability of individual banks to avail liquidity from the repo market against high-quality collateral. The RBI also decided to inject rupee liquidity for longer duration through long-term foreign exchange buy/sell swaps.
- The tighten liquidity impacted short-term as well as long term interest rates, led to increase in spread of treasury bills (t-bill) and Government security (g-sec) rates over the repo rate. Availability of durable liquidity has a big impact on the market borrowing cost of the government.

Developments in the G-Sec Market

- During 2018-19, the 10-year benchmark g-sec yields altered significantly, because of:
  - Rising crude oil prices, the firming up of US treasury yields, concerns regarding the pace of rate hikes by the US Fed, upside risks to domestic inflation and announcement of OMO purchases.

Banking Sector

- The performance of the banking sector, in particular Public Sector Banks (PSBs) has improved in 2018-19 (March-December 2018).
  - The **Gross Non-Performing Advances (GNPA) ratio** of SCBs decreased from 11.5 per cent to 10.1 per cent. Their **Restructured Standard Advances (RSA) ratio** declined from 0.7 per cent to 0.4 per cent. The **Stressed Advances (SA) ratio** decreased from 12.1 per cent to 10.5 per cent.
  - GNPA ratio of PSBs decreased from 15.5 per cent to 13.9 per cent. SA ratio of PSBs decreased from 16.3 per cent to 14.4 per cent.
  - **Capital to risk-weighted asset ratio (CRAR)** of SCBs increased from 13.8 per cent to 14.0 per cent largely due to improvement of CRAR of Public sector banks (PSBs). SCBs' **return on assets (RoA)** decreased from 0.21 per cent to 0.03 per cent while their **return on equity (RoE)** decreased from 2.41 per cent to 0.4 per cent.

Credit Growth

- Growth in non-food bank credit (NFC) improved in 2018-19. Bank credit lending to large industry and services segments were the main drivers of overall NFC growth in 2018-19.
- However, growth of credit to services sector has been decelerated and yet to gain momentum.

Non-Banking Financial Sector

- Non-Banking Financial Companies (NBFCs) bring in diversity and efficiency to the financial sector and makes it more responsive to the needs of the customers. In the recent past, the NBFCs have played increasingly important role in resource mobilization and credit intermediation, thereby helping commercial sector to make up for low bank credit growth.
- However, in the aftermath of the ratings downgrades and default of IL&FS Group, the NBFCs experienced complexities. NBFCs depend largely on public funds which account for 70 per cent of total liabilities of the sector. Bank borrowings, debentures and commercial paper are the major sources of funding for NBFCs. Immediately after the IL&FS crisis, NBFCs faced severe liquidity crunch as mutual funds (MFs) stopped refinancing the loans of NBFCs. The deployment of funds by MFs has turned negative which impacted the lending capability of the NBFCs.
- Other performance indicators of the NBFCs have also been affected adversely like CRAR of NBFC sector worsened to 22.2 per cent from 22.8 per cent. The GNPA ratio of NBFC sector deteriorated to 6.5 per cent from 6.1 per cent. However, the net NPA also increased marginally to 3.6 per cent from 3.2 per cent.

Capital Market

- The year 2018-19 witnessed a significant decrease in resource mobilization through public issue and rights issue of equity. Resource mobilisation through issuance of debt public issue also rose rapidly. In this period, Indian corporates preferred private placement route to gear up the capital requirement.
- The mutual fund funding, investments by FPIs and value of offshore derivative instruments got decreased.
- The secondary market segment, represented by BSE and NSE, also witnessed healthy growth.

Insurance Sector

- Insurance protects people against mortality; property; and casualty risks; it provides a safety net for individuals and enterprises in urban and rural areas. It also provides funds for infrastructure development and other long gestation projects of the nation.

- The potential and performance of the insurance sector are generally assessed on the basis of two parameters, viz., insurance penetration and insurance density. The measure of insurance penetration and density reflects the level of development of insurance sector in a country.
- Insurance penetration which was 2.71 per cent in 2001, has steadily increased to 3.69 per cent in 2017 (Life 2.76 per cent and Non-Life 0.93 per cent). Insurance penetration in some of the emerging economies in Asia, i.e., Malaysia, Thailand and China during the same year were 4.77, 5.29 and 4.57 per cent respectively.
- The insurance density in India which was US$11.5 in 2001, reached to US$73 in 2017 (Life-55$ and Non-Life -18$).
- Globally insurance penetration and density were 3.33 per cent and US$353 for the life segment and 2.80 per cent and US$297 for the non-life segment respectively.

Insolvency and Bankruptcy Code 2016: Resolving Corporate Stress in a Changed Paradigm

- The Indian banking sector has been at the forefront of driving the economic growth of the country. In the last several years, however, the sector has been plagued by growing NPAs on account of various reasons.
- Resolving stressed assets requires significant and concerted efforts. Among many steps taken by the government, the RBI and individual banks to enable rescue and revival **Insolvency and Bankruptcy Code, 2016** has been the major one.
  - A robust, modern and sophisticated insolvency framework was established with the enactment of the Insolvency and Bankruptcy Code, 2016 (IBC). The IBC seeks to achieve resolution of corporate debtors (CDs) in distress and failing that, its liquidation in a time-bound manner under the non-intrusive oversight of the National Company Law Tribunal (NCLT).
  - The Financial Creditors (FC) have been provided with greater role and powers through the committee of creditors.
  - The management and control of assets of the debtor are handed over to an Insolvency Professional (IP) who is responsible for operating the debtor's enterprise as a going concern and managing the corporate insolvency resolution process (CIRP) besides performing other crucial functions.
- **Sashakt** - the resolution scheme to resolve the problem of NPAs through a market-led approach was introduced in July 2018, which entails participating banks to work together under an Inter-Creditor Agreement (ICA).

Implementation of IBC

- To operationalize the IBC, the National Company Law Appellate Tribunal (NCLAT), the Principal Bench of NCLT at New Delhi, and 11 benches of NCLT – two at New Delhi and one each at Ahmedabad, Allahabad, Bengaluru, Chandigarh, Chennai, Guwahati, Hyderabad, Kolkata, and Mumbai were constituted.
- The Insolvency and Bankruptcy Board of India (IBBI) – the regulator, was established on October 1, 2016. It registered three Insolvency Professional Agencies (IPAs), namely, the Indian Institute of Insolvency Professionals of Institute of Chartered Accountants of India (IIIP of ICAI), the Institute of Company Secretaries of India's Institute of Insolvency Professionals (ICSI IIP), and the Insolvency Professional Agency of Institute of Cost Accountants of India (IPA of ICMAI).

What has been done?

- The Banking Regulations Act, 1949 was amended to enable the RBI to direct banks to take defaulting borrowers into insolvency.
- The RBI constituted an Internal Advisory Committee which recommended the filing of cases under the IBC in all accounts with fund and non-fund based outstanding amounts greater than 5,000 crore, with 60 per cent or more classified as non-performing by banks as of March 31, 2016.

- The IBC provides for the establishment of Information Utilities (IU) to collect financial information from creditors, get it authenticated by debtors, store and provide access to the resolution professional, creditors, liquidator and other stakeholders so that they can make informed decisions.
- The **National e-Governance Services Limited (NeSL)** was registered as the first IU by the IBBI. The details of information filed with NeSL show a growing trend of use of IU by creditors. Increased use of IUs is expected to eliminate information asymmetry and improve implementation timelines under the IBC.
- A key objective of the IBC is the maximization of the value of assets of the CDs and consequently value for its stakeholders. A critical element towards achieving this objective is the transparent and credible determination of the value of the assets of CD to facilitate comparison and informed decision making.

Institutional Response:

- Two amendments were introduced in the IBC:
  - Section 29A, prohibiting persons with certain disabilities from submitting a resolution plan.
  - Changes to make the IBC easier to operate by reducing the threshold for decision making by the committee of creditors from 75 per cent to 66 per cent in specified matters and to 51 per cent for routine decisions. This amendment also entailed the recognition of home buyers as FCs.
- The NCLTs and NCLAT continue to play an important role as adjudicating and appellate authorities respectively for IBC. The government has notified additional benches in Amravati, Indore, Cuttack and Kochi.
- The Securities Contracts (Regulation) Rules, 1957 was amended to protect the interest of minority shareholders.

Impact of IBC

- **Behavioural Changes:** The IBC has paved the way for Operational Creditors, mostly SMEs and small vendors to use the IBC as a recovery tool. The threat of promoters losing control of the company or protracted legal proceedings is forcing many corporate defaulters to pay off their debt even before the insolvency can be started.

Achievements and Recognition

- India improved its **'Resolving Insolvency' ranking** from 134 in 2014 to **108 in 2019**. Apart from that India won the **Global Restructuring Review (GRR)** award for the most improved jurisdiction in 2018.

Research and Training

- The IBBI has announced the launch of **Graduate Insolvency Programme (GIP),** the first of its kind, for those aspiring to take up the discipline of IPs as a career or other roles in the value chain.
- **The Insolvency Research Foundation (IRF)** has been established by the **Indian Institute of Corporate Affairs (IICA),** an autonomous body under the Ministry of Corporate Affairs, in partnership with **SIPI-INDIA** industry think-tank as an independent research centre.
- The Centre for Insolvency and Bankruptcy (CIB) has been set up at IICA to serve as an apex institute of learning, training, and development in the area of insolvency and its spheres of influence.

Reforms in Pipeline

- The **UNCITRAL Model Law on Cross-Border Insolvency (Model Law)** is the most widely accepted blueprint to effectively deal with cross-border insolvency issues while ensuring the least intrusion into each country's internal insolvency and bankruptcy laws. India has initiated steps to inact a model law.
- Recognising the need for a legal framework to deal with insolvency of group companies, the IBBI has recently set up a **working group** under former SEBI Chairman **Mr. U. K. Sinha** to recommend a complete regulatory framework to facilitate insolvency resolution and liquidation of debtors in a corporate group.
- A **Working Group** under the **chairmanship of Mr. P. K. Malhotra**, former law secretary, has been set up by the IBBI to recommend the strategy and approach for implementation of the provisions of IBC dealing with insolvency and bankruptcy of individuals.
- The technology can be used to an extent by the NCLT and the IBBI to enhance case management for strict timekeeping of insolvency cases.
- Technology can also be used for data mining and analysis for constant review of the IBC impact on the ground. IPs should be encouraged to use technology to speed up data collection and access for the purpose of efficient CIRP.

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CHAPTER: 4

PRICES & INFLATION

Introduction

- The economy witnessed a gradual transition from a period of high and variable inflation to more stable and low level of inflation in the last five years. Headline inflation based on CPI-C continued its declining trend for fifth straight financial year. It has remained below 4.0 % in the last two years.
- Food inflation based on **Consumer Food Price Index (CFPI)** too declined over the last five years, and has remained below 2.0% for the last two consecutive years.
- Inflation based on **Wholesale Price Index (WPI)** stood at 4.3% during the FY-19.
- FY-19 saw low headline as well as food inflation. The year witnessed deflation in prices of pulses, vegetables and sugar. Core inflation averaged higher than the previous year.

Table: General Inflation based on different Price Indices (in per cent)

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
WPI	6.9	5.2	1.2	-3.7	1.7	3.0	4.3 (P)
CPI-C	9.9	9.4	5.9	4.9	4.5	3.6	3.4
CPI-IW	10.4	9.7	6.3	5.6	4.1	3.1	5.4
CPI-AL	10.0	11.6	6.6	4.4	4.2	2.2	2.1
CPI-RL	10.2	11.5	6.9	4.6	4.2	2.3	2.2

Note: CPI-C inflation for 2012-13 and 2013-14 is based on old series 2010=100; (P) - Provisional; C stands for Combined, IW stands for Industrial Workers, AL stands for Agricultural Labourers and RL stands for Rural Labourers.

Current Trends in Inflation

- The decline in the inflation in the FY-19 was mainly due to low food inflation which ranged between (-) 2.6 to 3.1 per cent. The CPI-C inflation for the month of April 2019 stood at 2.9% same as in March 2019 as compared to 4.6% in April 2018.

Table: Inflation in selected groups of WPI- Base 2011-12 (in Per cent)

Description	Weight	2017-18	2018-19	Apr-18	Mar-19 (P)	Apr-19 (P)
All Commodities	100	3.0	4.3	3.6	3.2	3.1
Food Index	24.4	1.9	0.6	0.8	3.9	4.9
Food articles	15.3	2.1	0.4	0.9	5.7	7.4

Core Inflation

- Core inflation captures the underlying trend of inflation and is more stable. It is not affected by temporary shocks.
- In India, core inflation is generally measured by excluding highly volatile components from the headline inflation. By their very nature, food and fuel have been highly volatile. As headline inflation exhibits volatility due to short run shocks, Central banks in many countries focus on core inflation.

- **CPI-C** based core inflation, which equals CPI excluding the food and fuel group, has remained above 4% since the start of new series of CPI-C. **Core inflation based on CPI-C** increased to **5.8% in 2018-19** from 4.6% in 2017-18. However, it has declined from 5.7 % in November 2018 to 4.5% in April 2019.
- **Refined core inflation**, which equals CPI excluding food and fuel group, petrol & diesel, too has moved closely with core inflation; it was **5.7% in 2018-19** as compared to 4.6% in 2017-18 and stood at 4.8% in April 2019.

Drivers of Inflation

- Main contributors of headline inflation based on CPI-C during FY 2018-19 are miscellaneous, housing, and fuel and light groups. Relative importance of services in shaping up headline inflation has increased.
- **Goods inflation** was 2.6% during FY-19 as compared to 3.2% during FY 2017-18.
- In contrast, services inflation was 6.3% during FY-19 when compared to 5% during 2017-18.
- **Services inflation** has been higher than goods inflation and the gap between the two is growing. Services inflation has influenced headline inflation as it has contributed more than its weight.
  - **Housing has the highest weight amongst services - 10.07%.**
    - The Housing Price Indices (HPIs) are a broad measure of movement of residential property prices observed within a geographical boundary. The first official housing price, **'NHB RESIDEX',** was launched in July 2007 by the National Housing Bank for 50 cities on a quarterly basis with FY 2017-18 as the base year.
    - Among the 50 cities covered are 18 State/UT capitals and 33 are part of the smart city list released by Government of India.
    - RBI's quarterly HPI is based on transactions data received from housing registration authorities in ten major cities. Growth in housing prices shows a downward trend.
  - **Transport and communication: 4.59%**
    - Within 'transport & communication', on an average, services components are witnessing higher inflation than goods. However, volatility is more for goods than for services.
  - **Education: 3.51%**
    - It includes 'books, journals: first hand'; 'stationery, photocopying charges'; 'tuition and other fees (school, college, etc.)'; 'private tutor/coaching centre' and 'other educational expenses (incl. fees for enrolment in web-based training)'.
    - Inflation of 'private tutor/ coaching centers' and 'tuition and other fees (school, college, etc)' has risen during 2018-19.
    - The sharp decline in 'primary school-fee' inflation may be possibly due to the enactment of Right to Education Act (RTE) in 2010.
  - **Health: 1.82%**
    - Services components of health are witnessing higher inflation:
- Contribution of health, education, transport and communication in driving services inflation has gained prominence across rural and urban areas. Inflation in health is more prominent in rural than urban areas probably owing to supply side constraints.

Rural-Urban Inflation

- CPI rural inflation declined during FY-19 over FY 2017-18. However, CPI urban inflation increased marginally during FY-19. Many States witnessed fall in CPI inflation during FY-19.
- The decline in rural inflation is steeper than that of urban inflation since July 2018, resulting in decline in **headline inflation**. **Fall in rural inflation** is due to moderation in food inflation, which has been negative for the last six months (October 2018 to March 2019). The importance of food in determining rural inflation has been declining over the years. In contrast, the role of miscellaneous category, i.e., services in determining rural inflation has increased.
- Miscellaneous group was the main driver of CPI (Rural) inflation in 2018-19, contributing more than 70% to the overall rural inflation. In urban areas, miscellaneous group and housing have contributed to inflation in equal measure during FY-19.

State-wise Inflation

- Many States have witnessed fall in CPI inflation during 2018-19. Inflation in 23 States/Union Territories (UTs) was below 4% in FY-19.
- Inflation ranged between (-) 1.9% to 8.9 % across States in FY-19 compared to 1.5% to 12.4% in FY 2017-18.

- 16 States/UTs had inflation rate lower than All India average for FY-19 with Daman & Diu having the lowest inflation followed by Himachal Pradesh and Andhra Pradesh.
- In rural areas, among major States/UTs, 16 States had recorded inflation of less than 4% in FY-19 as compared to 13 in FY 2017-18. In urban areas, 9 States recorded inflation of less than 4% in FY-19 as against 15 in 2017-18.

Trends in Global Commodity Prices

- As per the commodity prices published by the World Bank, energy commodity prices have continued their increasing trend in FY-19. These recorded average inflation of 22.1% in 2018-19 as compared to 16.8% in 2017-18.
- Movement of 'Fuel & Power' inflation based on All India WPI tracks World Bank Energy price index; it increased at an average of 11.5% in FY-19 when compared to 8.1% in FY 2017-18.
- Both World Bank food prices as well as Food and Agriculture Organization (FAO) food prices recorded deflation during FY-19. WPI based food inflation too declined during 2018-19.

Efforts to contain Inflation

- Central Government monitors the price situation on a regular basis as controlling inflation remains a key area of policy focus.
- Government has taken a number of measures to control inflation especially food inflation, which includes both general and specific measures.

General Measures	Specific Measures
Advisories are being issued, as and when required, to State Governments to take strict action against hoarding & black marketing, especially for commodities in short supply.	During lean periods of 2017-18 and 2018- 19, to control the rise in onion prices, onions were released at reasonable prices from the stock procured under PSF.
These measures are taken to effectively enforce the **Essential Commodities Act, 1955 & the Prevention of Black-marketing and Maintenance of Supplies of Essential Commodities Act, 1980.**	The order empowering States/ UTs to impose controls including Stock Limits on Edible Oils and Edible Oilseeds has been withdrawn in June, 2018.
Regular review meetings on prices and availability of key commodities are held at the highest level, including at the level of Ministers, Committee of Secretaries, Inter Ministerial Committee, **Price Stabilization Fund Management Committee (PSFMC)**, and other Departmental level review meetings to take stock of the prevailing price and availability situation and recommend appropriate policy intervention.	Pulses from the buffer are utilized for strategic market intervention for price management, meeting institutional requirements like supplies to State Governments/UTs for **Mid-Day Meal Scheme (MDM), Integrated Child Development Services (ICDS) Scheme**, and Public Distribution System (PDS), and through Open Market Sale, etc. In addition, pulses from the buffer are being utilized to meet the requirement of Army and Central Para-Military Forces.
Higher Minimum Support Price (MSP) for pulses and other crops has been announced so as to incentivize production and thereby enhance availability of food items, which may help moderate prices.	Prohibition on export has been withdrawn in April 2018 on all varieties of edible oils, except mustard oil. Export of mustard oil in branded consumer packs of up to 5 kgs is permitted with a **Minimum Export Price (MEP)** of United States Dollar (USD) 900 per million ton (MT).
Government has set up **Price Stabilization Fund (PSF)** for procurement of agri-horticultural commodities including potatoes, onions and pulses for its release during lean period to improve availability and moderate their prices.	

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CHAPTER: 5

SUSTAINABLE DEVELOPMENT & CLIMATE CHANGE

Important terms

- **Resource efficiency :** It means using the Earth's limited resources in a sustainable manner while minimising impacts on the environment. It allows us to create more with less and to deliver greater value with less input.

Sustainable Development Goals (SDGs):

- The **2030 Agenda for Sustainable Development** adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the **17 Sustainable Development Goals (SDGs)** (built upon the erstwhile Millennium Development Goals) which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.
- Estimates suggest that **US$5 to US$7 trillion per year** is required for financing these goals worldwide and **US$3.9 trillion per year in developing countries**. However, the current investment in **developing countries is around US$1.4 trillion** leading to **a shortfall of US$2.5 trillion per year (UNCTAD, 2014).** Global action of this scale requires strong coordination between different governments, development institutions, private sector and financial institutions for the effective financing and implementation across the globe.

India's Progress towards the SDGs

- India follows a holistic approach for achieving the SDGs by implementing a comprehensive array of schemes.
- NITI Aayog has come up with a single measurable index to track the progress of all the States and UTs across 13 out of 17 SDGs (excluding Goal 12, 13, 14 and 17 on account of unavailability of comparable data across States/UTs).
- This SDG index provides an aggregate assessment of India's progress. This index helps in informed policy formulations as it captures status of both national and state-level social, economic, and environmental parameters across a set of **62 select indicators**. The score varies from **0 to 100.**
  - States with scores equal to/greater than **65** are considered as **Front-Runners;**
  - As **Performers** in the range of **50-64**; and
  - As **Aspirants** if the score is less than **50**.
  - States with an index **score of 100** are classified as **Achievers,** i.e., the states have achieved the national target set for 2030.
  - A **score of 0** denotes **worst performance.**
- The SDG Index Score ranges between 42 and 69 for States and between 57and 68 for UTs.
- NITI Aayog has also developed a composite index for each State/UTwhich aggregates progress towards each SDG.
  - **Kerala and Himachal Pradesh** are the front runners amongst all the states with a score of 69.
  - Among the UTs, **Chandigarh and Puducherry** are the frontrunners with a score of 68 and 65 respectively.

Namami Gange Mission

- A key policy priority of the Government towards achieving the **SDG 6 (Ensure availability and sustainable management of water and sanitation for all)** has been the cleanliness of mighty River Ganga through **Namami Gange Mission.**

- The mission was launched as a priority programme with a budget outlay of **Rs. 20,000 crore for the period 2015-2020**. During the period 2014-15 to 2018-19, a total amount of Rs. 6,106.25 crore has been spent on the programme indicatinga substantial jump over earlier similar programmes.
- For effective implementation and proper synchronization with the State and Local Bodies, **National Mission for Clean Ganga (NMCG)** was empowered as an **Authority** under the **Environment (Protection) Act, 1986** for fast track implementation and to formulate policies for long term sustainability of the Ganga rejuvenation efforts.

Major Components of Namami Gange Mission:

- **Sewerage Project Management:** The policy decision to use Public-Private Partnership (PPP) approach of Hybrid Annuity Mode (HAM) and 15 years long-term Operation & Maintenance (O&M) included in the project cost and improved governance through **'One City One Operator'** approach ensured competitive and positive market participation along with synergy in implementation**.**
- **Urban Sanitation:** The Mission extended a comprehensive coverage of 10 cities that contributes more than 60 percent pollution load in Ganga with construction and rehabilitation of Sewage Treatment Plants (STPs) for a prospective year of 2035, inception and diversion of drains, solid waste management through cleanliness drives on ghats and deployment of skimmers for river surface cleaning.
- **Sewerage Infrastructure:** 150 sewerage projects (111 on Ganga stem & 39 in tributaries) at sanctioned cost of Rs.23, 130.95 crore has been approved for creation of new STP.
- **Industrial Pollution:** To ensure proper inventorisation and inspection of point source pollution from industrial units, 1,109 **Grossly Polluting Industries (GPIs)** were identified and surveyed independently by 12 Technical Institutions. The compliance of the operational GPIs in 2017 as against 2018 improved **from 39 percent to 76 per cent.**
- **Water Quality:** 36 **Real Time Water Quality Monitoring Stations (RTWQMS)** are operational under Namami Gange Programme.
- **River as Public Space:** 143 ghats have been taken up under the Mission out of which 100 have been completed. Under the Mission, 54 crematories have also been taken up for ensuring safe crematory rituals.
- **Rural Sanitation:** Under Namami Gange, 4,465 villages on the Ganga stem have been declared ODF with completion of construction of about 11 lakh independent toilets. Support is also being extended to 1,662 Gram Panchayats along Ganga for solid and liquid waste management.
- **Ecosystem Conservation:** Afforestation along banks of Ganga has been taken up scientifically with the help of F**orest Research Institute, Dehradun**. Local communities have been involved in massive afforestation drive undertaken in the five Ganga States.
- **Urban River Management: NMCG**, in partnership with **National Institute of Urban Affairs (NIUA),** is preparing an **Urban River Management Plan** to protect and enhance the status of river health within the city, to prevent their deterioration and to ensure sustainable use of water resources. A comprehensive survey for generating high-resolution Light Detection and Ranging (LIDAR) maps of the entire Ganga stretch to create a baseline of its spatial status has also been initiated.
- **Water Use Efficiency:** A market for reuse of treated waste-water is being developed and the re-use of 20 MLD of treated waste-water in Mathura Refinery is a milestone in propagating this waste-to-wealth approach as well as saving the water-stressed Yamuna River.
- **Clean Ganga Fund:** It has been set up for encouraging and facilitating corporates and individuals to join the efforts of rejuvenation of Ganga by contributing to this Fund and sponsoring certain projects.

Resource Efficiency

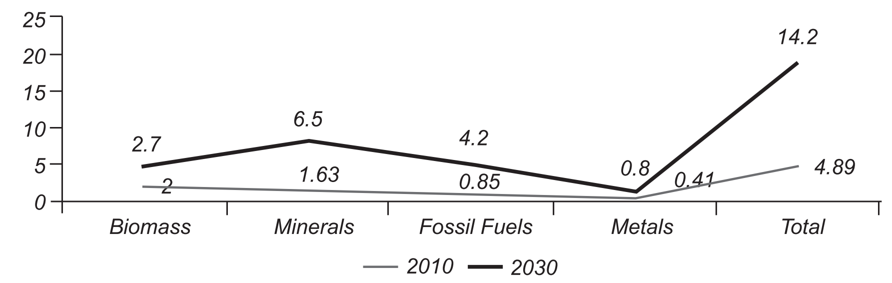
- SDG 12 aims to 'Ensure Sustainable Consumption and Production Patterns' along with the eight other SDG goals (2, 6, 7, 8, 9, 11, 14 and 15) have a bearing on resource efficiency.
- A resource efficient development approach essentially means a transition of the management of natural resources with a progressive minimization of waste in both consumption and production processes through various policies and measures.
- The International Resource Panel estimated that efficient resource policies in G7 countries could reduce the global use of natural resource by 28 per cent, diminish greenhouse gas (GHG) emissions by an additional 15 to 20 per cent and deliver annual economic benefits of US$2 trillion globally by 2050 relative to existing trends (UNEP, 2018).

Current and Future Projections for India:

- In 2010, India accounted for 7.2 percent consumption of globally extracted raw materials.

- India's average share of material cost in the total production cost was estimated to be more than 70 per cent and rate of recycling is very low as compared to other developed economy which signifies an urgent need for improving productivity and efficiency (TERI, 2019).
- As per the **NITI Aayog's Strategy Paper on Resource Efficiency 2017,** India consumed 5 billion tonnes of biomass, fossil fuels, minerals and metals in 2010 and was the third largest consumer after China (21.5 billion tonnes) and USA (6.1 billion tonnes).
- It is projected that India's demand for total material will more than double by 2030 under the assumption of continued economic growth of 8 per cent till 2030 and possible slowing down to 5 per cent thereafter till 2050 and medium growth in population. India would be requiring around 6.5 billion tonnes of minerals in order to sustain the demand of growing population.

Projection for the consumption of key natural resources in India (in billion tonnes)



Source : TERI, 2019

Six Pillars for a Resource Efficiency Framework in India

Policies

- Formulate a national policy on RE for all types of resources (biotic, abiotic) addressing various lifecycle stages and key stakeholders.
- Formulate a national policy on Sustainable Public Procurement (SPP) to minimize consumption of resources, reduce waste generation and GHG emissions, as well as contribute to innovation in materials and technology in the space of RE.
- Strengthen existing sectoral policies and programmes of Ministry of Mines by incorporating RE principles.
- Formulate a national policy for End-of-Life Vehicles (ELVs).
- Formulate a Waste to Resource Management Directive based on existing waste and hazardous substance management rules/regulations following a lifecycle approach targeting relevant stakeholders and focusing on RE.

Programmes and Mainstreaming

- Mainstream RE initiatives by leveraging existing flagship programmes and schemes like Swachh Bharat Abhiyan, Smart Cities, Make in India, Start-up India, Digital India and others.
- Industry may leverage Corporate Social Responsibility (CSR), Corporate Environmental Responsibility (CER) and Extended Producer Responsibility (EPR) for RE initiatives.
- Build on the **National Chemical Management Plan** being drafted by Ministry of Environment, Forest and Climate Change (MoEF&CC) to develop a strategy, framework and guidelines for the safe and circular management of chemicals.
- Leverage the national clean energy and environment fund to finance infrastructure, clean technologies and related RE initiatives.

Regulations

- Establish a national coordinating body- **Bureau of Resource Efficiency (BRE)** between various ministries to identify, implement and achieve national RE goals.
- Establish State Level coordinating bodies to identify implement and achieve State level RE goals.

- Large and resource intensive industries and bulk waste generators may be mandated to file the Resource Use and Efficiency Statement.
- Establish and mandate a 'Consent to Close' requirement for medium and large industries in the 'RED' category to ensure that waste streams are responsibly managed and recycled before closure.
- Rationalise tax regime on critical virgin raw materials to make secondary raw materials price competitive.

Setting up a Dynamic Recycling Industry

- Promote the establishment of Material Recovery Facilities (MRFs) with the allocation of land in urban areas and industrial estates.
- Facilitate Urban Local Bodies (ULBs) to undertake urban mining and create secure landfills.
- Facilitate the establishment of Producer Responsibility Organizations (PRO) for waste recycling and for engagement with the informal sector.
- Facilitate innovation to enhance resource recovery and improve working conditions by integrating the informal sector into the waste value chain.
- Establish a remanufacturing council or association to catalyse the growth of the re-manufacturing industry.
- Establish and manage platforms for waste exchange by expanding the SBM portal.

R&D and Technology Development

- Support R&D to develop scalable technologies for RE.
- Create and manage knowledge platforms that facilitate open innovation, provide access to experts, and engage academia to support the transition towards RE.
- Leverage technologies like Artificial Intelligence (AI), robotics, block-chain etc. for the recycling industry.

Capacity Development, Outreach & Monitoring

- Facilitate creation of accredited laboratories that could conduct testing (especially for recycled products) as well as provide advisory services.
- Provide capacity development support on RE for ministries/departments at the National and State levels.
- Develop and promote programmes and certifications for informal sector skill development in RE.
- Develop and launch citizen awareness programmes on RE.
- Foster inter-governmental collaboration and knowledge exchange with the G20, RE dialogue and other bodies like **International Resource Panel** and other national and international forums.
- Develop monitoring and outcome indicators for tracking progress on RE.
- Establish and mandate the certification for operators managing waste-to-resource recycling centres to ensure safe, efficient, and net positive operations.

 # RE - Resource Efficiency

Government Initiative to tackle Air Pollution:

- Under **National Air Quality Monitoring Programme (NAMP),** four major air pollutants viz. Sulphur Dioxide (SO_2), Oxides of Nitrogen as NO_2, Suspended Particulate Matter (PM10) and Fine Particulate Matter (PM2.5) have been identified for regular monitoring at all the locations.
- **National Ambient Air Quality Standards (NAAQS)** are the standards for ambient air quality with reference to various identified pollutant notified by the **CPCB** under the **Air (Prevention and Control of Pollution) Act, 1981**. Major objectives of NAAQS are to:
  - Indicate necessary air quality levels and appropriate margins required to ensure the protection of vegetation, health and property.
  - Provide a uniform yardstick for assessment of air quality at the National level.
- **Air Quality Index (AQI):** It transforms complex air quality data of various pollutants into a single number (index value), nomenclature and colour. There are **Six AQI categories,** namely - Good, Satisfactory, Moderately Polluted, Poor, Very Poor and Severe.

- CPCB has issued a comprehensive set of directions under **Section 18(1)(b) of Air (Prevention and Control of Pollution) Act, 1986** for implementation of forty-two measures to mitigate air pollution in major cities including Delhi and National Capital Region (NCR).
- The Government has notified a **Graded Response Action Plan** for Delhi and NCR,which comprises of the graded measures for each source framed according to the AQI categories.
- MoEF&CC has launched NCAP in 2019 as a pan India time bound national level strategy. A budgetary allocation of Rs. 150 crore has been made under NCAP during the financial year 2019-20.
  - Overall objective of the NCAP is comprehensive management plan for prevention, control and abatement of air pollution besides augmenting the air quality monitoring network across the country.
  - The tentative national level target of 20-30 per cent reduction of PM2.5 and PM10 concentration by 2024 is proposed under the NCAP with 2017 as the base year for comparison of concentration. This will be mid-term five years action plan beginning from 2019.

Climate Change

- The ultimate objective of **UNFCCC (1992)** is to stabilize GHG concentration in the atmosphere at a level that will prevent dangerous human interference with the climate system, in a time frame which allows ecosystems to adapt naturally and enables sustainable development.
- The main aim of the **Paris Agreement** is to hold the increase in the global average temperature **well below 2°C above pre-industrial levels** and pursuing efforts to limit the temperature increase even further to **1.5°C above pre-industrial levels.** It sets a roadmap for all nations in the world to take actions against climate change in the post-2020 period.
- As per the recent **Intergovernmental Panel on Climate Change (IPCC) Special Report on Global warming** of 1.5°C, human-induced warming reached approximately 1°C (likely between 0.8°C and 1.2°C) above pre-industrial levels in 2017, increasing at 0.2°C (likely between 0.1°C and 0.3°C) per decade (high confidence).
- The year 2018was the sixth warmest year on record since the nation-wide records commenced in 1901.
- Achievements in **CoP 24 in Katowice, Poland in 2018:**
  - **Paris Agreement Work Programme (PAWP)** was adopted.
  - Recognition of different starting points for developed and developing countries.
  - Flexibilities for developing countries.
  - Consideration of principles including equity and **Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC).**

India's Climate Actions

- **National Action Plan on Climate Change (NAPCC)** launched in 2008, formulated in the backdrop of India's voluntary commitment to reduce emission intensity of its GDP by **20 to 25 percent by 2020 over 2005 levels.**
  - It was also meant to focus on key adaptation requirements and creation of scientific knowledge and preparedness for dealing with climate change.
  - States/ Union Territories have also **State Action Plans on Climate Change (SAPCC)** in line with the NAPCC taking into account State's specific issues relating to climate change.
- Central sector scheme called **Climate Change Action Programme (CCAP)** has been launched in 2014 with a total cost of Rs. 290 crore, with the objective to build and support capacity at central and state levels, strengthening scientific and analytical capacity for climate change assessment, establishing appropriate institutional framework and implementing climate related actions in the context of sustainable development.
- A **National Adaptation Fund on Climate Change** was established in 2015 to meet the cost of adaptation to climate change for the State and Union Territories that are particularly vulnerable to the adverse effects of climate change. The Scheme will continue till 31 March 2020 with a financial implication of Rs. 364 crore.
- The outcomes of these initiatives are reflected in **India's Second Biennial Update Report (BUR)** submitted to UNFCCC in December 2018 as per the reporting obligations under the Convention.
  - The report shows that emission intensity of India's GDP came down by 21 per cent between 2005 & 2014 and its achievement of climate goal for pre-2020 period is on track.
  - A total of 2.607 billion tons of CO_2 equivalent of GHGs were emitted from all activities (excluding Land use, Land-Use Change, and Forestry (LULUCF)) in India.
  - Energy sector accounted for 73 percent, Industrial Processes and Product Use (IPPU) 8 percent, agriculture 16 percent and waste sector 3 percent.
  - About 12 percent of emissions were offset by the carbon sink action of forestland, cropland and settlements.

- **India's Nationally Determined Contribution:**
  - It outlines the post-2020 climate actions India intends to undertake under the Paris Agreement on climate change adopted in December 2015.
  - India's NDC states, "Preliminary estimates indicate that India would need around US$206 billion (at 2014-15 prices) between 2015 and 2030 for implementing adaptation actions in key areas like agriculture, forestry, fisheries infrastructure, water resources and ecosystems."
  - Apart from this there will be additional investments needed for strengthening resilience and disaster management.
  - NDC further provides the preliminary total estimates for meeting India's climate change actions between now and 2030 which is at US$2.5 trillion (at 2014-15 prices).
  - SEBI has provided a regulatory environment for issuance of green bonds in May 2017, the fruits of which are reflected in the cumulative issuance of green bonds in India. India stands at **11th position** in global country ranking and accounts for **33 per cent** of the Certified Climate bonds by number in emerging markets.

International Solar Alliance (ISA)

- ISA is the first treaty-based International Intergovernmental Organization launched by **India and France** on 30 November, 2015 in Paris and entered into force on 6 December, 2017. The first Assembly of the ISA was convened on October 3, 2018. ISA's motto is, **"let us together make the sun brighter".** ISA has launched five programmes so far:
  - Scaling Solar Applications for Agriculture Use;
  - Affordable Finance at Scale;
  - Scaling Solar Mini Grids;
  - Scaling Solar Rooftop; and
  - Scaling Solar in E-mobility and Storage.

- **Key Initiatives:**
  - ISA has been working with various financial institutions for scaling up financing, lowering the cost of capital, and designing innovative financial instruments to accelerate the massive deployment of solar energy.
  - In addition, **"Action to Transaction"** meets an innovative platform where project developers and bankers were brought together, facilitated 238 projects in ISA countries.
  - A task force was constituted to design a **Common Risk Mitigation Mechanism** to reduce risks and financial cost of solar projects. The World Bank and **Agence Française de Development (AFD)** are developing a joint **Global Solar Risk Mitigation Initiative (SRMI),** an integrated approach to tackle policy, technical and financial issues.
  - The ISA is also working with the **European Investment Bank** and the **EU Commission** to launch an off-grid fund, initially for four Asian member countries of the ISA, to rapidly scale up to Africa and Latin America.
  - A project pipeline of US$5 billion in mini-grids and rooftops is created.
  - ISA has forged financial partnerships with various MDBs, UN agencies, Climate Parliament, European Commission, Commonwealth Secretariat and other International and Intergovernmental organizations.

  ISA Solar Award has been instituted for Solar Scientists doing extraordinary work across ISA countries with a onetime corpus contribution of US$1.5 million from the Government of Haryana.

Practice Question

- **India considers the outcome of COP24 a positive one which addresses concerns of all Parties and sets us on the path towards successful implementation of the Paris Agreement. Elucidate.**
- **Air pollution is one of the biggest global environmental challenges of today and a major issue in India. In this context, enumerate various steps taken by the Indian government to tackle the issue of increasing air pollution.**
- **Resource Efficiency (RE) has emerged as one of the key strategies towards the 2030 Agenda of achieving the SDGs. Elaborate.**

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CHAPTER: 6

EXTERNAL SECTOR

Important terms

- **Foreign Exchange Reserves:** The FOREX are reserve assets held by a central bank in foreign currencies. It acts as buffer to be used in challenging times and used to back liabilities on their own issued currency as well as to influence monetary policy.
- **Components of Indian FOREX Reserves:** Foreign currency assets (FCAs), Gold, Special Drawing Rights (SDRs) and RBI's Reserve position with International Monetary Fund (IMF). FCAs constitute largest component of Indian FOREX Reserves.
- **External Debt:** It is owed to creditors outside the country. The outsider creditors can be foreign governments, International Financial Institutions like WB, IMF etc., corporate and foreign private households. External debt may be of several kinds such as multilateral, bilateral, IMF loans, Trade credits, External commercial borrowings etc.

Introduction

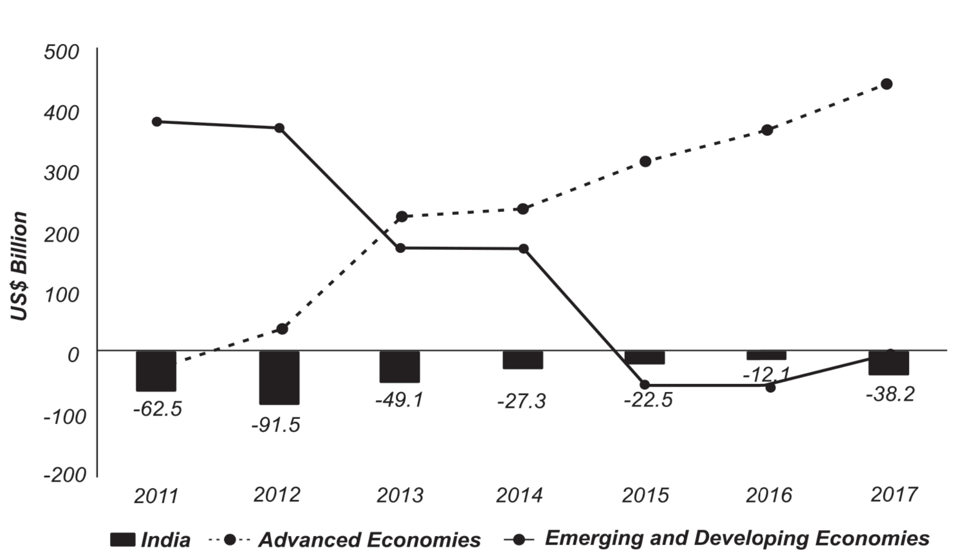
- India's macroeconomic situation on the external side continues to be stable. Though the current account deficit is projected at 2.4 per cent of GDP in 2018-19, up from 1.8 per cent in 2017-18, this is within reasonable levels. The widening of the current account deficit has been driven by a deterioration of trade deficit from 6.0 per cent of GDP to 6.7 per cent across the two years. The acceleration in the growth of remittances has offset the deterioration of the current account deficit.
- The share of **foreign direct investment** has risen and that of **net portfolio investment** has fallen in total liabilities, thereby reflecting a transition to more stable sources of funding the current account deficit. India's foreign exchange reserves continue to be comfortably placed in excess of US$400 billion.
- The **real effective exchange rate** also depreciated in 2018-19, making India's exports potentially more competitive. The income terms of trade, a metric that measures the purchasing power to import, has been on a rising trend, possibly because the growth of crude prices has still not exceeded the growth of India's export prices.
- The **exchange rate** in 2018-19 has been more volatile than in the previous year, mainly due to volatility in crude prices, but not much due to net portfolio flows.
- Petroleum products, precious stones, drug formulations, gold and other precious metals continue to be top export items. Crude petroleum, pearl, precious and semi-precious stones, and gold remain as top import items. India's main trading partners continue to be the US, China, Hong Kong, the UAE and Saudi Arabia.

Global Economic Environment

- **Increasing Trade Protectionism and Slowing down of Global Output**
  - 2018-19 has closed with growth in world output on a downward trajectory. The World Economic Outlook (WEO) in its April 2019 issue has projected growth in world output at 3.3 per cent in 2019, down from 3.6 per cent obtained in 2018.
  - Heightened US-China trade tensions have been stated as one of the reasons behind the global slowdown that has spilled into other economies including India through the channel of exports.
  - The WEO also clarifies that trade-protectionism will only divert bi-lateral trade imbalances from one country to another as the root cause of trade deficits is the macroeconomic imbalance.

- The WEO accordingly advises that at the multi-lateral level, the main priority is for countries to resolve trade disagreements cooperatively, without raising distortionary barriers that would further destabilize a slowing global economy.
- These developments increase the vulnerability of external sector of emerging market economies like India, which are dependent on crude imports for fuelling their economic growth.
- Emerging and developing economies on the other hand slipped from their current account surplus position of US$379.0 billion in 2011 to US$0.1 billion in 2017. This reflects the shifting of the consumption hub of the world from the advanced to the less advanced countries.
- It is in this context of global slowdown of output and trade, increase in trade protectionism across the world and shifting of the consumption hub to the emerging and developing economies that the developments on India's trade and BoP fronts have been discussed.

International Comparison of Current Account Balance



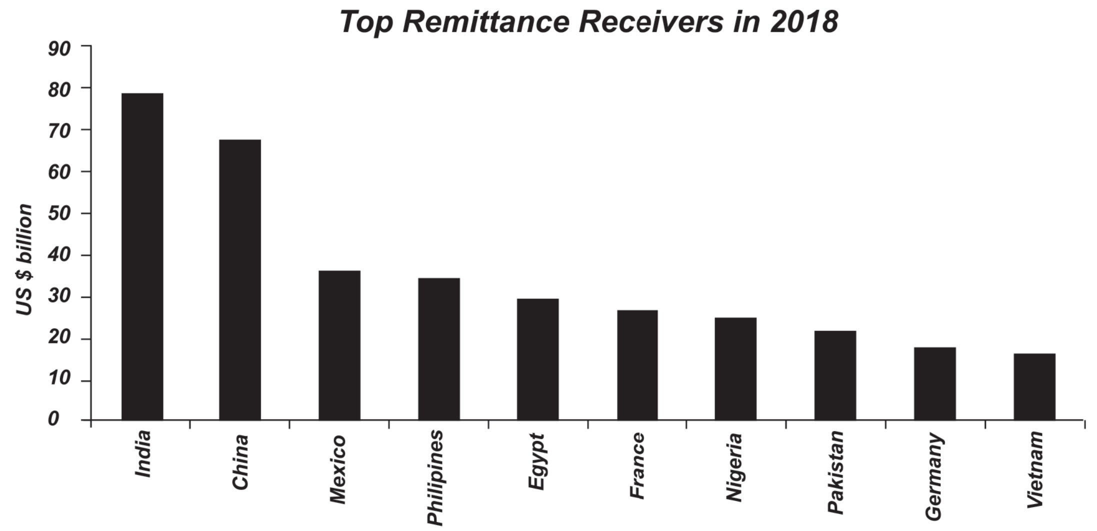
Source : International Monetary Fund (IMF)- Information is available till 2017 only.

India's Balance Of Payments Developments

Overview of Balance of Payments

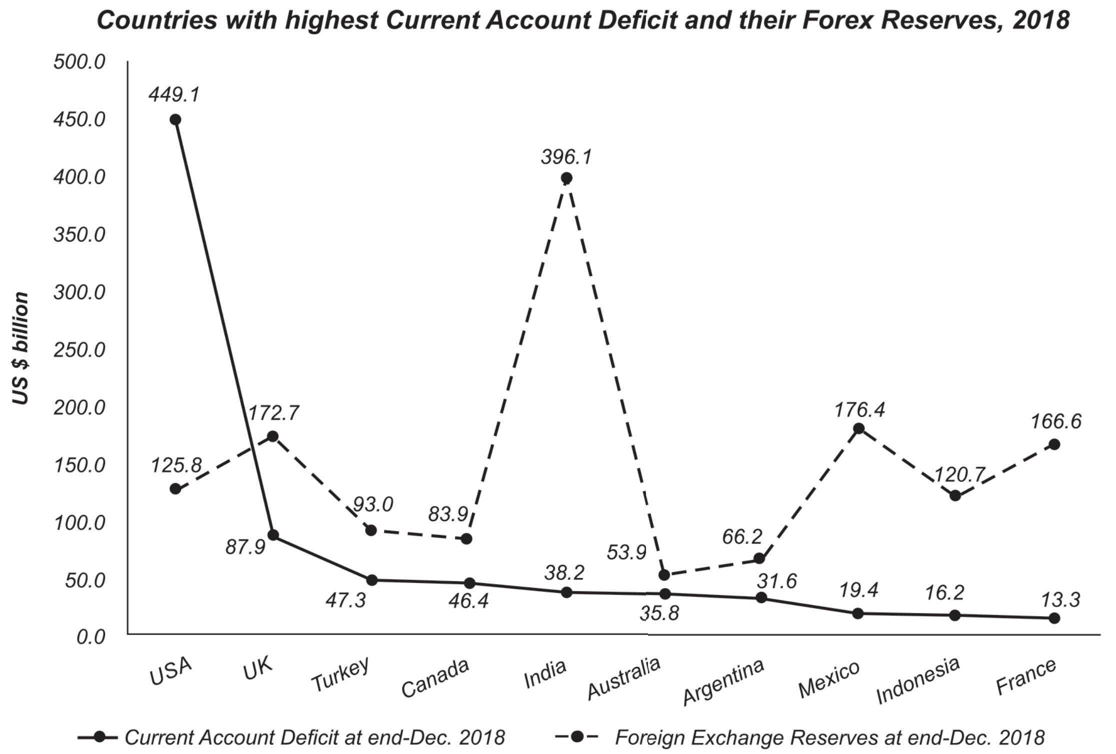
Current Account Developments:

- The widening of the CAD was largely on account of a higher trade deficit driven by rise in international crude oil prices (Indian basket) making merchandise imports grow relatively faster than exports.
- The trade deficit increased to US$145.3 billion during the same period from US$118.4 billion in the corresponding period of previous year.
- Petroleum products continue to have the largest share in India's export basket at 14.1 per cent in 2018-19.
- Crude petroleum continues to be the largest imported commodity in 2018-19 with a share of 22.2 per cent, followed by Gold, Silver; Pearl, Precious, Semi-Precious Stones; and Petroleum Products; having share of 6.4 per cent, 5.3 per cent and 5.2 per cent respectively, in the import basket.
- Growth of POL exports was only driven by price rise as volume exported by India actually contracted from 2016-17 to 2018-19. This reflects that India is more dependent on POL imports than the world is on India's POL exports.
- Gold and Silver Imports growth again turned negative in 2018-19, although not to the same extent as in 2016-17.
- Net Private Transfer receipts, mainly representing remittances by Indians employed overseas increassed by 12.4 percent in 2018-19 as compared to 11.5 percent in 2017-18.
- Improved income conditions in the Gulf countries with rise in oil prices, might have led to this rise in remittances as a significant portion of remittances are sourced from these countries.
- According to the World Bank (April 2019), India remained a **top remittance recipient country** in 2018, followed by China, Mexico, Philippines, and Egypt, with remittance inflows peaking at **all-time high at US$78.6 billion.**



Source : Latest available figures from World Bank

- **Developments in Capital Account of BOP**
  - During 2018-19, net foreign investment declined to US$31.3 billion as compared to US$52.4 billion in the corresponding period of 2017-18. Robust foreign direct investment (FDI) inflows were more than outweighed by withdrawals under portfolio investment reflecting an escalation of global risk aversion.
  - The reduced dependency on FPIs to fund CAD in recent times is also reflected in the fact that growth of forex reserves in the country bears no correlation with movements in net FPI. India's foreign exchange reserves stood at US$422.2 billion as of June 14, 2019.
  - The level of foreign exchange reserves can change due to change in reserves on BoP basis as well as valuation changes in the assets held by the Reserve Bank of India.
  - Among the major economies running current account deficit, India is the largest foreign exchange reserve holder and eighth largest among all countries of the world.



Source : Based on International Financial Statistics (IFS), IMF.

External Debt

- **India's External Debt was US$521.1 billion at end-December 2018**, 1.6 per cent lower than its level at end-March 2018.
- As per the World Bank data, though India is the third largest debtor country (in absolute amounts) among developing countries (after China and Brazil), its average-age of debt is much higher given that its ratio of short-term debt to total debt is only about 19.0 while that of China is 69 per cent. Higher age of debt reduces the roll-over risk.
- **Debt Service ratio** indicates the claim that servicing of external debt makes on current receipts and is, therefore, a measure of strain on BoP due to servicing of debt service obligations.

Net International Investment Position

- The **International Investment Position (IIP)** is a statistical statement that shows at a point in time the value of financial assets of residents of an economy that are claims on non-residents or are gold bullion held as reserve assets; and the liabilities of residents of an economy to non-residents (International Monetary Fund (IMF)).
- The difference between the assets and liabilities is the net position in the IIP and represents either a net claim on or a net liability to the rest of the world.
- A positive NIIP value indicates a nation is a creditor nation, while a negative value indicates it is a debtor nation.
- Among the top ten economies having Net IIP deficit in 2018, United States is ranked first with net IIP deficit of US$9.7 trillion, followed by Spain (US$1.1 trillion) and Australia (US$0.7 trillion).
- There is continuous deterioration in net IIP of India from 2011 till 2018, on account of consistent increase in IIP liabilities over the corresponding period of time.
- The share of net FDI inflows in total liabilities has seen a secular increase since 2013 reflecting an increase in dependence on more stable sources of financing the CAD.

Nominal and Real Exchange Rate and Terms of Trade

Exchange Rate

- The Indian rupee was one of the least volatile Emerging Market (EM) currencies during 2017-18 and traded in the range of 63.63 to 65.08 per US$.
- During 2018-19, Indian rupee traded with a depreciating trend against US dollar and touched a historical low of 74.4 per US$ before recovering by 4.1 per cent to 69.2 per US$.
- Softer monetary policy stance across major central banks and easing of crude oil prices coupled with return of risk-on sentiment triggered FPIs inflows and helped rupee to recover.
- Apart from rupee depreciating by 7.8 per cent vis-a-vis US dollar in 2018-19, it also depreciated against other major currencies. It depreciated by 7.7 per cent against Yen, and 6.8 per cent against Euro and Pound Sterling each.

NEER and REER

- In terms of the 6 and 36 currency, **Nominal Effective Exchange Rate (NEER)** (trade-based weights), rupee depreciated by 7.1 and 5.6 per cent respectively in the fiscal year 2018-19 over 2017-18.
- In terms of the 6 and 36 currency, **Real Effective Exchange Rate (REER),** rupee depreciated by 5.8 per cent and 4.8 per cent respectively in 2018-19 over 2017-18.
- This can be attributed to strong economic fundamentals, softening of crude oil prices, sustained selling of the dollar by exporters and banks, and improving investor confidence on account of recovery in the Indian equity markets.

Exchange Rate Volatility

- The standard deviation is calculated using monthly data as an indicator of exchange rate volatility. It indicates that the rupee witnessed a spike in volatility in 2018-19 after two years of relative stability.
- The degree of exchange rate volatility will depend on the extent to which exchange rate movements can be anticipated.
- In particular, crude oil prices and net portfolio flows have been major drivers of exchange rate movements in recent years.

- **Terms of Trade**
  - While depreciation of REER indicates that India's exports must have become more competitive, appreciation of REER indicates less competitive exports. Price competitiveness of exports can however be better assessed by looking at how Terms of Trade (ToT) have fared across a time period.
  - Commodity or **net terms of trade (NTT)** of a country is the **ratio of the unit value (price) of export to the corresponding unit value (price) of import** measured relative to a base year.

Trade Related Logistics

- The Indian logistics sector is on a big growth tide. According to the domestic rating agency ICRA, Indian logistics sector is expected to grow at a rate of 8-10 per cent over the medium term.
- The logistics industry of India is currently estimated to be around US$215 billion.
- According to the Global Ranking of the **World Bank's 2016 Logistics Performance Index,** India jumped to 35th rank in 2016 from 54th rank in 2014 in terms of overall logistics performance. **In 2018, India stood at 44th rank**. Experts predict that the logistics sector can be the largest job creator by 2022.
- Government of India has announced a **draft National Logistics policy** for which a **national logistics action plan** is being developed.
- **Various logistics schemes have been introduced, which are as under:**
  - The Government has launched many flagship programmes like the **Bharatmala.**
  - **Yojana,** the **Sagarmala Yojana** and the **Dedicated Freight Corridors.** The objective of these programmes is to develop infrastructure to meet the growing demand of logistics in the country and to make a modal shift on more cost-effective modes of transport.
  - **111 waterways** have been identified for development.
  - Infrastructure status has been given to select logistics activities like warehousing, cold chains, Multi modal logistics parks and slurry pipelines.
  - Subsidy is provided to develop cold chains and pack houses.
- Indian logistics industry is a sunshine sector and there are multiple factors on both demand and supply side that are driving this sector. On the demand side, the reduction in truck turnaround time following GST is a major stimulus to logistics growth as also pick up in industrial production.
- On the supply side, the outsourcing of non-core activities like warehousing is allowing main players to focus on improving efficiency of transportation. Automation of large warehouses is also adding to the efficiency of the logistics sector.
- Driving logistics cost down from estimated current levels of 13-14 per cent of GDP to 10 per cent in line with best-in-class global standards is essential for India to become globally competitive.

Table: Logistics Cost of India and rest of the world (Reference Year-2016)

2016 Comparative Analysis	Logistics Cost** (USS Billions)	Logistics % GDP
India	293.1	12.80
Brazil	208.6	11.62
China	1626.7	14.50
USA	1522.7	8.14
World	8226.3	10.86
Source: **Armstrong & Associates, October 2017		

Anti-Dumping and Safeguard Measures

- India conducts anti-dumping investigations on the basis of applications filed by the domestic industry with prima facie evidence of dumping of goods in the country, injury to the domestic industry and causal link between dumping and injury to the domestic industry.

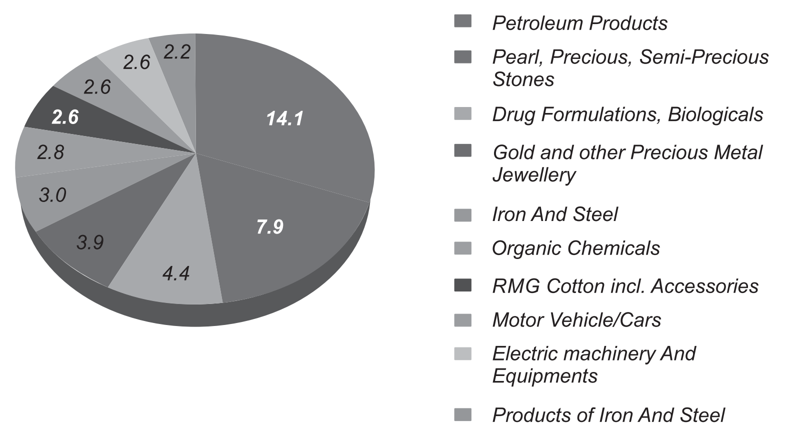
- The countries involved in these investigations are China PR, Hong Kong, Korea, Germany, EU, USA, Malaysia, South Africa, Thailand, and Brazil among others.

Composition of Trade

Major Products Exchanged in 2018-19

- In 2018-19, petroleum products continued to be the largest exported commodity, in value terms, with a share of 14.1 per cent in the country's export basket.

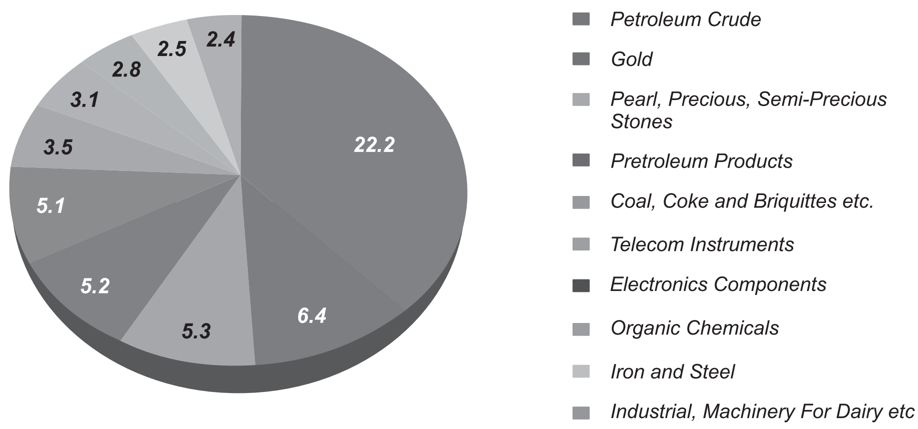
Commodity-wise Composition of Exports in 2018-19 (Per cent)



Source : DGCI&S, Kolkata.

- In the import basket of 2018-19, petroleum: crude, at 22.2 per cent had the largest share followed by gold and other precious metal Jewellery at 6.4 per cent and pearls precious and semi-precious stones at 5.3 per cent.

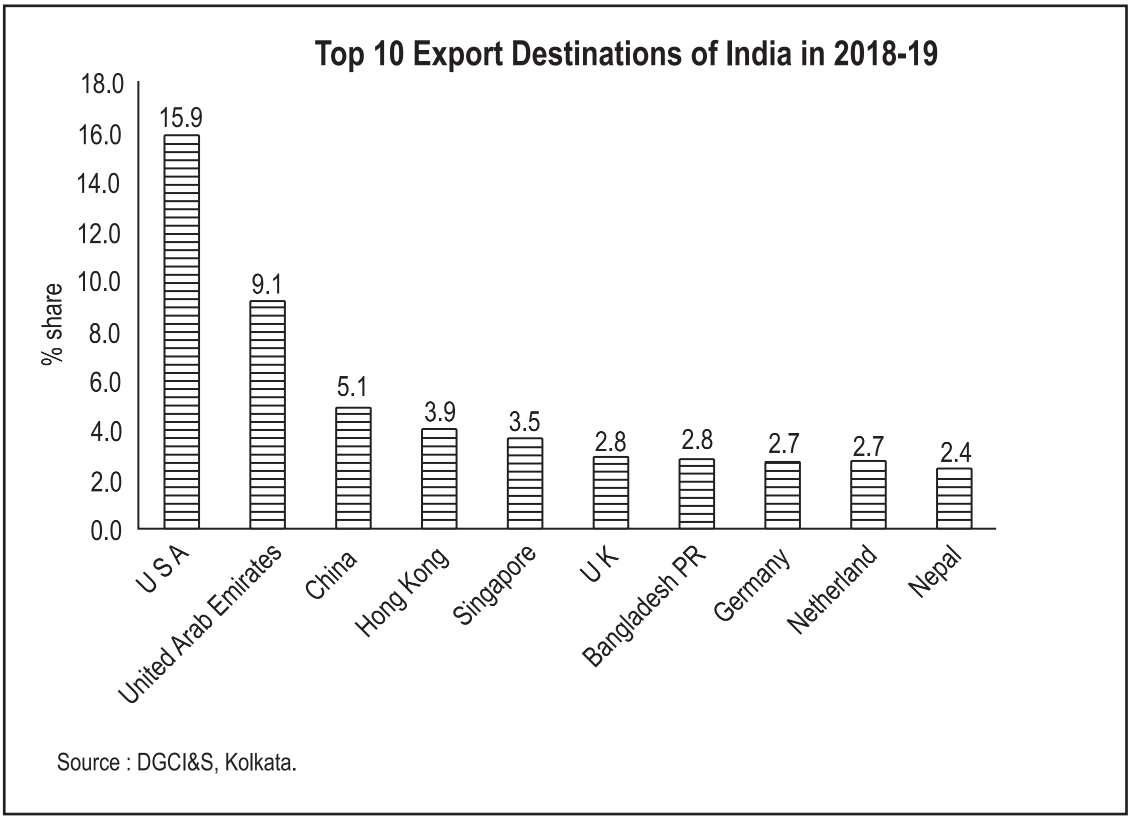
Commodity-wise Composition of Imports in 2018-19 (Per cent)



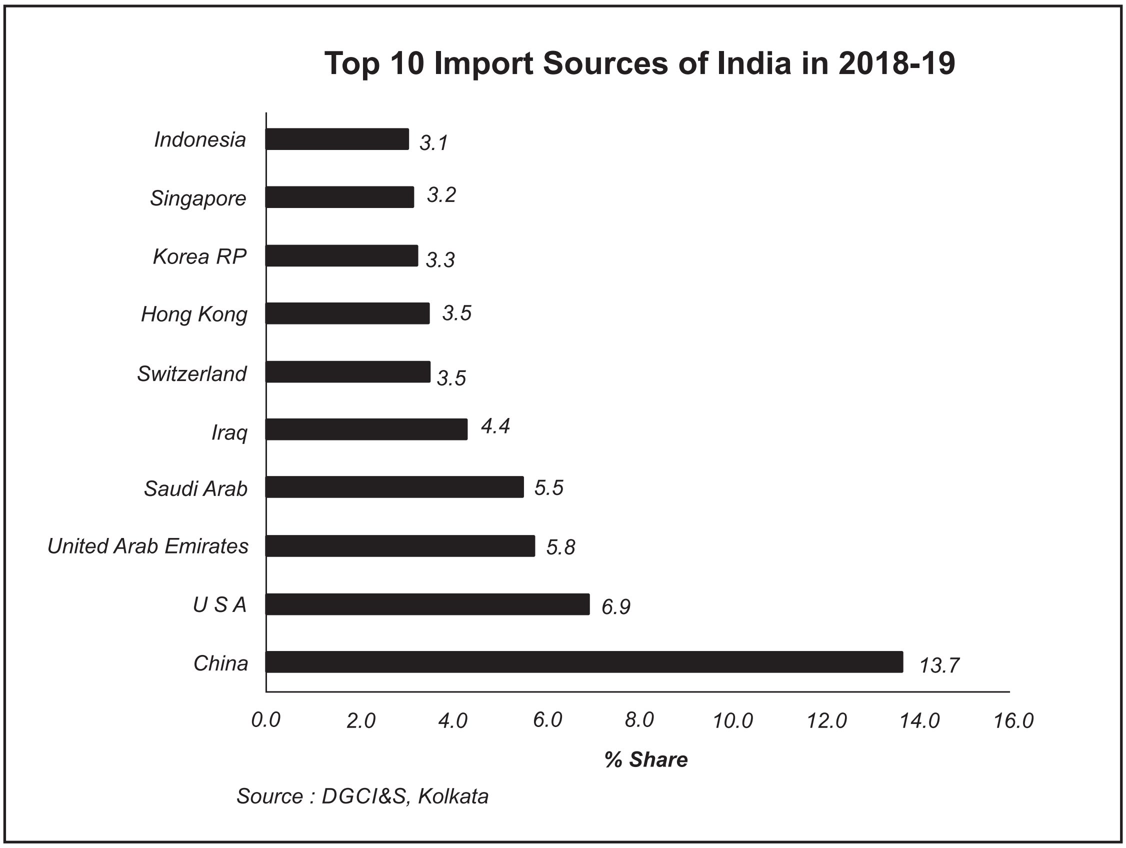
Source : DGCI&S, Kolkata.

Major trading partners in 2018-19

- India's largest export destination country continues to be the United States of America (USA), which accounted for 16 per cent of India's exports (in value terms) in 2018-19, followed by United Arab Emirates (UAE), China and Hong Kong.



- China continues to be the largest source of imports of India accounting for 13.7 per cent of the total imported value in 2018-19.



CONCLUSION

Government policies are expected to further lift restrictions on FDI inflows, which will continue to increase the stability of sources funding the current account deficit. From a macro-economic perspective the deterioration of CAD may be contained if consumption slows down in the economy while increase in investment and exports become the new drivers of the Indian economy.

Practice Question

- **Indias's Current Account Deficit (CAD) widens to 2.1% of GDP. In this context, analyse how the variation in CAD impacts the economy.**
- **What is the difference between FDI and FPI? FDI is more desirable than FPI for Indian Economy. Comment.**

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CHAPTER: 7

AGRICULTURE AND FOOD MANAGEMENT

Important terms

- **Irrigation water productivity:** It is defined as ratio of the crop output to the irrigation water applied by the farmer/ irrigation system either through surface canals, tank, pond or the well and tube well during the crop growth.
- **Agriculture Census:** Agriculture Census in India is conducted at five yearly intervals for collection of information about structural aspects of agricultural holdings in the country. The basic statistical unit for data collection is 'Operational Holding'. Recent agriculture census was held in 2015-2016.
- **Operational Holding:** All land which is used wholly or partly for agricultural production and is operated as one technical unit by one person alone or with others without regard to the title, legal form, size or location.
- **Fertilizer response ratio:** It is an indicator of responsiveness of soil fertility to fertiliser application.
- **Economic cost of food grains:** The acquisition and distribution costs of procuring food grains for the central pool constitute the economic cost.

Context:

Agriculture remains the pre-dominant occupations in India for vast sections of the population. Over the years, several new challenges have emerged before the sector. Therefore to transform the agriculture and rural economy, this chapter focuses on allied sectors with a major focus on dairy, poultry, fisheries and rearing of small ruminants and the rationalisation of food subsidy and greater use of technology in food management.

Gist Of Chapter:

To attain the Sustainable Development Goals (SDGs) of ending poverty and bringing in inclusive growth, activities related to agriculture need to be closely integrated with the SDG targets. For a safe and food secure future, the agriculture landscape has to undergo tremendous transformation and shift from the philosophy of **'green revolution led' productivity** to **'green methods' led sustainability** in agriculture.

Overview Of Agriculture And Allied Sectors

- Average annual growth rate in real terms in agricultural & allied sectors has remained at around 2.88 per cent during 2014-15 to 2018-19.
- The share of agriculture, forestry & fishing sector in GVA (Gross Value Added) has seen a steady decrease over the years from 15.4 per cent in 2015-16 to 14.4 per cent in 2018-19. The decline was mainly due to decline in the share of crops in GVA.
- However, the share of the fisheries in GVA has increased form 4.9 per cent in 2012-13 to 11.9 per cent in 2017-18.

Share of Agriculture, Forestry & Fishing at 2011-12 Prices (in per cent)

Item	2012-13	2013-14	2014-15	2015-16*	2016-17#	2017-18@	2018-19 **
Agriculture forestry & fishing	17.8	17.8	16.5	15.4	15.2	14.9	14.4

Crops	11.5	11.4	10.3	9.2	9.0	8.7	NA
Livestock	4.0	4.0	4.0	4.0	4.1	4.1	NA
Forestry & logging	1.5	1.5	1.4	1.3	1.2	1.2	NA
Fishing & aquaculture	0.8	0.8	0.8	0.9	0.9	0.9	NA

Note-* Third Revised Estimate,# Second Revised Estimate, @ First Revised Estimate

**As per the press note on Provisional Estimates of Annual National Income 2018-19 and Quarterly Estimates of Gross Domestic Product for the Fourth Quarter (Q4) of 2018-19 released by CSO on 31st May 2019.

- The share of public investment in GCF in agriculture and allied sectors registered an increase from 2014-15 and maintained an upward trend till 2016-17, the share of private investment in GCF (Gross Capital Formation) showed a decline during this period.

Pattern Of Agricultural Land Holdings In India

- The number of operational holdings, i.e., land put to agricultural use, has increased to 14.6 crore in 2015-16 from 13.8 crore in 2010-11, thereby registering an increase of 5.3 per cent.
- The share of marginal holdings in total operational holdings increased from 62.9 per cent in 2000-01 to 68.5 per cent in 2015-16, while the share of small holdings decreased from 18.9 per cent to 17.7 per cent during this period.
- The classification of operational land holdings based on area is given in following table.

Size Group
Marginal (below 1.00 ha)
Small (1.00-2.00 ha)
Semi-Medium (2.00-4.00 ha.)
Medium (4.00-10.00 ha.)
Large (10.00 ha. & above)

Role of women in agriculture and their operational holdings:

- Women play a significant and crucial role in agriculture including crop production, livestock production, horticulture, post-harvest operations, agro/social forestry, fisheries, etc.
- The share of operational holdings cultivated by women has increased from 11.7 per cent in 2005-06 to 13.9 per cent in 2015-16.

Bringing Resource Efficiency in Smallholder Agriculture

- The pattern of agricultural holdings reflects pre-dominance (85 per cent) of small and marginal farmers in agriculture sector.
- The productivity of a farm depends on the use of inputs like fertiliser, access to irrigation, technology, crop intensity and choice of crops (crop pattern) grown at the farm. One of the key aspects which can improve productivity of small farm holdings is improving resource use efficiency.

The key factors which will bring resource efficiency in smallholder agriculture in India:

Increasing Irrigation Water Productivity (IWP) in Agriculture:

- In India, according to the **Asian Water Development Outlook, 2016,** almost **89 per cent of groundwater extracted** is for irrigation.

- By 2050, India will be in the global hot spot for 'water insecurity '. Therefore there is a major concern whether the present practice of groundwater use can be sustained as the depth of the groundwater level continues to drop.
- Agriculture is dependent highly on water. The cropping pattern in India is highly skewed towards crops that are water intensive. The incentive structures like MSP, heavily subsidized electricity, water and fertilizers have played a significant role in the misalignment of crop patterns in the country. 'The water guzzlers, paddy and sugarcane, consume more than 60 per cent of irrigation water available in the country, thereby reducing water availability for other crops.
- So, appropriate mechanism needs to be framed for economical use of water among small and marginal farmers.

What are the steps to be taken?

- There is divergence between land productivity and irrigation water productivity in the major sugarcane producing States in India, hence its need to focus on irrigation water productivity to raise agricultural productivity.
- The States like Tamil Nadu, Karnataka, Maharashtra and Andhra Pradesh which have high land productivity tend to have very low irrigation water productivity, hence adopting improved methods of irrigation and irrigation technologies will have a critical role in increasing irrigation water productivity along with re-calibrating the cropping patterns.
- The States with penetration of MI systems and improved adoption of micro irrigation systems have almost 40 to 50 per cent savings in energy and fertiliser consumption. Therefore it needs to be examined whether the procurement supported systems which are resource inefficient in terms of subsidies and water use, can be replaced with MI supported cropping patterns and systems which will maximise irrigation productivity and resource use efficiency,.
- Combinations of measures which suit the local agro-economic context need to be applied to improve irrigation productivity in agriculture which will reflect sustainable water use in agriculture.
- Focus in agriculture should shift from 'land productivity' to 'irrigation water productivity'.
- Devising policies to incentivise farmers to adopt efficient ways of water use should become a national priority to avert the looming water crisis.

Economizing the Use of Fertilizers and Pesticides:

- For the small and marginal farmers, the costs of fertilizers are key determinants of profitability of farming.
- According to Department of Fertilizers, the fertilizer response ratio is declining.

Why fertilizer response ratio is declining?

- Inadequacy and imbalance in fertiliser use.
- Increasing multi nutrient deficiency.
- Lack of farmer's awareness about balanced plant nutrition.
- Poor crop management.

What needs to be done to improve fertilizer use efficiency?

- It requires farmers' knowledge regarding the right product, dosage, time and method of application.
- Use of optimal dose based on soil health status.
- Promotion of neem-coated urea.
- Promotion of micro-nutrients
- Promotion of organic fertilizers.
- Promotion of water-soluble fertilizers.

Increasing Sustainability in Agriculture:

- This can be achieved by turning to Organic and Natural Farming.

Major initiatives of government to promote organic and natural farming:

- **National Mission for Sustainable Agriculture (NMSA)**: The main objective of NMSA is to make agriculture more productive, sustainable, and remunerative and climate resilient by promoting location specific integrated/composite farming systems and to conserve natural resources through appropriate soil and moisture conservation measures.

- **Paramparagat Krishi Vikas Yojana (PKVY) and Rashtriya Krishi Vikas Yojana (RKVY):** To promote organic farming in the country. In the revised guidelines of PKVY scheme during the year 2018, various organic farming models like **Natural Farming, Vedic Farming, Cow Farming, Home Farming, Zero Budget Natural Farming (ZBNF)** etc. have been included.
- **Zero Budget Natural Farming (ZBNF):** The main aim of ZBNF is elimination of chemical pesticides and promotion of good agronomic practices. ZBNF also aims to sustain agriculture production with eco-friendly processes in tune with nature to produce agricultural produce free of chemicals. Soil fertility & soil organic matter is restored by pursuing ZBNF. Less water is required under ZBNF and it is a climate friendly agriculture system.
- Some of the States which are progressively practicing ZBNF are Karnataka, Himachal Pradesh and Andhra Pradesh. After ZBNF, Andhra Pradesh has witnessed a sharp decline in input costs and improvement in yields.
- **Mission Organic Value Chain Development for North Eastern Region (MOVCDNER):** It is a component of **National Mission for Sustainable Agriculture (NMSA)** to promote organic farming.

Adopting Appropriate Technologies for Smallholder Farms:

- In smallholder farms, resource efficiency can be brought about through adoption of appropriate technologies. Such as:

Environment friendly automated farm machinery tools:

- Use of technology, investment in costly farm machinery, or scaling up the existing technology may not be economically feasible for small and marginal farmers. Hence, there is need to promote use of environment friendly automated farm machinery tools suited to small scale operations. The Custom Hiring Centers (CHCs) can be set up to promote use of high-tech machinery for the mechanization of small and marginal farm holdings, especially in difficult terrains.

Adoption of ICT in agriculture:

- The spread of mobile phones in rural areas has already impacted the way the small and marginal farmers get access to information about soil health, weather and prices. In the context of poor infrastructure, adoption of ICT in agriculture will promote market access, facilitate financial inclusion and contribute significantly to early warning signals that are critical for the development of smallholder community.

Box 1: Coffee Board Activates Blockchain Based Marketplace in India

Coffee Board has launched blockchain based coffee e-marketplace. This is a pilot project which is likely to help integrate the farmers with markets in a transparent manner and lead to realization of fair price for the coffee producer. It will also reduce the number of layers between coffee growers and buyers and help farmers double their income.

India is the only country in the world where entire coffee is grown under shade, handpicked and sun dried. Coffee is produced in India by small coffee growers, tribal farmers adjacent to National Parks and Wildlife Sanctuaries in Western and Eastern Ghats, which are two of the major bio-diversity hot spots in the world. Indian coffee is highly valued in the world market and sold as premium coffee. However, the share of farmers in the final returns from coffee is very meagre.

Blockchain based market place app for trading of Indian coffees is intended to bring in transparency in the trade of Indian coffee, maintain the traceability of Indian coffee from bean to cup so as consumer tastes real Indian coffee, the grower is paid fairly for his coffee produced. This initiative will reduce grower's dependency of intermediaries by providing direct access to buyers at a fair price for their produce. The initiative will also help coffee producers find exporters within the stipulated time to meet the growing demands and in building greater trust through increased transparency.

Coffee Board is in the process of developing Blockchain based marketplace application. This platform has already registered a group of 15-20 coffee farmers, exporters, importers and retailers from India and abroad. India is one of the few coffee blockchain processors for coffee in the world, after France and Ethiopia.

The stakeholders like coffee farmers, traders, exporters register on platform to make trade transactions. The coffee farmers register credentials like place where coffee is grown, details of crop, elevation etc. A block is created for each lot farmer sells. The credentials of the lot are stored on the blockchain throughout its journey and is immutable.

- **Improving Infrastructure and Access to Markets:**
  - The informal actors like local traders and input dealers are more prominent in the marketing channels of the smallholder farmers.

  What to do?
  - Improve farmers' access through better connectivity to nearby mandis; it will help farmers fetch better prices for their agricultural produce.
  - To overcome the marketing bottlenecks of small and marginal farmer's, combination of enhancing rural infrastructure to improve connectivity; Information and Communication Technology (ICT) to provide timely information about prices, aggregation and storage facilities can help solve the problem.

Agricultural Marketing and Farmer Friendly Reforms Index (AMFFRI):

- NITI Aayog launched in 2016 an index to rank States and UTs based on implementation of seven provisions proposed under model APMC Act like joining e-NAM initiative, special treatment to fruits and vegetables for marketing and level of taxes in mandis.
- These indicators reveal ease of doing agribusiness as well as opportunities for farmers to benefit from modern trade and commerce and have wider option for sale of her/his produce.
- These indicators also represent competitiveness, efficiency and transparency in agri-markets.
- The second area of reforms captured by the index include facilitation and liberalization of land lease.
- The third area included in the index represent freedom given to farmers for felling and transit of trees grown on private land. This represents opportunity to diversify farm business.
- The Index is named as "Agricultural Marketing and Farmer Friendly Reforms Index (AMFFRI)" and it has a score that can have minimum value "0" implying no reforms and maximum value "100" implying complete reforms in the selected areas. States and UTs have been ranked using this index.

- **Ranking of States based on AMFFRI:**
  - No state in the country has implemented the entire set of market reforms. Also, land leasing and harvest and marketing of some tree species on private farmland are subjected to various degrees of restrictions in almost all the States/UTs.
  - The State of Maharashtra achieved first rank in implementation of various reforms. The State has implemented most of the marketing reforms and it offers best environment for doing agri-business among all the States/UTs. Gujarat ranks second with a score of 71.5 out of 100, closely followed by Rajasthan and Madhya Pradesh.
  - Almost two third States/UTs could not reach even halfway mark of reforms score.
  - Some States/UTs do not have APMC Act. It is a challenge to provide ranking to these States in market reforms.

Role Of Extension Services

- Agricultural extension plays a key role in boosting agricultural productivity, enhancing food security, improving rural livelihoods and changing farmers' preferences and farming practices positively (for example, adoption of better quality seeds and cutting down loss by getting their crops insured).
- As per the Report on **Review of Agricultural Extension in India, 2010** by **IFPRI:**
  - There is increasing need to share knowledge and skills in order to provide locally relevant services that meet the information needs of small and marginal farmers.
  - Need to bring small and marginal farmers within the framework of extension services.
- The farmers tend to access technical advice more during the second half of the year, i.e., during January-June. 'Progressive farmer' and 'radio/TV/newspaper/internet' were the two most accessed sources for technical advice by the agricultural households during this period. There is thus greater scope to improve services by Krishi Vigyan Kendras (KVKs) and agricultural universities in agriculture advisory services.

Agricultural Credit

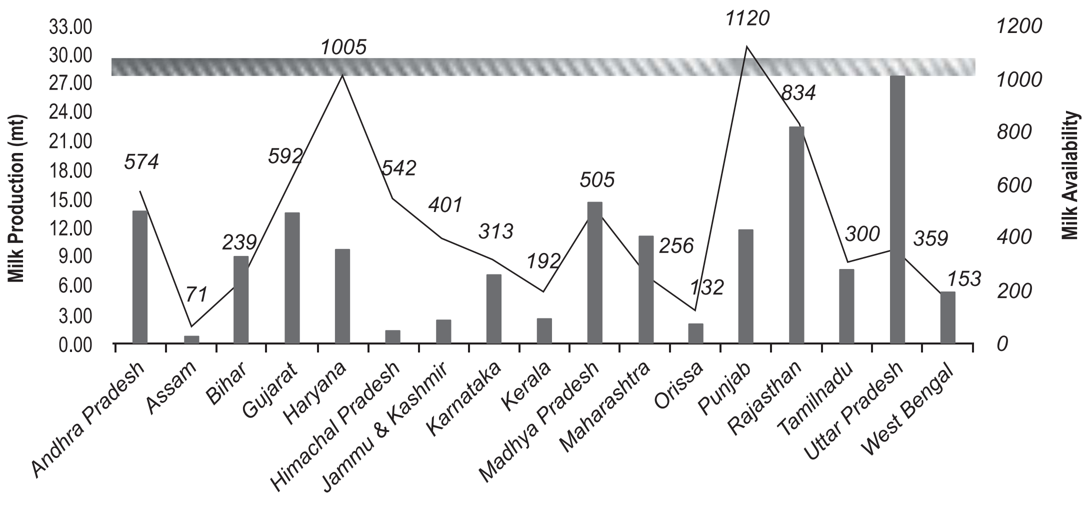
- The distribution of credit is highly skewed. It is seen that the distribution of agricultural credit is low in North Eastern, Hilly and Eastern States. The share of North Eastern States has been less than one per cent in total agricultural credit disbursement.
- The small and marginal holdings constitute majority (more than 85 per cent) of total operational holdings in the eastern region, north-eastern region and central region, which warrants greater distribution of agricultural credit disbursement to this region.

Allied Sectors: Animal Husbandary, Dairying And Fisheries

Animal Husbandry and Dairying

- India ranks first in milk production, accounting for 20 per cent of world production. Milk production in India has been increasing steadily over the years from 55.6 million tonnes in 1991-92 to 176.3 million tonnes in 2017-18, at an average annual growth rate of 4.5 percent.
- But there exists wide inter-state variability in milk production. The per capita availability of milk is determined by the production of milk in the State. While the All India per capita availability of milk is 375 grams per day, it varies between 71 grams per day in Assam to 1120 grams per day in Punjab.

Inter-State Variability in Milk Production & Per Capita availability



Source : National Dairy Development Board

Domestic Demand and Price of Milk:

- Though the production of milk has been rising at an increasing rate, the change in its price shows a fluctuating trend.
- There are three key drivers of increasing milk demand and price:
  - Population growth
  - Urbanization
  - Income growth, which leads to an increase in the price of milk.
- Of the total milk produced in rural areas, around 52 per cent is the marketable surplus. Of this surplus, less than half of the milk sold is handled by the organized sector comprising of dairy cooperatives and private dairy companies and the rest by the unorganized sector.

Small Ruminant Sector

- Sheep and goat are collectively known as small ruminants.
- As per the 70th round of NSSO, livestock rearing was the principal source of income to about 3.7 per cent of the agricultural households.
- India supports 16.1 per cent of the world's goat population and 6.4 per cent of its sheep (Food & Agriculture Organisation).

Characteristics of small ruminant and its importance for income generation:

- Small ruminants have higher survival rates under drought conditions compared to large ruminants.
- Because of their higher reproductive rates and smaller reproductive cycle flock numbers can be restored more rapidly.

- With regard to goats, water economy is also an important biological feature. Due to their short reproductive cycles (short kidding interval) and high incidence of multiple births, there is potential for a higher annual offtake of goats than seen with cattle & buffaloes. This allows farmers/producers a quick interval of selling part of their flock and generating cash income.
- Sheep/goats can also efficiently survive on available shrubs and trees in adverse harsh environment in low fertility lands where no other crop or animals can survive except some rare exceptions like camel.

Schemes/Initiatives to Improve Productivity of Livestock and Dairy Sector:

- **Rashtriya Gokul Mission (RGM):** To undertake breed improvement programme for indigenous breeds so as to improve the genetic makeup and increase the stock. Indigenous cattle are well known for their quality of heat tolerance and ability to withstand extreme climatic conditions.
- **E Pashu Haat Portal:** Under the scheme **National Mission on Bovine Productivity,** E Pashudhan Haat portal was developed for connecting breeders and farmers regarding availability of quality bovine germplasm. Through the portal, breeders/farmers can sell or purchase their breeding stock. Information on all forms of germplasm including semen embryos and live animals with all the agencies and stakeholders in the country has been uploaded on the portal.
- **National Livestock Mission:** National Livestock Mission ensures intensive development of livestock, especially small livestock (sheep/goat, poultry rearing etc.) along with adequate availability of quality feed and fodder.
- **Livestock Health & Disease Control Scheme:** Assistance provided under the Scheme for prevention and control of animal diseases like Foot and Mouth Disease (FMD), Peste des Petits Ruminants, (PPR), Brucellosis, Classical Swine Fever etc. In order to strengthen and expand the trained veterinary manpower, the number of recognized veterinary colleges has been increased.
- **Dairy Development:** The Government is making efforts for strengthening infrastructure for production of quality milk, procurement, processing and marketing of milk and milk products through the following dairy development schemes, viz; **National Programme for Dairy Development, National Dairy Plan (Phase-I), Dairy Entrepreneurship Development Scheme, Dairy Processing and Infrastructure Development Fund (DIDF).**

Fisheries Sectors

- **India i**s the **second largest fish producer in the world** with a total production of 13.7 million metric tonnes in 2018-19 of which 65 per cent was from inland sector.
- The sector has been showing a steady growth in the total gross value added and accounts for 5.23 per cent share of agricultural GDP. Fish and fish product exports emerged as the largest group in agricultural exports in 2018-19.

Government measures to boost fisheries sector:

- **A separate Department of Fisheries** was created in February 2019.
- The Government has merged all the schemes of fisheries sector into an umbrella scheme of '**Blue Revolution: Integrated Development and Management of Fisheries'** focusing on increasing fish production and productivity from aquaculture and fisheries resources, both inland and marine.
- Creation of the **Fisheries and Aquaculture Infrastructure Development Fund** (FIDF) was approved with a total fund size of Rs. 7522.48 crore.

While enhancing incomes through livestock development and fisheries sector, it is significant to integrate the SDGs of ensuring incomes and livelihoods for the poor. This must be undertaken without compromising the needs of the future generation by over exploiting/depleting marine resources.

Draft National Inland Fisheries and Aquaculture Policy (NIFAP), 2019:

- Although inland fisheries and aquaculture have grown in absolute terms, the development in terms of its potential is yet to be realized. The unutilized and underutilized vast and varied resources, in the form of 191,024 km of rivers and canals, 1.2 million hectares of floodplain lakes, 2.36 million hectares of ponds and tanks, 3.54 million hectares of reservoirs and 1.24 million hectares of brackish water resources offer great opportunities for livelihood development and ushering economic prosperity.

Major Policy Recommendations in the NIFAP, 2019 Inland Fisheries:

- **For inland fisheries:**
  - Conserving indigenous resources, and restoring natural ecosystem of rivers.

- Transferring management of fisheries in manmade reservoirs to the state fisheries departments for scientific enhancement and efficient governance.
- Conserving and restoring ecosystem in natural wetlands.
- Bringing policies, law, and conservation programmes for development of fisheries in the Himalayan and north-eastern states.

- **For aquaculture:**
  - Developing state and area-specific action plans.
  - Redefining land use categories to include fisheries and aquaculture as components of agriculture.
  - Developing separate programmes for small farmers.
  - Simplifying requirements for registration and leasing of farms.
  - Encouraging private sector in production of seed, feed and other aquaculture inputs.
  - Developing the required regulatory frameworks.
- **Other policy measures:**
  - Making registration of all aquaculture inputs compulsory.
  - Regulating exotic species.
  - Improving disease surveillance.
  - Diversifying species.
  - Developing post-harvest and marketing infrastructure.
  - Strengthening fisheries cooperatives.

Food Security and Food Management in India

Food Securtity

Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences to ensure an active and healthy life (FAO, 2018).

Challenges:

- India's food security challenges lie in the areas of low GDP per capita, sufficiency of supply, public expenditure on R&D and protein quality.
- India ranks No.1 in Nutritional standards. India's overall Food Security Score is 50.1 out of 100 which ranks India 76 out of 113 countries. This reflects the need for India to further improve the management of food supply in various aspects.

Steps taken by government:

- The Central Government takes several steps to prudently manage food grain stock, to ensure adequate availability of wheat and rice in the Central pool, to keep a check on the open market prices, to augment the domestic availability of wheat and rice, and to ensure food security. Major steps taken are as follow:
  - Announcing **Minimum Support Prices** and **Central Issue Price.**
  - Undertake procurement of food grains through FCI and decentralised procurement by State Agencies.
  - Maintain buffer stocks.
  - Open market sale of wheat and rice to check inflation.

Global Food Security Index (GFSI), 2018

- It was first published in 2012, and is managed and updated annually by The Economist's Intelligence Unit.
- The Global Food Security Index (GFSI), 2018 considered four core issues of food security across 113 countries: (i) affordability, (ii) availability, (iii) quality & safety, and (iv) natural resources and resilience.
- The GFSI ranks countries on a score of 0-100 based on the first three categories while natural resources and resilience is used as an adjustment factor.
- A rank of 100 is considered most favourable. GFSI's major goal is to assess in a timely manner which countries are most and least vulnerable to food insecurity.

MSP and Foodgrains Procurement

Minimum Support Price (MSP):

- The Minimum Support Price (MSP) is announced for 22 crops before the sowing season.
- The objective is to give guaranteed prices and assured market to the farmers and protects them from price fluctuations.
- In 2018-19, the government raised the MSP of both kharif and rabi crops to ensure a return of at least 50 per cent above the cost of production to enhance farmers' income.
- An increase in MSP leads to increase in production, but only about one-third of the total production of food grains are procured. The rest of the food grains are sold in the open market.

Foodgrains Procurement:

- In States like Punjab, Haryana, Chhattisgarh, Uttar Pradesh, Madhya Pradesh etc. where MSP procurement is well established, there arise problems in storage of food grains.
- The government tries to liquidate excess stocks through open market sale to bulk buyers above the reserve price, which equals the MSP plus the procurement cost.
- Exports of food grains by FCI at prices lower than the reserve price would effectively imply and export subsidy. Moreover, this would expose India to disputes in the multilateral trade framework. Exports of food grains by FCI either as aid or commercial sale has been less than 1 million tonnes.

Foodgrains Production, Procurement & Offtake (In million tonnes)					
Year	Foodgrains Production minus pulses	Foodgrains Procurement	Procurement (% share in Production)	Offtake (TPDS + Welfare schemes)	Balance stock as of 1st July
2015-16	235.22	64.91	27.6	53.73	54.72
2016-17	251.98	61.14	24.3	56.45	49.85
2017-18	259.60	69.10	26.6	57.85	53.48
2018-19	257.36	75.28	29.3	56.40	65.14
Source: Foodgrain Bulletin, DFPD.					

Challenges:

- According to an Evaluation Study on Minimum Support Price conducted by Development Monitoring & Evaluation Office (DMEO), NITI Aayog (January 2016),:
  - In majority of the sample states, farmers are unaware of the MSP announcement before the sowing season. In Eastern India, in States such as Assam, West Bengal, the poor impact of the scheme could be judged from the fact that none of the selected farmers were even aware of the existence of such a scheme.
  - In certain cases, though aware of the MSP, the absence of procurement centres in the villages, transportation costs, reluctance of mill owners to buy small quantities from the farmers remain stumbling blocks.

Food Subsidy

- Food subsidy comprises of two main components:
  - The first component includes subsidy provided to the Food Corporation of India (FCI) for procurement and distribution of wheat and rice under the **National Food Security Act (NFSA), 2013** and other welfare schemes and for maintaining the buffer stock of food grains as a measure of food security.
  - The second component comprises subsidy provided to States undertaking decentralized procurement.
  - The acquisition and distribution costs of procuring food grains for the central pool constitute the economic cost. The difference between the per quintal economic cost and the per quintal Central Issue Price (CIP) gives the quantum of per quintal consumer subsidy.

- **Why there is rise in food subsidy?**
  - In order to ensure food security to the vulnerable sections, Government continues with the subsidized pricing under **National Food Security Act (NFSA)**. This has resulted in widening of the gap between the economic cost and CIP and the per quintal food subsidy incurred by the Government has risen substantially over the years.
  - The subsidized CIPs of Rs. 3/2/1 per kg for rice, wheat and coarse grains respectively under NFSA were earlier applicable only to the Antyodaya Anna Yojana Families (which constitute about 2.5 crore poorest of the poor households) under the Targeted Public Distribution System (TPDS). Therefore BPL/APL categories were required to pay higher CIPs. The NFSA provides a wider coverage than the erstwhile TPDS.
  - NFSA also made the Antyodaya CIPs uniformly applicable to all NFSA beneficiaries. APL/BPL categorization was done away with under NFSA.
  - The wider coverage provided under the Act together with lower CIPs have obvious implications for the food subsidy bill.

  For sustainability of food security operations, the issue of burgeoning food subsidy bill needs to be addressed.

Targeted Public Distribution System (TPDS)and its Computerization:

- The Targeted Public Distribution System (TPDS) is operated under the joint responsibility of the Central and State/UT Governments.
- The Central Government is responsible for procurement, allocation and transportation of food grains up to the designated depots of the FCI.
- The State Governments are responsible for allocation and distribution of food grains involving identification of eligible beneficiaries/ families, issuance of ration cards to them and supervision and monitoring of functioning of Fair Price Shops (FPSs).
- Therefore, as and when complaints are received by the Government from individuals and organizations as well as through press reports, they are sent to State/ UT Governments concerned for inquiry and appropriate action. An offence committed in violation of the provisions of TPDS (Control) Order, 2015 is liable for penal action under the **Essential Commodities Act, 1955.**

- **Government initiatives for computerization of TPDS:**
  - To modernize and bring about transparency in the TPDS operations, the Central Government is implementing the Scheme **'End-to-end Computerisation of TPDS Operations'** on cost sharing basis with the States/UTs. The validity of the scheme was extended up to March 2019.
  - The scheme provides for:
    - Digitization of ration cards and beneficiary records.
    - Computerization of supply chain management.
    - Setting up of transparency portal and grievance redressal mechanisms.
  - There are 5.33 lakh Fair Price Shops (FPSs) and over 23 crore ration card holders in the country as on March 2019. About 3.95 lakh FPSs have been automated by installing the electronic point of sale device.

- **What more needs to be done?**
  - There needs to be holistic monitoring along the supply chain to completely prevent the diversions and leakages of foodgrains and also to maintain the quality of foodgrains distributed through the FPS.
  - The level of computerization of FPSs across States is not uniform. Therefore there needs to be uniform computerization throughout country.

Action Plan for Doubling the Income of Farmers

- The Government has set a target of doubling of farmers' income by the year 2022. For the said purpose, the Government has constituted an Inter-Ministerial Committee to examine issues relating to Doubling of Farmers' Income (DFI) and recommend strategies.
- The Committee has identified seven sources of income growth:
  - Improvement in crop productivity.
  - Improvement in livestock productivity.
  - Resource use efficiency or savings in the cost of production.

- Increase in the cropping intensity.
- Diversification towards high value crops.
- Improvement in real prices received by farmers.
- Shift from farm to non-farm occupations.

Government Initiatives to Double Farmer's Income by 2022:

- Advocating progressive market reforms through the State Governments, Encouraging contract farming through the State Governments by promulgating of Model Contract Farming Act.
- **Up-gradation of Gramin Haats** to work as centers of aggregation and for direct purchase of agricultural commodities from the farmers.
- **e-NAM** to provide farmers an electronic online trading platform.
- **Distribution of Soil health Cards** to farmers so that the use of fertilizers can be rationalized.
- **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY**)-**"Per drop more crop"** to increase water efficiency.
- **Pradhan Mantri Fasal Bima Yojana (PMFBY):** For better insurance coverage to crops for risk mitigation.
- **Providing total interest subvention** up to 5 per cent (inclusive of 3 per cent prompt repayment incentive) on short-term crop loans up to Rs 3 lakh, thus making loan available to farmers at a reduced rate of 4 per cent per annum.
- **Extended the facility of Kisan Credit Card (KCC)** for animal husbandry and fisheries related activities as well as **Interest Subvention facilities** to such categories of farmers.
- **Increase in the Minimum Support Price (MSPs)** for all Kharif & Rabi crops for 2018-19 season at a level of at least one and half times of the cost of production.
- **A new Central Sector Scheme for providing old age pension**: with a view to provide social security net for small and marginal farmers as they have minimal or no savings to provide for old age and to support them in the event of consequent loss of livelihood.

Scheme Provisions:

- Rs 3000 to the eligible small and marginal farmers, subject to certain exclusion clauses, on attaining the age of 60 years.
- The scheme aims to cover around 5 crore beneficiaries in the first three years.
- It would be a voluntary and contributory pension scheme, with entry age of 18 to 40 years.

- The Government has constituted an Empowered Body for monitoring the implementation of the recommendations of the DFI Strategy.

Practice Question

- **What are the key factors in bringing resource efficiency in smallholders agriculture? Also suggest some policy changes required to bring resource efficiency.**
- **The Government has set a target of doubling of farmers' income by the year 2022. By listing major government initiatives, discuss the action plan to make the goal achievable.**

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CHAPTER: 8

INDUSTRY & INFRASTRUCTURE

Important terms

- **Gross Value Added (GVA):** Gross value added (GVA) is an economic productivity metric that measures the contribution of a corporate subsidiary, company or municipality to an economy, producer, sector or region. Gross value added provides a dollar value for the amount of goods and services that have been produced in a country, minus the cost of all inputs and raw materials that are directly attributable to that production. GVA thus adjusts gross domestic product (GDP) by the impact of subsidies and taxes (tariffs) on products.
- **Index of Industrial Production (IIP)** : IIP is an index that shows the performance of different industrial sectors of the Indian economy. The IIP is estimated and published on a monthly basis by the Central Statistical Organization (CSO). As an all India index, it gives general level of industrial activity in the economy. The IIP assigns a weight of 77.63 percent to manufacturing sector, 14.37 per cent to mining sector and 7.99 per cent to electricity sector.

Industry

Current Scenario of Industries in India

- The industrial sector performance during 2018-19 has improved as compared to 2017-18. As per the provisional estimates of the ***Annual National Income 2018-19 released by Central Statistics Office (CSO)***
- The growth of industry real ***Gross Value Added (GVA) was higher at 6.9 per cent*** in 2018-19 as compared to 5.9 per cent in 2017-18.
- **Construction and manufacturing sectors** have experienced **8.7 per cent and 6.9 per cent** growth rate respectively during 2018-19. The mining and quarrying sector has experienced sluggish growth in 2018-19 as compared to 2017-18.

Index of Industrial Production (IIP)

- The industrial growth rate in terms of ***IIP was 3.6 per cent in 2018-19*** as compared to 4.4 per cent in 2017-18.
- **The Mining, Manufacturing and Electricity sectors** registered positive growth rates of **2.9 per cent, 3.6 per cent and 5.2 per cent** respectively in 2018-19.
- ***The index of infrastructure/construction goods*** remained higher at **7.5 per cent** in 2018-19 driven by the robust performance of cement and steel sectors. Large scale public spending has boosted the demand for these sectors.
- ***Primary goods and consumer non-durables*** have registered a positive growth rate of **3.5 per cent and 3.9 per cent** in 2018-19 respectively. On the other hand, the **capital goods sectors** registered a moderate growth of **2.8 per cent** in 2018-19 which is indicative of shortfall in investment activities.
- Overall investment as indicated by the **real gross fixed capital formation** has increased by **10 per cent** in 2018-19. But its share in GDP at current prices is estimated to be only marginally higher at ***29.3 per cent*** during 2018-19.
- Within consumer goods, consumer durables have shown improved performance with a growth of 5.5 per cent in 2018-19.

Index of Eight Core Industries

- The Index of eight core industries measures the performance of Coal, Crude Oil, Natural Gas, Petroleum Refinery Products, Fertilizers, Steel, Cement and Electricity.
- The eight core industries comprise about 40.3 per cent weight in the IIP. The ***overall Index of eight core industries*** registered a growth rate of ***4.3 per cent in 2018-19*** similar to the increase achieved in 2017-18.
- The production of Coal, Steel, Cement, Electricity, Refinery Products, Natural Gas and Fertilizers registered positive growth rate in 2018-19 with **Cement and Coal** registering a higher growth rate of **13.3 per cent and 7.4 per cent** respectively.

Central Public Sector Enterprises (CPSEs)

- ***Out of the operating 257 CPSEs, 184 CPSEs were profit-making, 71 loss making and 2 CPSEs at no profit no loss.*** The profit of profit-making CPSEs (184) stood at Rs. 1,59,635 crore, while the loss of loss-making CPSEs (71) stood at Rs. 31,261 crore during 2017-18.
- The overall net profit of the 257 operating CPSEs went up by 2.29 percent to Rs. 1,28,374 crore during 2017-18.

Corporate Sector Performance

- Growth of sales (YoY) of over 1700 **non-governmental non-financial (NGNF)** listed manufacturing companies was ***21.6 per cent in Q1, 19.3 per cent in Q2 and 13.2 per cent in Q3*** during 2018-19**.**
- The rate of growth of **Gross Capital Formation (GCF)** in industry has registered a sharp rise from (-) 0.7 per cent in 2016-17 to ***7.6 per cent in 2017-18***, showing upward momentum of investment in industry.
- According to RBI, the growth in **gross bank credit flow** to the industrial sector has increased by **6.9 per cent in March, 2019** compared to the increase of 0.7 per cent in March, 2018.

Initiatives taken by Government to boost Industrial Sector in India

- To improve ease of doing business, the emphasis has been given to simplification and rationalization of the existing rules and introduction of information technology to make governance more efficient and effective.
- As per the ***World Bank Doing Business (DB) Report***, India has considerably improved its ***ranking to 77th position among the 190 countries*** and has leapt 23 ranks over its previous rank of 100.
- The World Bank Doing Business Report 2019 covers 10 indicators which span the life-cycle of a business. India has improved its rank in 6 out of 10 indicators and has moved closer to international best practices.

Start-up India

- The initiative aims to create an ecosystem that is conducive for the growth of Start-ups.
- As on March 1, 2019, 16,578 new start-ups were recognized across 499 districts, 47 per cent Start-ups from Tier II and III cities and 46 per cent of Recognized Start-ups have at least one woman director.
- Steps are taken for easing regulations such as exemption from Income tax on investments raised by Start-ups, ***22 regulatory reforms*** implemented to improve ***Ease of Doing Business for Start-ups***, ***Self-certification regime for six labour laws*** **and three environmental laws, Start-up India Hub** as **'One Stop Shop'** for the start-up ecosystem in which 2,37,902 users have availed free Start-up India Learning Program to build business plans**,** 647 Start-ups supported through dedicated facilitation services**,** 1,262 start-ups connected to mentors, etc.

Foreign Direct Investment (FDI)

- During 2018- 19, total FDI equity inflows were US$44.36 billion as compared to US$44.85 billion during 2017-18.

Performance of Important Indian Industries and Issues faced by them

- **Steel Industry**
  - Steel industry directly contributes to about ***1.4 to 2 per cent of India's GDP*** and its weightage in IIP is 7.22 per cent. It accounts for 7.53 percent of the Wholesale Price Index (WPI).

- India is ***the second largest producer of crude steel in the world*** surpassing Japan with a global share of 6 percent. ***India is the third largest consumer of the finished steel*** after China and USA.

- **Problems faced by steel industry**
  - Pursuant to the imposition of trade restrictive measures by USA, European Union and Canada, India's exports have declined.
  - The total export ***with highest volume of 9.62 million tonnes during 2017-18 fell to 6.36 million tonnes*** during 2018-19.
  - On the other hand, imports have gone up ***India remained an importer of finished steel at 7.84 million tonnes during 2018-19 as against 7.48 million tonnes during 2017-18.***
- **Steps taken by government to improve this sector**
  - The **National Steel Policy, 2017** gives broad policy directives to the industry for encouraging long-term growth for Indian steel on both supply and demand fronts.

Growth in production of Eight Core Industries (in per cent)

Sector	Weight	2016-17	2017-18	2018-19 (P)
Coal	10.3335	3.2	2.6	7.4
Crude oil	8.9833	-2.5	-0.9	-4.1
Natural Gas	6.8768	-1.0	2.9	0.8
Refinery Products	28.0376	4.9	4.6	3.1
Fertilizers	2.6276	0.2	0.03	0.3
Steel	17.9166	10.7	5.6	4.7
Cement	5.3720	-1.2	6.3	13.3
Electricity	19.8530	5.8	5.3	5.2
Overall Index	100.00	4.8	4.3	4.3

Source: Office of the Economic Adviser, DPIIT; P : Provisional
Note: The industry-wise weights indicated above are individual industry weight derived from IIP and blown up on pro rata basis to a combined weight of Index of Core Industries equal to 100.

MSME

- The Micro, Small and Medium Enterprises (MSME) sector in India plays a crucial role by providing large employment opportunities, industrialization of rural areas, reducing regional imbalances, etc. Government is committed to supporting this important sector with better credit flow, technology upgradation, ease of doing business and market access**.**
- **Steps taken by Government to boost growth of MSME :**
  - Government made various key announcements for faster growth of this sector and for promoting ease of doing business that included ***'in-principle approval' for loans up to Rs. 1 crore within 59 minutes through online portal.***
  - **Interest subvention of 2 per cent** for all GST registered MSMEs on incremental credit up to Rs. 1 crore is also being provided and will be in operation for a period of two financial years 2018-19 and 2019-20 with an allocation of Rs. 975 crore.
  - The term loan or working capital extended by Scheduled Commercial Banks and RBI Registered Systemically Important Non-Banking Finance Companies and Regional Rural Banks will be covered under the Scheme.
  - The Government has undertaken a number of schemes/programmes like the Prime Minister's Employment Generation Programme, Credit Guarantee Trust Fund for Micro and Small Enterprises, Credit Linked Capital Subsidy Scheme for Technology Up-gradation, Scheme of Fund for Regeneration of Traditional Industries, and Micro and Small Enterprises- Cluster Development Programme for the establishment of new enterprises and development of existing ones.

Infrastructure

Current Scenario of Indian Infrastructure Sector:

- ***SDG goal number 9 aims to "Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all".***

- India needs to spend ***7-8 per cent of its GDP*** on infrastructure annually, which translates into annual infrastructure investment of US$200 billion currently.
- However, India has been able to spend only about ***US$100-110 billion*** annually on infrastructure, leaving a deficit of around US$90 Billion per annum.

Steps taken by government to improve infrastructure

- Given the fiscal constraints that leave less room for expanding public investment at the scale required, there is an urgent need to accelerate the flow of private capital into infrastructure.
- With the aim of boosting investment in infrastructure, ***National Investment and Infrastructure Fund*** has been created with a capital of approximately Rs. 400 billion to provide investment opportunities to commercially viable projects.
- ***Credit Enhancement Fund for infrastructure projects*** for increasing the credit rating of bonds floated by infrastructure companies is going to be launched in the country.
- A ***new Credit Rating System for infrastructure projects***, based on **Expected Loss approach**, has also been launched which seeks to provide additional risk assessment mechanism for informed decision making by long-term investors.
- Measures like ***infrastructure investment trusts*** and ***Real Estate Investment Trusts*** have been formulated to pool investment in infrastructure.

Development of Infrastructure in India (Sector-wise)

- **Road Sector:**
  - Roads are part of an integrated multi-modal system of transport which provides crucial links to airports, railway stations, ports and other logistical hubs and acts as a catalyst for economic growth by playing a critical role in the supply chain management.
  - It is the dominant mode of transportation in comparison with rail, air traffic and inland water-ways and ***accounts for about 3.14 per cent of GVA and 69 per cent and 90 per cent of the country wide freight and passenger traffic respectively.***
  - India has a road network of about **58.98 lakh kms** with rural roads constituting 70.65 per cent and National highways constituting 1.94 percent.
  - Ministry of Road Transport and Highways (MORTH) declared 2018-19 as the ***'Year of Construction',*** and has been making constant efforts to expand and upgrade the network of National Highways in the country as a result of which road construction in kms grew at the rate of ***30 kms per day in 2018-19*** as compared to 12 kms per day in 2014-15.

Problems faced by Road sector in India

- The major constraints faced are availability of funds for financing large projects, lengthy processes in acquisition of land and payment of compensation to the beneficiaries, environmental concerns, time and cost overruns due to delays in project implementation, procedural delays, lesser traffic growth than expected increasing the riskiness of the projects resulting in stalled or languishing projects and shortfall in funds for maintenance.

Steps taken by government to improve road sector

- The increase in the pace of construction was achieved by introducing a proactive sector policy to respond to the major challenges faced by the sector, including process streamlining indicating approval authorities with enhanced delegation of approval limits, putting in place mechanisms for inter-ministerial coordination, detailing steps to be taken for languishing projects, introducing innovative project financing for leveraging both private and public funding, streamlining land acquisition processes, issue of explicit guidelines on standards of road construction in hill areas etc.
- Huge investments have been made in the sector with total investment increasing more than three times.
- In India, the investments in roads have been financed from budgetary support, ***internal and extra-budgetary resources (IEBR)*** and private sector investment.
- Major outcomes in Road sector during the period 2014-15 to 2018-19 were construction of ***Eastern Peripheral Expressway, Delhi-Meerut expressway and Dhola-Sadiya Bridge.***

- **Railways**
  - Indian Railways has taken numerous steps such as provision of lifts/escalators, plastic bottle crusher machines, mechanized cleaning and housekeeping etc. at major stations.
  - ***Revenue Earning Freight loading*** registered an increase of **4.83 percent**, with incremental loading of 53.40 million tonnes over 2016-17.

- In 2018-19, Indian Railways carried 1221.39 million tonnes of revenue earning freight an increase of 5.33 per cent.
- The category-wise break-up of consequential train accidents shows that the incident of train collisions has come down to zero in the year 2018-19. The incidents of derailment have decreased from 78 in 2016-17 to 46.
- IR has initiated a major electrification program for electrifying 100 per cent of its Broad Gauge network.
- IR has also made sincere efforts in the area of energy and water conservation and there is an increasing competition among stations to obtain "Green Rating".

- **Civil Aviation**
  - India's scheduled domestic air transportation for passengers and goods has grown by 14 per cent and 12 per cent respectively in 2018-19.
  - ***Domestic passenger traffic in revenue passenger kilometre (RPK) recorded the fastest growth*** in the world at about **20 per cent** for over 50 consecutive months up to December 2018, which has positively impacted India's economy.
  - Total domestic and international passengers were 204 million in 2018-19. To meet the surging demand and providing air connectivity to remote regions, new Greenfield airports are being rapidly developed.
  - At the end of 2018-19, a total of 107 airports provided scheduled airline operations. Under ***"Ude Deshka Aam Naagrik - UDAN",*** a total of 719 routes have been awarded in three rounds of bidding for regional connectivity, 182 of which are operational.
  - Impressive double-digit domestic air cargo growth of 12.1 per cent in 2018-19 over 2017-18 was achieved and air cargo handled reached 3.6 MMT.
  - In conformance with the objectives of the holistic **National Civil Aviation Policy, 2016**, a number of initiatives and measures were taken up.
  - The first **National Air Cargo Policy's outline** was released at the Global Aviation Summit in January 2019.
- **Shipping**
  - As on January 31, 2019, ***India had a fleet strength of 1405 ships with dead weight tonnage (DWT) of 19.22 million (12.74 million GT) including Indian controlled tonnage,*** with **Shipping Corporation of India (SCI)** having the largest share of around 30.52 per cent.
- **Ports**
  - Port sector development is very crucial for the development of any economy. Ports handle around 90 per cent of EXIM Cargo by volume and 70 per cent by value.
  - In order to meet the ever increasing trade requirements, expansion of Port Capacity has been accorded the highest priority with implementation of well-conceived infrastructure development projects like ***Sagarmala, Project Unnati*** etc.
  - Ministry of Shipping had identified various parameters ***for reducing dwell time and transaction costs in the major ports***. These include elimination of manual forms, accommodation for laboratories to Participating Government Agencies, Direct Port Delivery, Installation of Container Scanners, E-delivery orders, Radio Frequency Identification based Gate-automation System, etc.
- **Inland Waterways**
  - India's **first *inland waterway multi-modal terminal (MMT)*** was inaugurated at ***Varanasi.*** The main focus of MMT is to promote inland waterways as it is cheap and environment friendly.
  - To enhance the access and establish alternative connectivity to the North-East through Indo- Bangladesh Protocol route, dredging works between ***Ashuganj and Zakiganj and Sirajganj and Daikhawa in Bangladesh through 80:20 sharing*** (80 per cent by India and 20 per cent by Bangladesh) have been awarded. It will help to improve cross border waterways connectivity.
- **Telecom Sector**
  - From a low of 93.30 crore in 2013- 2014, total telephone connections in India touched 118.34 crore in 2018-19, registering a growth of ***26.84 percent.***
  - The **wire-less telephony** now constitutes **98.17 per cent** of all subscriptions whereas share of landline telephones now stands at only 1.83 percent.
  - The mobile industry supports about ***6.5 percent of India's GDP.*** Telecom industry contribution to GDP is expected to reach 8.2 per cent by 2020.

- The wider mobile ecosystem also supported a total of ***32 million jobs*** (directly and indirectly) and made a substantial contribution to the funding of the public sector.
- During 2018-19 ***FDI equity inflow touched US$2.67 billion*** more than double rise from the level of US$1.3 billion witnessed in 2015-16.

➤ Advent of 5G technology and steps taken by government regarding it

- The Government has constituted ***High Level 5G India 2020 Forum*** to articulate the Vision for 5G in India and submitted its report on **"Making India 5G Ready"** in August, 2018.
- Based on the recommendations of the forum, **seven committees** have been constituted for action on Spectrum Policy, Regulatory Policy, Education and Awareness Promotion Program, Application & Use Case Labs, Development of Application Layer Standards, Major Trials & Technology Demonstration and Participation in International Standards for 5G.

- **Power Sector**
  - Power sector in India has witnessed a paradigm shift over the years due to the constant efforts of Government to foster investment in the sector.
  - As a result, India improved its ranking in ***the Energy Transition Index*** published by ***World Economic Forum (76th position).***
  - Along with universal electrification, commendable progress has been made in generation and transmission of electricity.
  - The installed capacity has increased from 3,44,002 MW in 2018 to ***3,56,100.19 MW in 2019***. Total generation of energy during 2018-19 was 1376 BU (including imports and renewable sources of energy).
  - The capacity of thermal power is 64 per cent followed by renewable energy. More than 46 per cent of power generation comes from private sector.

➤ Initiatives taken by government to support power sector

- ***The Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA)*** was launched in with the aim of universal household electrification by providing last mile connectivity and electricity connections to all remaining unelectrified households in rural and all poor households in urban areas.
- As on March 2019***, 2.62 crore households*** have been electrified since the launch of **SAUBHAGYA scheme.**

- **Housing (Urban)**
  - ***The Real Estate (Regulation and Development) Act, 2016 (RERA)*** was launched which tried to ensure regulation and promote real estate sector in an efficient and transparent manner and to protect the interest of home buyers.
  - ***Pradhan Mantri Awas Yojana*** was launched with the objective of providing housing facilities to all the eligible families/beneficiaries by 2022. So far 4,427 cities/towns have been included under PMAY-(U).
  - ***Smart Cities Mission*** was launched with the objective of promoting cities that provide core infrastructure and give a decent quality life to its citizens.
  - The first framework on '***Ease of Living' Index for cities*** was launched in June 2017 with the objective of framing an index to enable a shift to data driven approach in urban planning and management and promote healthy competition among cities.

Practice Question

- **"India's Telecom sector has risen sharply with growth in customer base of about 27% and contribution of about 6.5% in India's GDP". Discuss the proactive role played by government in India's telecom revolution.**
- **"India's scheduled domestic air transportation for passengers and goods has grown by 14 per cent and 12 per cent respectively along with domestic passenger traffic in revenue passenger kilometre (RPK) recorded the fastest growth in the world at about 20 per cent for over 50 consecutive months." Discuss the different factors which contributed in rise of India's domestic aviation sector.**

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CHAPTER: 9

SERVICES SECTOR

Introduction

- Services sector (excluding construction) has a **share of 54.3 per cent in India's GVA** and contributed more than half of GVA growth in 2018-19.
- The services sector growth **declined marginally to 7.5 per cent** in 2018-19 from 8.1 per cent in 2017-18.
  - Accelerated sub-sectors: Financial services, real estate and professional services.
  - Decelerated sub-sectors: Hotels, transport, communication and broadcasting services.
- Services share in **employment** is **34 per cent** in 2017. India's services sector does not generate jobs in proportion to its share in GVA.

Services Sector Performance in India's GVA

	Share in GVA 2018-19	Growth % 2017-18	Growth % 2018-19
Total Services (Excluding Construction)	54.3	8.1	7.5
Trade, hotels, transport, communication and services related to broadcasting	18.3	7.8	6.9
Financial, real estate & professional services	21.3	6.2	7.4
Public administration, defence& other services	14.7	11.9	8.6

- State-Level Services Sector Performance: Services Sector Share in GSVA in2017-18 (percent)
  - **State with maximum service sector share in state GDP:** Chandigarh (88%), Delhi (84%) Karnataka (65%)
  - **State with least service sector share in state GDP:** Gujarat (35.5%), MP (35.3%), Sikkim (30.3%)
- Trade in Services Sector
  - Computer & ICT services, business services and travel services account for about 75 per cent of the total services exports.
  - The rising services trade surplus has helped finance nearly 50 per cent of India's trade deficit as of 2017-18.
  - According to the WTO data, India is among the world's top 10 exporters and importers of commercial services, ranking **eighth in exports** and **tenth in imports** in 2017.
- **Steps taken by Government to boost Services Export**
  - In order to boost services exports, the **Service Exports from India Scheme (SEIS)** launched which covers business services, education services, health services, tourism and travel related services, transport services etc.
  - Government has also created a dedicated fund of Rs. 5,000 crore for financing sectoral initiatives under the Champion Services Sector Scheme.
  - Under this scheme, various domestic policy reforms critical to enhance the competitiveness of services exports, including on data privacy/security and e-commerce, would be pursued through the Ministries concerned.

- **FDI into Services Sector**
  - FDI equity inflows towards the services sector accounted for more than **60 per cent of the total FDI equity inflows** in India.
  - FDI equity inflows towards services sector fell by 1.3 per cent from the previous year.
- **Services Sector Gross Value Added versus Employment**
  - As per the UN National Accounts Statistics data, India ranked **7th in terms of GDP size** and **9th in terms of services sector size** in 2017.
  - Among top 15 economies in terms of GDP and Services GVA in 2017, India ranks the second lowest after China in terms of services share in Gross Value Added (GVA) and ranks the lowest in terms of services share in employment.
  - Compared to the experience of other countries, services share in India's employment at 34 per cent is significantly lower than services share in GVA at 54 per cent.
  - The services sector expansion in the recent decades has been unable to generate proportionate employment, especially in the formal sector.
  - This suggests that there lies immense potential for employment generation in the services sector in the coming years in line with other countries.
- **Major Services: Sector-wise Performance and Some Recent Policies**
  - While sub-sectors within the services sector slowed down in 2018-19, some others accelerated.
  - **IT-BPM and cargo traffic** continued to recover in terms of absolute numbers but the growth rate declined.
  - Growth of **aviation sector** declined mainly on account of slowdown in international airline passenger traffic.
  - The **tourism sector** also experienced a sharp slowdown in 2018.
  - The **Telecom sector,** however, continued to grow at a rapid pace led by wireless internet subscriptions.
- **Tourism:**
  - 10.6 million foreign tourists received in 2018-19 compared to 10.4 million in 2017-18.
  - The Ministry of Tourism launched the **'National Mission on Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive' (PRASHAD)** in January 2015 with the objective of pilgrimage infrastructure at selected important pilgrimage destinations.
  - Under the **Swadesh Darshan Scheme,** the Ministry of Tourism has identified **15 thematic circuits** for development.
  - India currently has around 18 per cent of the global medical tourism market. **'Medical Visa'** has been introduced, which can be given for specific purpose to foreign travellers coming to India for medical treatment.
- **Steps required to boost Tourism:**
  - The co-ordination mechanism of various like-minded Ministries and Stakeholders to resolve issues for promotion of tourism in the country needs to be strengthened.
  - State/UT Government need sensitization about tourism as a major driver of employment and poverty alleviation.
  - Budgetary allocation for development of tourism infrastructure should be increased.
  - Land should be made available for hotels and reserve land for hotels in all new townships under planning.
  - Fast-track clearances for hotel projects.
  - Increase skill development efforts to train more persons.
  - Make the Taxation regime on Hospitality Industry globally competitive.
- **IT –BPM Services**
  - The Indian **IT-BPM industry** grew by **8.4 per cent** in 2017-18 to US$167 billion (excluding e-commerce but including hardware) from US$154 billion in 2016-17, as per NASSCOM data.
  - The Indian Information Technology /Information Technology enabled Services (IT/ ITeS) industry has contributed immensely in positioning the country as a preferred investment destination amongst global investors and creating huge job opportunities in India, as well as in the USA, Europe and other parts of the world.

- **Media & Entertainment Services**
  - The Media and Entertainment sector comprises mainly of television (44%), print (18%), radio (2%), films (10%), music (1%), digital advertising, over the top (OTT-film and television content delivered over internet), visual effects (VFX) and gaming.
  - Technology has rapidly changed the profile of this sector especially in the area of content and carriage.
  - Audio–visual services have been identified by the Government (2018) as one among the 12 Champion Service sectors for focused development so as to reap its full potential.
- **Space Services**
  - Over the last three decades, space technology has matured from providing simple mapping applications to development of complex models, decision support and early warning systems, incorporating space and derived inputs. Satellite launch services and satellite database mapping and Geospatial services are areas in which India is making a mark and has huge potential for the future.
  - India became the **sixth nation to develop this highly coveted complex cryogenic rocket propulsion technology** and also paved the way for the development of a high thrust Cryogenic engine & stage for the next generation launch vehicle i.e. GSLV Mk-III.
  - **Bhuvan Services:** ISRO's Bhuvan Geo-portal provides multi sensor, multi-platform and multi temporal Satellite Imagery, thematic maps and satellite data-derived information related to Earth Observation & Disaster Management Support.
  - **Mapping and Geo-spatial Services:** Periodic assessment of state of natural resources like vegetation, land cover, snow & glacier and wetland is also being carried out, in addition to national level assessment of status of wastelands and land degradation.
- **Important Statistics:**
  - **No. of internet subscriber: 570 million** (373 million urban and 197 million rural) as of November 2018
  - **TV penetration** reached **66 per cent** in the country
  - **Smart-phone users : 340 million** in 2018
- **The National Policy on Electronics, 2019 (NPE, 2019)**
  - NPE 2019 launched by the **Ministry of Electronics and Information Technology (MeitY)** to boost IT sector has following important component:
    - Creating eco-system for globally competitive ESDM sector.
    - Promotion of electronic components manufacturing ecosystem.
    - Special package of incentives for mega projects.
    - Encouraging industry-led R&D and innovation and promoting start-up eco-system in all sub-sectors of electronics, including emerging technology areas such as 5G, IoT/ Sensors, artifcial intelligence (AI), machine learning, augmented reality (AR) and virtual reality (VR), drones, robotics, additive manufacturing, gaming and entertainment, photonics, nano-based devices, medical electronics, defence and strategic electronics, automotive electronics, cyber security, power electronics and automation.
    - Providing incentives and support for skill development including re-skilling, in the ESDM sector.
    - Promoting research, innovation and support to industry for green processes and sustainable e-waste management, emphasis on cyber security and promoting trusted electronics value chain initiatives to improve India's national cyber security profile etc.

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CHAPTER: 10

SOCIAL INFRASTRUCTURE, EMPLOYMENT & HUMAN DEVELOPMENT

Important terms

Gender Budgeting:

- **The Ministry of Women and Child Development (MoWCD) as the Nodal agency** has adopted the mission strategy of **'Budgeting for Gender Equity'** to ensure that government budgets are planned according to the differential needs of women and men and accordingly prioritized. Gender Budgeting is concerned with gender-sensitive formulation of legislation, policies, plans, programmes and schemes; allocation and collection of resources; implementation and execution; monitoring, review, audit and impact assessment of programmes and schemes; and follow-up corrective action to address gender disparities. It is undertaken through several institutional mechanisms such as **Gender Budget Statement, Gender Budget Cells**, as well as various schemes/programmes for women and girls.
- In the Gender Budget Statement of 2019-20, 30 Ministries/Departments reported having schemes with women's component, amounting to **approximately 5 percent** (Rs. 1,31,699.52 Crore) of the **total Union Budget**.

Introduction

India is committed to achieve SDGs anda strong social infrastructure is a key to achieve them. The Government has been focusing on provisioning of assets such as schools, institutes of higher learning, hospitals, access to sanitation, water supply, road connectivity, affordable housing, skills and livelihood opportunities. This gains significance given the fact that India is home to the world's youngest population as half of its population is below the age of 25. It has also been estimated that **demographic advantage** in India is available for **five decades from 2005-06 to 2055-56,** longer than any other country in the world (UNFPA, 2018). This demographic advantage can be reaped only if **education, skilling and employment opportunities** are provided to the young population.

Human Development Index

- India's **HDI (Human Development Index)** has improved significantly over the years between 1990 and 2017. The country's HDI value **increased from 0.427 to 0.640**, but its position is still lowest among its peer countries (Asian and developing economies).
- As per the **UNDP Human Development Index (HDI**), **India is ranked 130 among 189 countries**. Moreover, India also reflects inter-State disparities in regional and human development which are reflected by State level HDIs.
- The 2017 HDI scores indicate that the States like Kerala, Goa, Himachal Pradesh and Punjab occupy the top four positions while the States like Bihar, UP and MP are at the bottom of the rankings.
- The region-wise trend of HDI scores suggests that most Southern and Northern States have performed much better as compared to their Eastern counterparts who have registered poor performance in SHDIs.

Sustainable Development Goals

The **2030 Agenda for Sustainable Development** as reflected in the 17 Sustainable Development Goals (SDGs) and 169 targets, calls for global partnership to ensure peace and prosperity for people and the planet, now and into the future. It is recognized that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality and spur economic growth in a sustainable manner.

- **SDGs Targets and Achievements in Health - Goal 3: Good Health & Well-Being**

	Global Targets	India's Achievements
1	By 2030, reduce the global MMR to less than 70 per 100,000 live births.	India's MMR during 2014-16 was 130.
2	To reduce Neo-natal mortality to at least as low as 12 per 1,000 live births by 2030.	In 2016, Neo-natal mortality rate of India was 24.
3	To reduce under-5 mortality to at least as low as 25 per 1,000 live births by 2030.	In 2016, under-5 mortality rate of India was 39.

- **SDGs target and achievements in Education - Goal 4: Quality Education**

	Global Targets	India's Achievements
1	By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.	U-DISE provisional data shows that the all India gross enrolment ratio (GER) under elementary education is 93.55 per cent during 2016-17, while it is 79.35 per cent in secondary education.
2	By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including higher education.	India's GER is significantly lower in higher education. The MHRD provisional data for the year 2017-18 indicates that the GER in higher education is 25.8 per cent (18-23 years).
3	By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations.	India's gender parity index (GPI) shows an improvement in girls' education at all levels of education, except higher education. In the case of Scheduled Tribe (ST) students, the GPI value is<1 indicating disparity between girls and boys in primary education.
4	By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.	The total literacy rate is 73.0 per cent in 2011 for the age group 7 and above having 80.9 per cent and 64.6 per cent for male and female respectively.

Gender Issues

- As the World aspires to achieve the SDGs by 2030, one of the most important factors which will determine whether countries achieve their targets set under SDGs will be **'gender equality' (SDG-5).**
- The Government of India has initiated several programmes like **Beti Bachao, Beti Padhao (BBBP), Ujjwala Scheme, Poshan Abhiyaan, Pradhan Mantri Matra Vandana Yojana** etc., to mainstream women and make women active agents of change in the society.
- As far as financial inclusion in India is concerned, significant progress has been made during the last decade. At all India level, the proportion of women having a bank or saving account that they themselves use have **increased from 15.5 percent in 2005-06 to 53 percent in 2015-16.**
- As per NFHS-4, participation of currently **married women in household decision-making** has increased from **76.5 percent in 2005-06 to 84 percent in 2015-16** at all India level. States like Chhattisgarh, Goa, Himachal Pradesh, Kerala, West Bengal and North Eastern States are front runners in terms of women's participation in household decision making compared to other States.

Trends in Social Sector Expenditure

- The expenditure on social services by the Centre and States as a proportion of GDP has registered an increase of more than 1 percentage points during the period 2014-15 to 2018-19 (BE), from **6.2 per cent in 2014- 15 to 7.3 per cent in 2018-19** (BE).
- The increase was witnessed across all social sectors especially education where the public expenditure as a percent of GDP increased from **2.8 per cent in 2014-15 to 3 per cent in 2018-19**.
- The share of expenditure on social services out of total budgetary expenditure increased from **24.9 per cent in 2013-14 to 26 per cent in 2018-19.**

Item	2013-14	2014-15	2015-16	2016-17	2017-18 RE	2018-19 BE
(Rs. in crore)						
Total Budgetary Expenditure	30,00,299	32,85,210	37,60,611	42,65,969	48,57,990	53,61,181
Expenditure on Social Services ***of which:***	7,46,391	7,67,622	9,15,500	10,40620	12,52,943	13,93,643
i) Education	3,48,267	3,53,589	3,91,881	4,34,974	4,92,544	5,66,770
ii) Health	1,39,280	1,48,791	1,75,272	2,13,119	2,54,365	2,76,083
iii) Others	2,58,844	2,65,243	3,48,348	3,92,527	5,06,034	5,50,790
As percentage to GDP						
Expenditure on Social Services ***of which:***	6.6	6. 2	6.6	6.8	7.3	7.3
i) Education	3.1	2.8	2.8	2.8	2.9	3.0
ii) Health	1.2	1.2	1.3	1.4	1.5	1.5
iii) Others	2.3	2.1	2.5	2.6	3.0	2.9
As percentage to total expenditure						
Expenditure on Social Services ***of which:***	24.9	23.4	24.3	24.4	25.8	26.0
i) Education	11.6	10.8	10.4	10.2	10.1	10.6
ii) Health	4.6	4.5	4.7	5.0	5.2	5.1
iii) Others	8.6	8.1	9.3	9.2	10.4	10.3
As percentage to social services						
i)Education	46.7	46.1	42.8	41.8	39.3	40.7
ii) Health	18.7	19.4	19.1	20.5	20.3	19.8
iii) Others	34.7	34.6	38.0	37.7	40.4	39.5

- Social services include, education, sports, art and culture; medical and public health, family welfare; water supply and sanitation; housing; urban development; welfare of SCs, STs and OBCs, labour and labour welfare; social security and welfare, nutrition, relief on account of natural calamities etc.
- Expenditure on 'Health' includes expenditure on 'Medical and Public Health', 'Family Welfare' and 'Water Supply and Sanitation'.
- Expenditure on 'Education' pertains to expenditure on 'Education, Sports, Arts and Culture'.
- The ratios to GDP at current market prices are based on 2011-12 bases.

Major Social Protection Schemes and Achievements during 2014-2019

Scheme	Features	Status
Pradhan Mantri Suraksha Bima Yojana, 2015	Accident insurance scheme, offers a one-year accidental death and disability cover. Annual premium is Rs. 12. Available to people in the age group between18 to 70 years	As on 31/10/2018, gross enrolment is 14.27 crore. Amount of claims raised: Rs. 449.82 crore
Pradhan Mantri JeevanJyoti Bima Yojana, 2015	Government-backed life insurance scheme. Annual premium is Rs. 330. Available to people between 18 and 50 years of age	As on 31/10/2018, gross enrolment is 5.57 crore, Amount of claims raised: Rs. 2422.54 crore
Atal Pension Yojana, 2015	Pension scheme targeted at the Unorganized sector.	In 2017-18, total subscribers enrolled were 97.05 lakh
Pradhan Mantri Fasal Bima Yojana, 2016	A Crop Insurance Scheme. Replaces the existing two schemes National Agricultural Insurance Scheme as well as the Modified NAIS.	Kharif 2017: 13.7 million farmers received compensation of Rs. 17209.94 crore.
Pradhan Mantri Vaya Vandana Yojana, 2018	Pension Scheme exclusively for the senior citizens aged 60 years and above.	As on 30/11/2018, 3.31 lakh subscribers, corpus of Rs. 22,812.75 crore
Atal Bimit Vyakti Kalyan Yojana, 2018	For Insured Persons (IP) covered under the Employees' State Insurance Act, 1948. Relief payable in cash in case of unemployment and while they search for new engagement.	To benefit 3 crore insured persons under ESIC coverage
Pradhan Mantri Rojgar Protsahan Yojana	12 per cent of employer contribution to EPFO of the new employees 'drawing salary upto Rs. 15000 pm is given by government for the initial three years.	Number of establishments benefitted between 2016-17 & 15th January, 2019 was 1.24 lakh.
PM Shram-Yogi Mandhan Yojana, 2019	Offers every individual with a regular pension after they attain 60 years. Beneficiaries in unorganized sector workers.	As on 20th June, 2019 30.67 lakh subscribers

PM-KISAN, 2019	Offers income support of Rs. 6000 per annum in three equal instalments to all eligible farmers irrespective of land holdings.	As on 23rd April, 2019, around 3.10 crore small farmers have received the first tranche of Rs. 2,000 and 2.10 crore farmers have got the second instalment.
Ayushman Bharat, 2018	Umbrella scheme of two major health initiatives: (i) Health & Wellness Centres to provide to comprehensive primary health care. (ii) PMJAY aims to cover 10.74 crore poor & vulnerable families providing health coverage upto Rs. 5 lakh per family per year for secondary & tertiary hospitalization.	As on 11th January, 2019, 4503HWCs operationalized. **PMJAY:** as on 30th Dec, 2018, no. of hospitals empaneled: 16,112, beneficiaries admitted: 6.81 lakh, e-cards issued: 39.48 lakh.
National Nutrition Mission or POSHAN Abhiyaan	Ensure attainment of malnutrition free India by 2022. Targeted intervention in areas with high malnutrition burden.	Scheme rolled out in all districts of 36 States/UTs. Mass media campaign and information dissemination at grassroots level being undertaken. September 2018 observed as Rashtriya Poshan Maah.
Mission Indra-dhanush (MI) and Intensified Mission Indradhanush (IMI)	To vaccinate unreached/ partially reached pregnant women and children so as to reduce vaccine preventable under-5 mortality rate. The drive is focused on pockets of low immunization average and hard to reach areas where proportion of unvaccinated and partially vaccinated children and pregnant women is high.	As of 12th April, 2019, 3.39 crore children immunized of which 81.79 lakh fully immunized. Under IMI, full immunization coverage in 190 districts increased from 50.5 percent to 69 percent as per **Coverage Evaluation Survey, 2018** conducted by **WHO and UNDP.**
Pradhan Mantri Awas Yojana-Rural & Urban	Housing for All by 2022	PMAY - Urban: 80.96 lakh houses sanctioned and 25.69 lakh houses completed as on 27th May, 2019. 90lakh houses completed in PMAY Gramin during 2017-19.
Swachh Bharat Mission-Urban +Rural	100 per cent open defecation free by 2019	Urban areas of 21 States/UTs declared ODF 5.33 lakh villages in 25 States/UTs declared ODF.

Status of Education in India

- **Goal 4 of Sustainable Development Goals (SDGs)** on education requires ensuring equitable, inclusive and quality education along with promotion of lifelong learning opportunities for all by 2030.
- As per **Educational Statistics at a Glance (ESAG), 2018,** the thrust on providing primary education has yielded results across social categories and gender in Gross Enrolment Rate (GER). Over the years, remarkable progress has been made in respect of female participation up-to secondary level and GER for girls has exceeded that of boys. But girls' enrolment rate is lower than that of boys at the higher education level. At this level, the gap is visible across the social categories too.

- **GER (per cent), Drop-out Rate (per cent) and Pupil Teacher Ratio at levels of Schooling**

Level	GER (2016-17)	Drop-Out Rate (2016-2017)	Pupil Teacher Ratio (2015-16)
Primary	Male: 94.02 Female: 96.35	Male: 6.3 Female: 6.4	23 (30 - RTE)
Upper Primary	Male: 86.90 Female: 95.19	Male: 4.97 Female: 6.42	17 (35 - RTE)
Secondary	Male: 78.51 Female: 80.29	Male: 19.97 Female: 19.81	27 (30 – Secondary level laid down in the relevant Scheme)
Senior Secondary	Male: 54.93 Female: 55.91	Male: .6.37 Female: 5.49	37
Higher Education	Male: 26.3 Female: 25.4	NA NA	30

- As per **Annual Status of Education Report (ASER, 2018),** from 2014 to 2018, there is a gradual improvement in both basic literacy and numeracy for Class III students but still only a quarter of them are at grade level (ability to read and do basic operations like subtraction of Class II level). The report also shows that 1 out of 4 children leaving Class VIII are without basic reading skills (ability to read at least at Class II level).
- The Rules of the RTE Act were amended in February, 2017 to include, for the first time, the class wise, subject wise Learning Outcomes till Class VIII, thereby emphasising the importance of quality education.
- **National Achievement Survey (NAS)** which was earlier based on textbook content, has been made a competency-based evaluation from 2017.

Recent Initiatives in School Education Sector

- **Samagra Shiksha:** A comprehensive programme subsuming **Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Teacher Education (TE).** For first time, it also includes provisions for support at pre-school level, library grants and grants for sports and physical equipment. The vision of the Scheme is to ensure inclusive and equitable quality education from pre-school to senior secondary stage in accordance with the Sustainable Development Goal (SDG) for Education (SDG-4).
- **Swayam** platform offers 10 courses of Diploma in Elementary Education (D.El.Ed) and more than 13 lakh unqualified teachers have enrolled for this diploma.
- **UDISE+**, an updated online real time version of UDISE (Unified District Information on School Education) has been launched with three additional features – GIS mapping, data verification through third-party mobile application and data analytics.
- **PGI**, Ministry of Human Resource Development has launched a 70-point Performance **Grading Index (PGI)** to assess areas of deficiency in each state's school education system so that targeted interventions can be made at every level from pedagogy to teacher training.
- **ICT driven initiatives**: **Shaala Sidhi** (to enable all schools to self-evaluate their performance), **e-Pathshala** (providing digital resources such as textbooks, audio, video, periodicals etc.) and **Saransh** (an initiative of CBSE for schools to conduct self-review exercises).

Skill Development

According to NSSO Report 2011-12, only 2.3 percent of the total workforce in India had formal sector skill training. Keeping in view the predominance of young population, the Government had formulated the **National Policy on Skill Development & Entrepreneurship, 2015** under which the **Skill India Mission by 2022** was formulated.

- **Skilling in India: Recent Government Initiatives**

Initiatives	Objectives	Achievements
Pradhan Mantri Kaushal Vikas Yojana (PMKVY) (1.0), 2015	Mobilize youth to take up industry relevant skill training. Targets to train 1 crore youth by 2020. Recognizes and certifies prior learning.	During 2015-16, 19.8 lakh youth were trained as against the target of 24 lakh
Pradhan Mantri Kaushal Vikas Yojana (2.0), 2016-20	PMKVY version 2 has mandatory provisions for placement tracking.	Short term training: 30 lakh candidates enrolled, 27.9 lakh trained, 12.05 lakhs placed. **Placement percentage:** 54 per cent. **Recognition of Prior Learning:** 22.65 lakh enrolled, 22.08 lakh trained and 17.84 lakh assessed out of which 16.60 lakh passed as on 13th May, 2019
Pradhan Mantri Kaushal Kendra,2015	Aspirational Model Training Centres to be opened in every district.	Till June 2019, 851 PMKKs have been allocated, 601 PMKKs have already been established.
National Appren-ticeship Promotion Scheme,2016	To promote apprenticeship. Consists of Basic Training and On-the-Job Training/Practical Training at workplace.	Till June 2019, 11.87 lakhs candidate registered. 76,860 establishments registered under the scheme.
SANKALP, 2017	Creating convergence among all skill training activities, improving quality of skill development programmes, Creating industry led and demand driven skill training capacity.	As on December 2018, the process of disbursements of funds to States/ UTs is underway. Regional workshops with States/ UTs are also being held to facilitate roll out.
STRIVE, 2017	Creating awareness through industry clusters, integrating and enhancing delivery quality of ITIs.	As on December 2018, the operations manual of the project has been prepared.

Bridging the disconnect in the Skilling Ecosystem

- Approximately 30 percent of the surveyed STT participants in PMKVY were not looking for employment currently. **At implementation level, proper pre-screening** on the candidates should be done and ensure that only eligible candidates are enrolled for the programme. Moreover, stronger facilitation support to avail **MUDRA loan** should be provided to **PMKVY certified candidates.**
- **Skill Voucher** can be introduced as a financing instrument given to a beneficiary that enables them to sign up for vocational education course at any accredited training institute. Once training is completed, the accredited institution can redeem the voucher from the government.
- Industry should be incentivized to setup **training institutions in PPP mode.** Local Industry must be involved for curriculum development, training modules, provision of equipment, training of trainers etc. Industry can help in developing a database of instructors for selection of Training providers.
- The personnel of Railways and other para-military forces could be used for skill training or lending institutional support in imparting training in hilly, inaccessible and difficult terrains. Local bodies can be used for skill mapping and creating a data base of youth at local level to assess demand supply gaps.

Employment Scenario

- The **Periodic Labour Force Survey (PLFS)** has been designed to yield annual estimates of the labour force on employment and unemployment along with quarterly estimates for the urban areas.
- The first annual PLFS (2017-18) provides quarterly employment statistics for urban areas on **Current Weekly Status (CWS)** basis and annual estimates of employment indicators both in rural and urban areas on CWS and usual status basis.
- As per PLFS estimates, **Labour Force Participation Rate (LFPR)** in India has **declined to 36.9 per cent in 2017-18 from 39.5 per cent in 2011-12** (NSSO) as per usual status. In rural areas, it has declined by 3.6 percentage points while it has declined by 0.1 percentage points in urban areas.
- The **Worker Population Ratio (WPR)** has also shown similar trend. As per usual status, **WPR in India has declined to 34.7 per cent in 2017- 18 from 38.6 per cent in 2011-12** (NSSO). The WPR has declined by 4.9 percentage points in rural areas while it has declined by 1.6 percentage points in urban areas.
- The **unemployment rate (UR) in India stood at 6.1 percent with 5.3 percent in rural areas and 7.8 percent in urban areas** as per usual status. As per CWS, the UR was 8.9 percent with 8.5 percent in rural areas and 9.6 per cent in urban areas.
- General education of youth has improved to 65.4 per cent for urban females and 65.8 per cent for urban males. However, 94.3 per cent of those aged 15 or over in urban areas do not have technical education. The proportion of urban youth who received formal vocational training has improved to 4.4 per cent in 2017-18.
- PLFS found on average, a male employee earned nearly 1.2-1.3 times the earnings of female regular salaried worker in 2018. However, self-employed male workers earned 2 times more than the earnings of self-employed female workers in urban areas in 2018.
- The net employment generation in the formal sector was higher at 8.15 lakh in March 2019 against 4.87 lakh in February, 2018. The trend line reflects a positive trend in terms of employment in the formal sector.

Status of Health

Maternal Health

- **Maternal Mortality Ratio (MMR)** of India has declined by 37 points from 167 per lakh live births in 2011-13 to **130 per lakh live births in 2014-16,** in a span of three years. Between 1990 and 2015, MMR in India has declined by 77 percent as compared to 44 percent decline in global average.

Child Health

- As per the latest **Sample Registration System, 2016** report, the:
  - Under Five Mortality Rate in India is 39 per 1000 live births,
  - Infant Mortality Rate is 34 per 1000 live births, and
  - Neonatal Mortality Rate is 24 per 1000 live births.
- The U5MR has declined at a faster pace in the period 2008-2016, registering a compound annual decline of 6.7 per cent per year, compared to 3.3 percent compound annual decline observed over 1990-2007.

New Initiatives for Maternal and New Born Health

- **'LaQshya- Quality Improvement Initiative'** was launched in December, 2017 with the objectives of reducing preventable maternal and new born mortality, morbidity and stillbirths associated with the care around delivery in Labour room and Maternity OT (Operation Theatre) and to ensure respectful maternity care.
- **Midwifery initiative:** The revision of Nurse Practitioner in Midwifery curriculum is being undertaken by the Indian Nursing Council to include core competence. The objective is to provide access to quality maternal and newborn health services, promote natural birthing, ensure respectful care and reduce over medicalization.
- **Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA):** It was launched in 2016 to provide comprehensive and quality Ante-Natal Care (ANC) to pregnant women on the 9th of every month.

Expenditure on Health

- As per the **National Health Accounts Estimates** during 2013-14 to 2015-16, there is an encouraging trend of decreasing Out of Pocket Expenditure (OOPE) and an increase in public health expenditure out of Total Health Expenditure (THE).

- Public health expenditure (Centre, States and Local Bodies), as a percentage of Total Health Expenditure (THE) increased from 22.5 percent in 2004-05 to 30.6 percent in 2015-16.
- Affordability is a key issue in healthcare. In terms of the costs to the Government and for the individuals who seek healthcare in a country like India, the potential of **AYUSH (Ayurveda, Yoga or Naturopathy Unani, Siddha and Homoeopathy)** in reducing health expenses is immense. This aspect has been rightly recognised by the **National Ayush Mission (NAM).**
- ***'JANANI'* scheme of Government of Kerala** is an exemplar which has popularised the system of homeopathy treatment for infertility in public health facilities6. In July to December 2012, the launch year of the pilot project *JANANI*, the number of cases at Kannur district was less than 100. However, over time there has been exponential growth in the number of infertility cases being registered and treated at Kannur District Homeopathy Hospital.

Ayushman Bharat – a major step towards achieving Universal Health Coverage

- It is a flagship programme of the Government, which comprises of two interrelated components, viz. establishment of **"Health and Wellness Centres" (HWCs)** for delivering **Comprehensive Primary Health Care** and **"Pradhan Mantri Jan Arogya Yojana" (PMJAY),** a health assurance scheme for preventing the financial hardships in availing in-patient care. This is the strategy adopted by India to achieve the vision of Universal Health Coverage (UHC) with its underlying commitment of **"leaving no one behind".**
- The **National Health Policy, 2017** recommends strengthening the delivery of primary health care, through establishment of Health and Wellness Centres and calls for a commitment of two third of the health budget for Comprehensive Primary Health care. Government of India announced upgradation of 1, 50,000 Sub Centres and Primary Health Centres to Health and Wellness Centres by 2022 under Ayushman Bharat.

Health Infrastructure in Rural Areas

- **IPHS (Indian Public Health Standards)** are a set of uniform standards envisaged to improve the quality of health care delivery in the country. The upgradation of facilities to IPHS norms can lead to reduction in maternal mortality. MMR in the States where PHCs were functioning according to IPHS norms ranged between 1.7 per cent (Haryana) to100 per cent (Andhra Pradesh).
- Andhra Pradesh, Tamil Nadu are the States where higher percentage of PHCs are following IPHS norms, indicating higher level of antenatal care, thereby reflecting low MMR. Haryana and UP had very low percentage of PHCs functioning as per IPHS norms and they reflect very high MMR.

'Kayakalp': Assuring Quality across Health Systems for Improving Outcomes

- The lack of sanitation and hygiene protocols in health care facilities in India could cause for spreading infections and other diseases. Keeping in view, the urgency of the situation, under the ambit of **National Quality Assurance Programme (NQAP), Kayakalp**: **Clean Hospital Initiative** was launched in 2015. It is the ramification of Swachh Bharat Abhiyan in public health system.
- Kayakalp aims to promote sanitation and hygiene in public healthcare institutions. Facilities are assessed using objective checklist covering seven domains (a) Hospital Upkeep, (b)Sanitation & Hygiene, (c) Waste Management, (d) Infection control, (e) Support Services (f) Hygiene Promotion, and (g) Beyond the hospital boundary.
- The major achievement with the advent of Kayakalp is the improvement of many of the components of basic amenities related to availability of water, sanitation, hand hygiene, biomedical waste management and basic environmental cleaning in public health facilities.

Rural Development

Rural Connectivity:

- The Pradhan Mantri Gram Sadak Yojana launched in 2000 aims to provide funds to States to construct rural roads to connect villages by all-weather roads. Since 2014, around 190,000 km of rural roads has been constructed.

- PMGSY is aggressively encouraging use of **"Green Technologies"** and non-conventional materials like waste plastic, cold mix, geo-textiles, fly-ash, iron and copper slag etc. in rural roads. This is to reduce the "Carbon Footprint" of rural roads, reduce environmental pollution, increase the working season and bring cost effectiveness. Using "Green Technologies", 28,619 km of roads have been constructed and a record road length of 14,756 km was constructed in 2018-19.
- 62 million tonnes of solid waste is generated daily in India and 8 per cent of this is plastic waste. Recycling is the best way to manage plastic waste. PMGSY is recycling waste plastics in a novel way by constructing roads out of recycled plastics. 12,666.52 kms of roads have been constructed across the country using waste plastic.

Rural Housing (PMAY-G): Shelter for the Poorest of the Poor

- **Pradhan Mantri Awas Yojana (Gramin)** was launched in 2016 with a target to complete one crore pucca houses with basic amenities by March 31, 2019.
- During 2014-2019, 1.54 crore houses were completed including those carried over from Indira Awas Yojana.
- On account of DBT, geo tagging, fair beneficiary selection, effective transaction based MIS, monitoring through **"AwaasSoft"** and mobile based application **"AwaasApp"** etc, misutilization of funds was substantially brought down leading to faster completion of houses.

Mahatma Gandhi National RuralEmployment Guarantee Act (MGNREGA)

- It aims to enhance livelihood security of households in rural areas of the country by providing at least one hundred days of guaranteed wage employment in a financial year to every rural household whose adult members volunteer to do unskilled manual work.
- Creation of productive assets of prescribed quality & durability, social inclusion, gender parity, social security and equitable growth are the foundational pillars of Mahatma Gandhi NREGA.
- MGNREGS has been instrumental and a guiding factor for tackling rural poverty and unemployment by providing employment to the rural poor and unskilled people. It has generated **267.96 crore person-days during 2018-19**. Out of the total person-days, person-days for women were 54.6 per cent, SC was 20.7 per cent and ST was 17.4 per cent which are well above the norms. During 2018-19, 66 per cent of total works taken up pertained to individual beneficiary schemes and 63 per cent of the total expenditure was on agriculture and allied works. Around 85,000 km of road length was constructed under MGNREGA during 2018-19.

Practice Question

- **The role of women is critical not only across agriculture and industrial sectors but also in governance, education and health services. In this regard, analyze the various steps taken by the Government of India to mainstream women and make women active agents of change in the society.**
- **The schooling system improves the educational level of the population. It is skill training that equips the youth to enter the labour market and improves their employability. But there is disconnect in the skilling ecosystem. Suggest measures to bridge this disconnect.**
- **Discuss on how Pradhan Mantri Gram Sadak Yojana has contributed in the rural connectivity and in managing plastic waste.**

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