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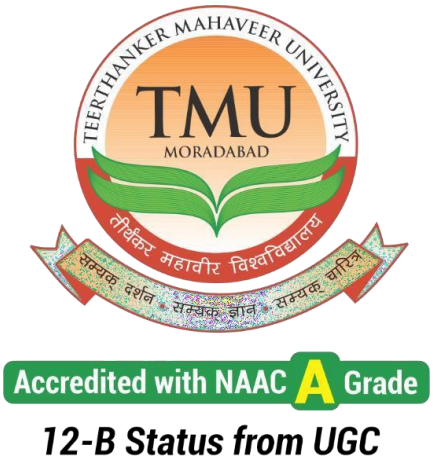


Programme: Master of Arts

Course: Indian Economy

Course Code: MAEOE201

Semester-II

SYLLABUS

Module I: Growth, Structural Changes and Challenges of the Indian Economy

Economic growth in India- CSO and national income related aggregates- Contribution of different sectors to GVA, GDP and Employment- Trends in savings and investment since reforms- Migration, diaspora and remittance - Regional disparity in growth and development- Analysis of poverty, unemployment and inequality in India

Module II: Review of Economic Development

Assessment of Indian agriculture sector and recent initiatives by the government for its growth-Inter regional dimensions of industrial growth in India- Make in India initiative- Service sector: growth rate, share in exports and imports, software exports- Infrastructure at cross roads -Prices: Headline inflation-Inflation based on WPI and CPI combined, food inflation, core inflation- Monetary management in India prior to1990 and position after 1990s-New initiatives of the government towards black money-Inclusive policies of the government-A global deal on climate change: possible role for India.

Module III: Economic Planning in India

Planning and economic development-Objectives of planning-Techniques of planning- Achievements of planning- Bottom up and Step down approaches in planning- Evaluation of Five Year Plans-NITI Aayog and its Vision Documents- Welfare programmes announced in the last two Union Budgets.

Module IV: Economic Reforms Since 1991

Background of economic reforms- Washington Consensus- Industrial policy reforms- Trade policy reforms- Fiscal policy reforms- Financial sector reforms- Foreign investment policy reforms- Second generation economic reforms-An appraisal of India's economic reforms- Post reform Infrastructure Investment Models-PPP- Cooperative federalism with special reference to GST.

Module IV: Kerala Economy

Economic liberalization and economic growth in Kerala- Kerala model of development- Agricultural performance- Industrial backwardness- Health and education - Migration of casual workers to Kerala- Decentralization-Achievements of decentralization-Poverty and unemployment in Kerala - State finances of Kerala- Causes of acute fiscal crisis of Kerala.

Module I
Growth, Structural Changes and Challenges of the Indian Economy

National Income Related Aggregates

Performance of an economy depends on the amount of goods and services produced in that economy. In monetary terms its measure is the Gross Domestic Product (GDP), Gross National Income (GNI), and Net National Income (NNI). Apart from these macro-economic aggregates, the other important indicators to measure health of economy are capital formation and savings. The major concepts used in National Accounts Statistics and the inter relationship, particularly of those relating to macro-economic aggregates of domestic product, consumption, saving and capital formation are given in the following paragraphs.

• **Domestic Product:**

Domestic product by definition is a measure in monetary terms of the volume of all goods and services produced by an economy during a given period of time, accounted without duplication. The measure obviously has to be in value terms as the physical units of production and different measures of services are not capable of simple addition. In the case of a closed economy, this measure amounts to domestic product.

• **Domestic Product And National Income:**

The domestic product measures all goods and services arising out of economic activity, while national income is the sum of all incomes as a result of the economic activity. Since the production of goods and services is the result of the use of primary factors of inputs, namely, capital and labour, along

with the raw materials, the process automatically generates income. This income is in the form of return to capital and labour used in the production process. National income includes only those incomes that are derived directly from the current production of goods and services, which are called factor incomes.

• **National Income and Expenditure:**

The production within the economy over a given period of time is spent either for consumption of its members or for addition of fixed assets or for addition to the stock of existing productive assets within the country. Hence, production can also be measured by considering the expenditure of those who purchase the finished or final goods and services. The national expenditure is the sum of expenditure of all spending of institutional sectors viz., government, households and enterprises. The expenditure on final goods and services may be purely for consumption purposes like consumption of food, clothing, shelter; services etc., or for capital formation such as addition to buildings, plant, machinery, transport equipment, and the like. Some goods may not be immediately sold and may be kept aside as stocks. These goods which are added to stocks are also accounted for as final expenditure.

The national income of a country can be measured in three different ways, from the angle of production, from income generation and from final utilization. These three forms are circular in nature.

• **Gross National Income (GNI):**

The economy of India is not closed as there are transactions with rest of the world in the form of exports, imports, loans and the like. This gives rise to the concept of national or domestic income. Gross Domestic Product refers to the production of all resident units within the borders of a country, which is not

exactly same as the production of all productive activities of residents. Some of the productive activities of residents may take place abroad. Conversely, some production taking place within a country may be attributed to temporary and seasonal foreign labour. The Gross National Income is calculated by the following formula:

GNI = GDP + compensation of employees and property income receivable from the rest of the world – compensation of employees and property income payable to the rest of the world.

• **Categories of Expenditure:**

The income available to the individuals in the form of labour income or capital income or to the productive units in the form of retained income is then spent. The utilization or expenditure of the income can take various forms, namely, (a) household consumption expenditure; (b) government final consumption expenditure; and (c) capital formation comprising fixed capital formation and stock accumulation.

Household Consumption Expenditure:

The household consumption expenditure referred to as private final consumption expenditure (PFCE) in the National Accounts Statistics (NAS), consists of expenditure by households (including non-profit institutions) on non-durable consumer goods and services and all durable goods except land and buildings.

Government Final Consumption Expenditure:

Government final consumption expenditure comprises of the compensation to the Government Employees and purchases of goods and services by the Government including purchases abroad. Compensation of Employees of general Government consists of wages and salaries and social security contribution.

Gross Capital Formation:

Gross Capital Formation includes only produced capital goods (machinery, buildings, roads, artistic originals etc.) and improvements to non-produced assets. Gross Capital Formation measures the additions to the capital stock of buildings, equipment and inventories, i.e. additions to the capacity to produce more goods and income in the future. The components of gross capital formation are:

• Gross fixed capital formation
• Changes in inventories
• Acquisition less disposal of valuables(such as jewellery and works of art)

Gross Fixed Capital Formation includes purchases of new assets within the domestic market like buildings, transport equipment, machinery, breeding stock etc.; import of new assets; own account production of new assets such as production of rail engines, wagons, trucks, aero-planes, farm machinery, breeding stock of fish, sheep, cows etc. by the enterprise; purchase of new houses by consumer households and net purchase of second hand physical assets from abroad. Change in stocks (inventories) consists of the difference between the opening stock and the closing stock.

• **Saving:**

Saving represents the excess of current income over current expenditure of various sectors of the economy. It is the balancing item on the income and outlay accounts of the producing enterprises, households, government administration and other final consumers. For a closed economy, savings equals capital formation during the year, whereas for the open economy savings equals capital formation plus net capital inflow from abroad during the year.

• **Gross Versus Net Value Added:**

GDP does not take into account the depreciation factor because of which it does not reveal the complete flow of goods and services through various sectors. Thus, the term net product is considered more suitable which is obtained by subtracting depreciation cost from the gross domestic product. Capital goods like machines, equipment, tools, factory building, tractors etc. get depreciated during the process of production. After some time these capital goods need replacement. The decline, during the course of the accounting period, in the current value of the stock of fixed assets owned and used by a producer as a result of physical deterioration, normal obsolescence or normal accidental damage is called Consumption of Fixed capital (CFC). Deduction of CFC from GDP provides with the net domestic product.

• **Current Versus Constant Prices:**

National income regardless of the concept is obviously measured at prices prevailing during the period or in other words at current prices. When calculated over a number of years, the changes in national income would, therefore, include implicitly not only the effect of the changes in production but also the changes in prices. This estimate compared over the period would not, therefore, give a proper measure of the overall real increase in production of the country or the economic welfare of the people or growth of the economy. Therefore, it would be necessary to eliminate the effect of prices, or in other words to re-compute the whole series at given prices of one particular base year. National income thus computed, is termed as National Income at constant prices or in real terms.

Structural Changes in Indian Economy

The national income data used to study important structural changes taking place in the Indian economy during the last six

decades. The process of growth of the underdeveloped economy of India began in right earnest with the launch of the First Five Year Plan in April 1, 1951. The First Plan was a modest plan. It aimed largely to restore stability to the economy. Well-formulated strategy of growth was launched in the Second Five Year Plan. The subsequent Plans primarily gave primacy to this strategy, although modifications were made in response to the changing needs of the economy. The earlier plans aimed largely to build up the production capacity of the economy, and not rapid growth. The strategy affected both the rate of growth and the composition of growth. During the 1980s, the strategy, the rate and composition of growth underwent a change. A new strategy of growth came to be adopted with the onset of the 1990s. The changes in strategy and the rate of growth of national income affected the structure of the economy.

The composition of GDP of an economy explains the relative significance of the different producing sectors. When a country is in a state of underdevelopment, primary sector (agriculture and allied occupations) makes the largest contribution to the national income. As the country grows and gets developed, the contribution of the industrial and services sectors gradually increases. As per some studies, The Indian economy grew at 1.5% per annum during 1900 to 1913 and at an average rate of growth of 0.7% per annum during the 30 year period from 1917 to 1946. (Back series for National Accounts Statistics based on 1993-94 prices brought out by CSO is available from 1950 onwards).

Phase 1 (1950-51 to 1979-80): As per conventional wisdom Indian economy was stuck since independence in the ‘Hindu

rate of growth' (also referred to as socialist rate of growth as the period of 30 years from 1950–51 to 1979–80 was the phase of socialist experimentation in India) of about 3.5% per annum. In this phase the economy had accelerated rate of growth compared to preceding colonial period and average income, measured by per capita GDP, grew at 1.3% per annum. Growth during this period was volatile, with a co-efficient of variation of 1. There was structural change in economy with increase in share of non-agriculture, mainly led by industry. The period of mid 60's (through 70's) to 1980 saw pronounced decline in GDP with slackening of industrial growth .The 1970s interregnum (in otherwise continuously increasing GDP over sub phases) was also marked by the severe deceleration in agricultural growth. This period of slower growth is referred to as second sub phase within the first phase.

Phase 2 (1980-81 to 2001-02): The slowdown of growth witnessed during the 1970s was reversed during the 1980s; the pick-up benefited from the initiation of some reform measures aimed at increasing domestic competitiveness. A significant experiment with coalition government ended in 1979–80 and the Congress (I) party returned to power in 1980–81. The recognition that the controls and subsidies introduced by the Congress governments during the earlier phase were not serving their intended purpose had gradually dawned on the establishment during the late seventies. The new government gradually initiated a new approach to economic management. During the 80's there was shift towards the ascendancy of services relative to industry in growth. The rising share of public sector was the main source of increasing share of services in GDP.

Since the early 1990s, growth impulses appeared to have gathered further momentum in the aftermath of comprehensive reforms introduced by enactment of radical new economic policy framework in 1991-92 coupled with the macroeconomic response to the BOP crisis . This marks the beginning of second sub phase within the second phase of economic growth. During this sub phase, private organized sector grew rapidly relative to the public sector, increasingly shifted towards services relative to industry, and led the decisive reinforcement of a services dominated growth trajectory. There was some loss of the growth momentum in the latter half of the 1990s which coincided with the onset of the East Asian financial crisis, setbacks to the fiscal correction process, quality of fiscal adjustment, slowdown in agriculture growth affected by lower than normal monsoon years, and some slackening in the pace of structural reforms. Monetary tightening in the face of inflationary pressures is also believed by some to have contributed to the slowdown over this period.

The uptrend in decadal domestic growth (except for interregnum in 1970s) during the first two phases (1950's to 2000's) was associated with the consistent trends of increasing domestic savings and investment over the decades. Gross domestic savings increased continuously from an average of 9.6 per cent of GDP during the 1950s to about 38 per cent of GDP during 2007-08; over the same period, the domestic investment rate has also increased continuously from 10.8 percent in the 1950s to close to 36 percent by 2006-07. A very significant feature of these trends in savings and investment rates was that Indian economic growth was financed predominantly by domestic savings. The recourse to foreign savings – equivalently, current account deficit – was rather modest during

these phase of Indian growth process. The two decades, 1960s and 1980s, when the current account deficit increased marginally towards 2 percent of GDP, it was followed by significant balance of payments and economic crisis.

Sector wise growth during the two phases is summarized as the growth of manufacturing production, in terms of decadal averages, was roughly constant at around 5.6-5.9 percent in the first five decades after Independence, except for the 1970s. There are two other features of our growth history that are notable. First, agricultural growth has been subject to large variation over the decades. The 1970s interregnum is particularly marked by the severe deceleration in agricultural growth, followed by a marked recovery in the 1980s, and a slowdown thereafter. Second, until the 1990s, little note had been taken of growth in the services sector. A glance at the growth record suggests that it is the continuing and consistent acceleration in growth in services over the decades, that had earlier been ignored, that really accounts for the continuous acceleration in overall GDP growth, once again, except for the 1970s interregnum.

After achieving unprecedented growth of over 9 percent for three successive years between 2005-06 and 2007-08 and recovering swiftly from the global financial crisis of 2008-09, the Indian economy has been going through challenging times that culminated in lower than 5 per cent growth of GDP at factor cost at constant prices for two consecutive years, i.e. 2012-13 and 2013-14. India's recent slowdown is partly rooted in external causes (Global slowdown), domestic causes are also significant nonetheless. The strong post financial crisis stimulus led to stronger growth in 2009-10 & 2010-11. However, the

boost to consumption, coupled with supply side constraints, led to higher inflation. Monetary policy was tightened, even as external headwinds to growth increased. The consequent slowdown, in 2012-13 and 2013-14, has been board based, affecting particularly the industry sector. Sub-5 percent GDP growth for two years in succession was last witnessed a quarter of a century ago in 1986-87 and 1987-88.

India's growth has declined from an average of 8.3 percent per annum during 2004-05 to 2011-12 to an average of 4.6 percent in 2012-13 and 2013-14. Average growth in the emerging markets and developing economies including China declined from 6.8 percent to 4.9 percent in this period (calendar-year basis). What is particularly worrisome is the slowdown in manufacturing growth that averaged 0.2 percent per annum in 2012-13 and 2013-14.

As per the provisional estimates released by CSO, gross national income (factor cost, constant prices) was estimated to have risen by 4.7 percent during 2013-14, in comparison to the growth rate of 4.1 percent in 2012-13. GDP (Factor cost constant prices) for 2013-14 also showed a growth rate of 4.7 percent over the First Revised Estimates of GDP for the year 2012-13. The per capita net national income in real terms (at 2004-05 prices) during 2013-14 is estimated to have attained a level of Rs. 39,904 . The growth rate in per capita income is estimated at 2.7 percent during 2013-14 as against 2.1 percent during 2012-13. GDP at factor cost at constant (2004-05) prices in the year 2013-14 was estimated at Rs 57.42 lakh crore while the first revised estimates put the GDP for the year 2012-13 at Rs 54.82 lakh crore. Recent years, Nominal GDP or GDP at current prices for the year 2018-19 was estimated as ₹ 189.71

lakh crore against ₹ 170.98 lakh crore for the year 2017-18, showing a growth of 11.0 percent during 2018-19 as compared to 11.1 percent during 2017-18. Real GDP or GDP at constant (2011-12) prices for the years 2018-19 and 2017-18 stand at ₹ 139.81 lakh crore and ₹ 131.75 lakh crore, respectively, showing growth of 6.1 per cent during 2018-19 and 7.0 percent during 2017-18.

The National Statistical Office (NSO) has estimated India's GDP to have grown at 4.8 percent in the first half (H1) (April-September) of 2019-20, lower than 6.2 percent recorded in the second half (H2) (October-March) of 2018-19. On the supply side, the deceleration in GDP growth has been contributed generally by all sectors save 'Agriculture and allied activities' and 'Public administration, defence, and other services', whose growth in H1 of 2019-20 was higher than in H2 of 2018-19 table 1.1.

Table.1.1: Quarter wise growth of real Gross Value Added (GVS) and GDP (percent)

	2018-19				2019-20	
	Q1	Q2	Q3	Q4	Q1	Q2
GVA at basic prices	7.7	6.9	6.3	5.7	4.9	4.3
Agriculture, forestry & fishing	5.1	4.9	2.8	–0.1	2.0	2.1
Industry	9.8	6.7	7.0	4.2	2.7	0.5
Services	7.1	7.3	7.2	8.4	6.9	6.8
GDP at market prices	8.0	7.0	6.6	5.8	5.0	4.5

Data Source: National Statistical Office

Sectoral Shares in GVA

Resources move across sectors in response to changes in relative prices causing different sectors of the economy to grow at different rates. A high growth of GDP does not attract much attention to sectoral contribution to growth as much as low

growth of GDP does. Yet, at all levels of growth, structural change is imminent and it is the pace of change that becomes a matter of interest.

Gross Value Added (GVA) at basic prices in different sectors of the economy at constant (2011-12) prices are presented in the table.1.2. At the aggregate level, nominal GVA at basic prices has grown by 11.1 percent during 2017-18 against 10.5 percent during 2018-19. In terms of real GVA i.e. GVA at constant (2011-12) basic prices, there has been a growth of 6.0 percent in 2018-19, as against 6.6 percent in 2017-18. The shares of broad sectors of the economy in terms of overall GVA during 2011-12 to 2018-19 and the annual growth rates are mentioned below:table1.2.

Table.1.2:Gross Value Added at Constant (2011-12) and Current Prices

Year	Share in GVA at current prices (In %)				Growth in GVA at constant (2011-12) prices (In %)				Aggregate GVA (₹ in lakh crore)	
	Primary	Secondary	Tertiary	All	Primary	Secondary	Tertiary	All	Current	Constant
2011-12	21.7	29.3	49.0	100.0					81.1	
2012-13	21.3	28.7	50.0	100.0	1.4	3.6	8.3	5.4	92.0	85.5
2013-14	21.4	27.9	50.6	100.0	4.8	4.2	7.7	6.1	103.6	90.5
2014-15	20.9	27.3	51.8	100.0	1.2	5.7	9.8	7.2	115.0	97.1
2015-16	20.1	27.6	52.3	100.0	2.1	9.5	9.4	8.0	125.7	104.9
2016-17	20.4	27.0	52.6	100.0	7.3	7.5	8.5	8.0	139.7	113.3
2017-18	20.3	26.9	52.8	100.0	5.8	5.5	6.9	6.6	155.1	120.7
2018-19	19.3	26.6	54.0	100.0	1.0	5.0	7.7	6.0	171.4	128.0

Source: Central Statistical Organization

The growth in real GVA during 2018-19 has been lower than that in 2017-18 mainly due to relatively lower growth in Agriculture, Forestry & Fishing, Mining and Quarrying, Manufacturing, Electricity, Gas, Water Supply & Other Utility Services, Financial Services, Public Administration and Defense and Other Services. During 2018-19, at constant

prices, the growth rates of Primary (comprising Agriculture, Forestry, Fishing, Mining & Quarrying), Secondary (comprising Manufacturing, Electricity, Gas, Water Supply & Other Utility Services and Construction) and Tertiary (Services) sectors have been estimated as 1.0 percent, 6.0 percent and 7.7 percent as against a growth of 5.8 percent, 6.5 percent and 6.9 percent, respectively, in the previous year.

Share of agriculture and allied sectors in the total GVA of the country has declined from 2009-14 to 2014-19 mainly because of relatively higher growth performance of tertiary sectors. This was a natural outcome of the development process leads to faster growth of non-agricultural sectors. The contribution of industrial activities to GVA has also declined from 2009-14 to 2014-19. Manufacturing sector, which contributes more than 50 percent of industrial GVA, has driven the decline while the share of construction sector has also moderated. Services sector has moved ahead faster, distancing itself further from agriculture and industry. Financial, real estate and professional services has driven the increase in the contribution of service sector followed by public administration. Even globally, the services sector has supported global growth partly offsetting the decline in manufacturing activity (table 1.3).

Table.1.3: Sectoral Shares in GVA (Percent)

	2009-10 to 2013-14	2014-15 to 2018-19	2018-19	H1: 2019-20
Agriculture, forestry & fishing	18.3	17.4	16.1	13.9
Industry	32.3	29.6	29.6	28.3
Mining & Quarrying	3.2	2.4	2.4	2.1
Manufacturing	17.5	16.6	16.4	15.4
Electricity, Gas, Water supply & other utility services	2.4	2.6	2.8	2.9
Construction	9.2	8.0	8.0	8.0
Services	49.4	52.9	54.3	57.8
Trade, Hotel, Transport, Storage, Communication and services related to broadcasting	17.5	18.3	18.3	18.1
Financial, Real estate & Professional services	19.2	20.9	21.3	24.5
Public Administration, Defence and other services	12.7	13.7	14.7	15.2

Source: National Statistical Office

It would be seen from above table.1.3 that the rate of growth of the secondary and tertiary sectors has been more than double that of the primary sector, with the secondary sector having an edge over the tertiary sector during the first two decades. In the subsequent decade, the tertiary sector grew faster than either of the other two sectors. During the 1980s, when all the three sectors were growing at a faster rate, the secondary sector was the fastest. Subsequently, the tertiary sector has been growing the fastest. To an extent the growth of the services sector may have been overstated as new technologies and competitive pressures have led to widespread outsourcing of non-core activities by manufacturing firms, which then show up as services' growth. Also, one suspects that in the system of National Accounts, services are a residual category that ends up including some household and cottage sector production activity. Nevertheless, the growth momentum generated by the services sector cannot be denied. As a result, the service sector has become the growth-driver in the Indian economy.

Presently, about two-thirds of the incremental growth in the Indian economy can be attributed to the tertiary sector.

This pattern of structural change in Indian economy has deviated from the development pattern of western and South East Asian economies. Those economies experienced first a shift from primary to secondary sector and only in their advanced stage did they experience a significant shift in favour of tertiary sector. That pattern of development enabled them to transfer growing labour force from primary to secondary sector. In India this has not been possible because secondary sector has not expanded fast enough to absorb growing labour force. The unskilled and uneducated rural masses have continued to struggle in the primary sector and those who have been forced out by economic, social and political factors have joined the urban slum sector. Moreover, the sharp increase in the share of tertiary sector in GDP in India has occurred at a much lower level of per capita income than that in the developed countries when they experienced a similar expansion. This pattern of growth underlines the link between the growing poverty and unemployment and the inadequate growth of manufacturing and building activity in the country.

Net National Income

Nominal Net National Income (NNI) at current prices for the year 2018-19 stands at ₹ 167.89 lakh crore as against ₹ 151.50 lakh crore in 2017-18, showing growth of 10.8 percent during 2018-19 as against 11.2 percent in the previous year.

Gross National Disposable Income

Gross National Disposable Income (GNDI) at current prices is estimated as ₹ 192.63 lakh crore for the year 2018-19, while the estimate for the year 2017-18 stands at ₹ 173.19 lakh crore,

showing a growth of 11.2 percent for year 2018-19 as against 11.1 percent in the year 2017-18.

Employment: Formal vs. Informal

The data on employment shows that there has been an increase in the share of formal employment, as captured by 'Regular wage/salaried', from 17.9 percent in 2011-12 to 22.8 percent in 2017-18. This 5 percent points increase in the share of 'Regular wage/salaried' group has been on account of 5 percent points decrease in the share of casual workers, which reflects formalization in the economy. As a result, in absolute terms, there was a significant jump of around 2.62 crore new jobs over this period in the usual status category with 1.21 crore in rural areas and 1.39 crore in urban areas. Remarkably, the proportion of women workers in 'Regular wage/salaried' employees category has increased by 8 percent points (from 13 percent in 2011- 12 to 21 percent in 2017-18) with addition of 0.7 crore new jobs for female workers in this category. The drop in casual labour has mainly originated from the rural sector where rural labourers have shifted from agricultural to industrial and services activity. In urban region, there has been a shift of employment from self- employed to salaried jobs. The provisional Annual Survey of Industries for fiscal year ending March 2018, also shows an increase in jobs in the organized manufacturing sector. Between 2014-15 and 2017-18, total number of workers increased by 14.7 lakh and total persons engaged increased by 17.3 lakh, in the organized manufacturing sector in India.

Savings

Savings are a critical determinant of economic growth. Gross Saving during 2018-19 is estimated at ₹ 57.13 lakh crore

against ₹ 55.38 lakh crore during 2017-18. Rate of Gross Saving to GNDI (Gross National Disposable Income) for 2018-19 is estimated at 29.7 percent against 32.0 percent for 2017-18. The highest contributor to Gross Saving has been the household sector, with saving of ₹ 34.47 lakh crore in the year 2018-19. The saving of private financial corporations' has increased from ₹ 1.50 lakh crore in 2017-18 to ₹ 1.77 lakh crore in 2018-19 whereas the saving of the non-financial corporations' marginally decreased from ₹ 20.69 lakh crore during 2017-18 to ₹ 20.60 lakh crore in 2018-19. The saving of General Government was (-) ₹ 1.96 lakh crore during 2017-18 and (-) ₹ 1.48 lakh crore in 2018-19. A large share of Indian household income goes into savings. While more than half of it goes into physical assets like gold and housing, the rest goes into financial assets, which are then available for investments by companies and government. Household financial savings are the most important source of funds for investment in the economy. Beyond households, savings for capital formation is also done by both public sector and private sector. High investment and an economic boom during the 2003-2008 periods were supported by a strong savings rate. The savings rate surged from 25.9 percent in 2003 to 36.8 percent in 2008 (Table.1.4).

Table.1.4: Saving and its Components (Percent to GDP)

Year	Total	Household sector	Private corporate sector	Public sector
2001	23.8	21.4	3.7	-1.35
2002	24.9	23.2	3.27	-1.57
2003	25.93	22.29	3.92	-0.28
2004	29.03	23.17	4.57	1.28
2005	32.41	23.55	6.55	2.30
2006	33.44	23.53	7.51	2.41
2007	34.60	23.15	7.88	3.56
2008	36.82	22.42	9.40	4.99
2009	32.02	23.64	7.41	0.96
2010	33.69	25.18	8.35	0.16
2011	33.68	23.13	7.97	2.59
2012	31.35	22.81	7.31	1.24
2013	30.09	21.88	7.05	1.17
2014*	32.2	19.6	11.7	2.4
2015	31.1	17.9	11.9	2.4
2016	30.2	17.1	11.5	2.4
2017	30.5	17.2	11.6	2.6

*From 2014 the data corresponds to the new base year 2011-12
Source: National Accounts Statistics, various years

Gross savings constitute savings of households, private corporate sector and public sector. At a disaggregated level, savings by the household sectors is the most prominent component. The buoyant trend in the aggregate savings rate during the high growth phase from 2003-2008 was driven by savings in the household sector. The rate of savings in private corporate sector improved from 4.57 percent in 2004 to 9.4 percent in 2008. Since 2012, however we have seen a decline in the aggregate savings rate as well as in household savings rate. The aggregate savings rate declined from 34 percent in 2012 to 30.5 percent in 2017-18. The household savings rate declined from 22.4 percent in 2012 to 17.2 percent in 2017. It shows a steep decline in recent years.

The term `households' includes not only individual households but also non- corporate businesses. The unregistered micro, small and medium enterprises are thus covered under the definition of household sector. This sector suffered the most

due to the twin shocks of demonetization and GST. Household savings comprise financial and physical savings. The share of physical assets in the flow of savings has been increasing over time. In 2013-2014, physical assets were about 68 percent of household savings. The National Accounts Statistics with the new base year of 2011-2012 suggest that the share of physical assets in household savings though declining is still high at around 60 percent. As percent to GDP, household financial savings have remained stable at roughly 10 percent of GDP over the last five years. The Household Finance Committee made some observations on the Indian household savings landscape.

The reports find that a large fraction of the wealth of Indian households is in the form of physical assets. In India, the average household holds 77 percent of its total assets in real estate, 7 percent in other durable goods (such as transportation vehicles, livestock and poultry, agricultural machinery and non-farm business equipment), 11percent in gold and the residual 5 percent in financial assets (such as deposits and savings accounts, publicly traded shares, mutual funds, life insurance and retirement accounts). This is in contrast to developed economies where households hold substantial portion of their wealth in financial assets. The objective to support consumption smoothing across the life cycle is served through old-age pension programs. However, retirement assets play a very limited role, even for households at the top of the wealth distribution. This feature is not unique to India. Emerging economy households store a large proportion of their assets in physical assets. Financial assets account for a negligible proportion of total household assets. Within the class of financial assets, retirement accounts are virtually absent.

For households in the top quintile of wealth holdings, financial assets only play a relatively modest role, even for the wealthiest Indians. A large fraction of the wealth of young households is in the form of durable goods and gold, and as they approach retirement, most of their wealth is in the form of land and housing. There is a substitution effect between durable goods, gold and real estate such that the total share of physical assets remain relatively fixed. These observations highlight concerns about the state of financial resources available for investment in the economy. Recognizing the low participation of households in financial assets, policy measures have been initiated towards improving access to banking for the unbanked.

Composition of Household Financial Savings

In India, the household sector contributes around 60 per cent of gross savings in the Indian economy, and thus remains the major supplier of financial resources for gross investment. Table.1.5 shows the profile of financial savings over a shorter-term horizon. Bank deposits constitute the bulk of household financial savings, though its share in the overall household financial savings has seen a dip from 2011-2012 onwards. Still 57 percent of the financial savings are in cash and deposits leave a very small portion of savings in long-term savings. Shares and debentures constitute a small part of the overall financial savings of households. Investments in provident and pension funds have seen a gradual rise, though they still constitute a small proportion of the overall saving.

Table.1.5: Composition of Household Financial Savings (percent)

	2011-12	2012-13	2013-14	2014-15	2015-16
Currency	11.39	10.48	8.36	10.61	13.19
Deposits	57.95	56.97	56.01	48.71	42.46
Shares and Debentures	1.77	1.60	1.59	1.62	2.95
Claims on Government	-2.35	-0.67	1.94	0.08	4.47
Insurance Fund	20.98	16.91	18.18	23.62	17.48
Provident and Pension Fund	10.26	14.71	14.93	15.18	19.18

Source: National Accounts Statistics, various years

Insurance and pension penetration are low by international standards. Pension funds' assets are defined as assets bought with the contributions to a pension plan for the exclusive purpose of financing pension plan benefits. The pension fund is a pool of assets forming an independent legal entity. India lags behind not only advanced economies but is also placed after emerging economies in pension funds penetration. India significantly trails other countries in insurance penetration. The life and non-life insurance premium income formed 2.72 percent and 0.77 percent of GDP respectively in 2016. This is low compared to the global average of 3.47 percent and 2.81 percent of life and non-life insurance premium respectively.

Annual data on household saving are published by the National Statistical Office (NSO), with the latest annual estimates released on January 31, 2020 showing that financial saving of the household sector declined to 6.5 percent of GDP in 2018-19 from 7.7 percent in 2017-18 and 7.4 percent in 2016-17. Data for 2019-20 would be available on January 29, 2021.Currency and deposits with banks accounted for bulk of total financial assets (66 percent), followed by insurance funds and mutual funds (Chart.1.1). A clear seasonal pattern is discernible in at

least two financial assets, namely, bank deposits and currency (Chart.1.2). Deposits with the banking system typically contract in the first quarter and expand in the last quarter of the financial year, while currency holdings of households peak in the first quarter and contract in the second quarter. Banks tend to boost credit delivery and deposit mobilization in the last quarter of the financial year, i.e. they window dress to meet the year-end targets and to improve their asset quality indicators. Currency patterns are associated with festivals, rabi procurement and kharif sowing, and tourism related demand. Moderate seasonality is also seen in insurance products - peaks in the fourth quarter to get income deductions.

Chart.1.1: Composition of household Financial Assets- Outstanding Position (As at end- March 2020

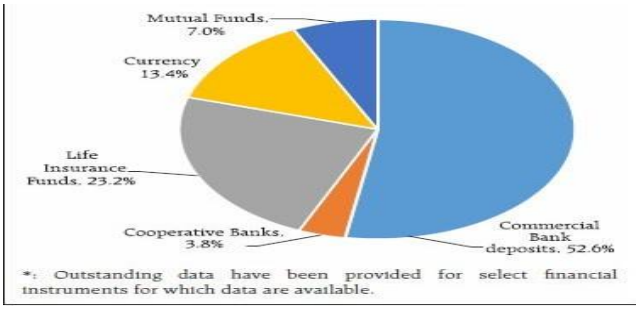
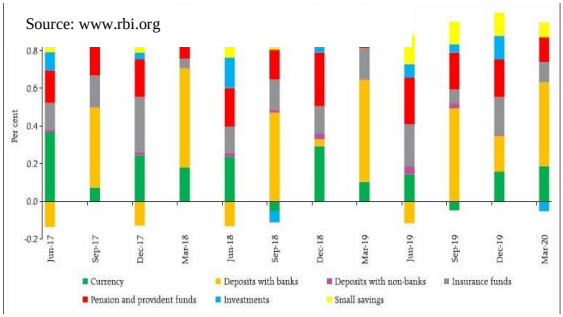


Chart.1.2. Instrument-Wise Variation in Gross Financial Asset of Households (2017 Jan- 2020 March



Capital Formation

Capital is the key driver of growth in the economy. Investment or Gross Capital Formation (GCF) includes three elements, Gross Fixed Capital Formation (GFCF), change in stocks and valuables (gold). Gross Capital Formation (GCF) at the current as well as the constant prices is estimated by two approaches : (i) through flow of funds, derived as Gross Saving plus net capital flow from Rest of the World (RoW); and (ii) by the commodity flow approach, derived by the type of assets. The estimates of GCF through the flow of funds approach are treated as the firmer estimates. GCF by industry of use and by institutional sectors does not include 'valuables' and therefore, these estimates are lower than the estimates available from commodity flow approach.

GCF at current prices is estimated at ₹ 61.09 lakh crore for the year 2018-19 compared to ₹ 58.49 lakh crore during 2017-18. The rate of GCF to GDP is 34.2 percent during 2017-18 as against 32.2 percent in the 2018-19. The rate of GCF (excluding valuables) to GDP stands at 32.9 percent and 31.1 percent for the years 2017-18 and 2018-19 respectively. The rates of capital formation in the years 2011-12 to 2018-19 have been higher than the rate of saving because of positive net

capital flow from RoW. In terms of the share to the total GCF (at current prices), the highest contributor is Non-Financial Corporations, and the same has increased from 47.7 percent in 2017-18 to 49.0 percent in 2018-19. Share of household sector in GCF has declined from 37.9 percent in 2017-18 to 37.5 percent in 2018-19 while the share of General Government in GCF has increased from 12.3 percent in 2017-18 to 12.7 percent in 2018-19.

Within the GCF at current prices, the Gross Fixed Capital Formation (GFCF) amounted to ₹ 54.93 lakh crore in 2018-19 against ₹ 47.99 lakh crore in 2017-18. The rate of GFCF to GDP at current prices has increased from 28.1 percent in 2017-18 to 29.0 percent in 2018-19. The change in stocks of inventories, at current prices, increased from ₹ 2.51 lakh crore in 2017-18 to ₹ 3.20 lakh crore in 2018-19, while the valuables decreased from ₹ 2.19 lakh crore in 2017-18 to ₹ 2.00 lakh crore in 2018-19. The rate of GCF to GDP at constant (2011-12) prices was 37.6 percent in 2017-18 and 35.6 percent in 2018-19. The most important component is GFCF which means capital expenditure on machinery, equipment and dwellings. The period 2004-2008 witnessed an investment boom with the GFCF to GDP increasing from 30.7 percent to 34.7 percent in 2008. Post the global financial crisis, this ratio moderated to 31 percent in 2013. The moderation in the GFCF to GDP ratio has continued in the recent years. The ratio declined from 30.1 percent in 2014 to 28.6 percent in 2017. The ratio picked up to 29.4 percent in 2018. Moderation in GFCF, a measure of fixed asset creation raises concerns about growth of output in the economy. Table.1.6 shows the components of GFCF specifically a deceleration in investment by the household sector. Household sector investment declined from 15.75

percent of GDP in 2011-2012 to around 9.09 percent of GDP in 2016-2017. A major part of the household investment is in the form of property and the remaining is in equipment.

Table.1.6:Components of Gross Fixed Capital Formation (Percent to GDP)

	Government	Household sector	Private sector	Public sector
2012-03-31	3.48	15.75	11.23	3.86
2013-03-31	3.41	14.63	11.79	3.61
2014-03-31	3.53	12.52	11.68	3.56
2015-03-31	3.55	12.06	11.02	3.45
2016-03-31	3.57	9.13	12.01	3.76
2017-03-31	3.76	9.09	12.29	3.40

Source: National Accounts Statistics, various years

Table.1.7 shows that the decline in household sector investment is driven by a decline in investment in dwellings and buildings. A sharp downturn in investments in dwellings and structures leads to slowdown in construction sector activities, which then feeds into slowdown in various allied sectors, such as steel and cement.

Table.1.7.: Components of Household Sector Investment (Percent to GDP)

	Dwellings and buildings	Equipment
2012-03-31	12.85	2.82
2013-03-31	11.61	2.96
2014-03-31	11.11	1.24
2015-03-31	10.24	1.75
2016-03-31	7.27	1.79
2017-03-31	6.77	2.24

Source: National Accounts Statistics, various years

The biggest component of investment in India in the coming two decades is expected to be investment in infrastructure. While the bulk of household financial savings are directed towards bank deposits, banks have limited capacity to finance

private investments in infrastructure. Retained earnings, promoter savings, bank finance and equity finance including the stock market can easily finance investment in the remaining sectors such as manufacturing and services. Large companies, in both manufacturing and services, are currently able to raise capital and may expect to do so to some degree. The two big challenges today are investments in micro, small and medium enterprises (MSMEs) and in large and long term projects like infrastructure.

Analysis of Progress of the Indian Economy based on Five Year Plans

The growth rate of the economy plummeted to a relatively low level for almost a decade from the mid sixties to the mid seventies as the economy struggled to cope with the cutback in aid during 1966-68. The savings rate had to be raised before investment and growth could recover. In the short run, the higher rate of savings had a deflationary effect on the economy. Furthermore, as noted below lack of demand for capital goods created by the aid cutback created substantial excess capacity. It was a period when the world economy was growing rapidly as were also other developing countries, India missed the opportunity to take advantage of favourable international conditions.

Table.1.8: Growth Rate of GDP and Major Sectors in India

	GDP	Agricul-ture	Manufact-uring	Services
First Plan (1951-55)	3.9	3.2	5.8	5.2
Second Plan (1956-60)	4.1	3.3	6.3	4.9
Third Plan (1961-65)	3.5	-0.3	6.6	5.4
Annual Plans (1966-68)	3.7	4.4	2.2	4.3
Fourth Plan (1969-73)	3.2	2.8	4.9	3.2
Fifth Plan (74-78)	5.0	3.6	6.5	5.4
Sixth Plan (80-84)	5.5	6.3	5.2	5.5
Seventh Plan (85-89)	5.7	3.1	6.3	7.2
Eighth Plan (92-96)	6.5	4.9	9.5	6.8
Ninth Plan (97-01)	5.7	2.5	3.6	8.0
Tenth Plan (02-06)	7.6	2.5	9.0	9.2
Eleventh Plan (07-11)	8.0	3.8	7.7	9.9
2012-13	4.5	1.7	1.1	6.8

Source: Reserve Bank of India (2012).

Table.1.8 shows that, since the mid seventies there has been a steady acceleration of the growth rate, except for a slight deceleration during the Ninth Plan, which is difficult to prima facie ascribe to any policy measures. The effects of poor harvests in the mid sixties can be seen in the negative average rate of growth of value added in agriculture during the Third Plan. The effect of the subsequent cutback in aid can be seen in the sharp drop in the growth of the manufacturing sector during the periods of the annual plans and the Fourth Plan. The cutback in aid, the investment needs accompanying the green revolution in agriculture and priority accorded petroleum exploration and refining following the oil price rises in 1973-74 forced a changed allocation of the government's investments and a smaller allocation for manufacturing. The poor performance of the manufacturing sector was because the Government's industrialization strategy stressed investment in heavy industries in the public sector. The output of these basic industries would be used for further investment in heavy industries in the public sector. Such a strategy was growth maximizing and a higher rate of growth would lead to a greater

reduction of poverty in the long run. A large part of this public sector investment was financed by aid and the aid cut-off had very serious consequences, without the aid investment fell. Therefore, there was no demand for the output of the public sector units that had been set up resulting in considerable excess capacity and very high capital output ratios. Also, as noted above, other sectors claimed a larger share of the government's investment It has been contended that the rapid growth of the economy since the nineties has been based on services growth rather than growth of manufacturing. This is not borne out by the data. The average growth rate for services during the period 1980-1996 is 6.4 percent, not statistically different from the 6.3 percent growth rate for manufacturing during that period. Again the average growth rates for the two sectors are not statistically significantly different for the period 2002-10. The significant difference is during the Ninth Plan. The large reduction in tariff rates for imports of manufactures could have resulted in a shrinking of the sector as happened in many Latin American countries where the share of manufactures in GDP has fallen considerably since the debt crisis.

The behaviour of investment mirrors that of the growth rate of the economy. The investment to GDP ratio was stable during the Third to Fourth Plan periods and then there was a sharp increase from the Fifth Plan to the Sixth Plan with further increases in the Tenth and Eleventh plans. The increase in the investment ratio is usually preceded by increases in the share of gross domestic savings in GDP so that the financing of the higher investment would not depend on foreign aid. We see a very sharp increase in the savings rate after the cut-off in aid in the mid sixties to the Fifth Plan. The increase in the savings

ratio predates the increase in the investment ratio. Again, the savings ratio starts to increase in the Ninth Plan before the investment ratio shot up in the Tenth Plan (Table 1.9).

Table. 1.9: Plan-wise Growth Rate of GFCF, GDS, CAB & Export of G&S

Plans	Gross Fixed Capital Formation	Gross Domestic Savings	Current Account Balance	Exports of Goods and Services
First Plan (1951-55)	9.5	9.8	0.2	
Second Plan (1956-60)	13.0	11.0	-2.8	
Third Plan (1961-65)	14.3	12.7	-1.8	3.9
Annual Plans (1966-68)	14.3	12.7	-0.2	4.0
Fourth Plan (1969-73)	14.3	14.9	-0.7	3.8
Fifth Plan (74-78)	16.3	18.6	0.5	5.9
Sixth Plan (80-84)	20.5	17.6	-1.5	6.6
Seventh Plan (85-89)	21.4	19.6	-2.2	6.0
Eighth Plan (92-96)	22.4	22.5	-1.2	8.8
Ninth Plan (97-01)	24.3	24.3	-0.6	11.2
Tenth Plan (02-06)	28.1	31.0	0.2	17.9
Eleventh Plan (07-11)	33.7	33.5	-2.6	22.6
2012-13	33.2	30.1	-4.7	24.4

Source: Reserve Bank of India, 2012

Migration

Human Migration is the movement of people from one place in the world to another. People can either choose to move (voluntary migration) or be forced to move (involuntary migration). **The International Organization for Migration (The United Nations Migration Agency) defines a migrant as a**ny person who is moving or has moved across an international border or within a state away from his/her habitual place of residence, regardless of : Person's legal status, Whether the movement is voluntary or involuntary, What the causes for the movement are, What the length of the stay is. According to the International Migrant Stock 2019 report (released by the Population Division of the United Nations Department of Economic and Social Affairs), India with 17.5 million international migrants has emerged as the top source of

international migrants, constituting 6.4% of world's total migrant population.

Factors Affecting Migration

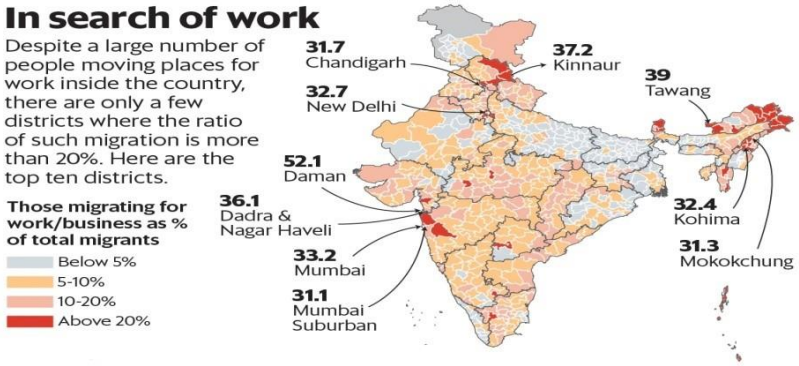
Migration is a global phenomenon caused not only by economic factors but many other factors like social, political, cultural, environmental, health, education are included under the broader classification of Push and Pull factors of migration. Push factors are those that compel a person, due to different reasons, to leave a place of origin (out-migration) and migrate to some other place. Pull factors indicate the factors which attract migrant (in-migration) to an area (destination).

Push-factors Countries of origin	**Migrants**	**Pull-factors** Countries of destination
⇒ Population growth, young age structure ⇒ Inadequate educational institutions, medicare and social security	**Demographic factors and social infrastructure**	⇒ Stable population, population decline, demographic ageing ⇒ Welfare state benefits, educational institutions, medicare, social security
⇒ Unemployment, low wages ⇒ Poverty, low consumption and living standard	**Economic factors**	⇒ Labour demand, high wages ⇒ Welfare, high consumption and living standard
⇒ Dictatorships, shadow democracy, bad governance, political upheaval ⇒ Conflict, (civil) war, terrorism, human rights violation, oppression of minorities	**Political factors**	⇒ Democracy, rule of law, pluralism, political stability ⇒ Peace, security, protection of human and civil rights, protection of minorities
⇒ Ecologic disaster, desertification, lack of natural resources, water shortage, soil erosion, lack of environmental policy	**Ecological factors**	⇒ Better environment, environmental policy, protection of natural resources and environmental protection
⇒ Decisions of the family or the clan ⇒ Information flows, media,	**Migrant flows and migrant stocks**	⇒ Diaspora, ethnic community ⇒ Information flows, media, transferred picture of

Types of Migration

People move for many reasons, based on which types of human migration include internal migration (moving within a state, country, or continent) and external migration (moving to a different state, country, or continent).

Internal Migration: Internal Migrants in India constitute a large population of 309 million internal migrants or 30 percent of the population (Census of India 2001). When a person is enumerated in the census at a different place than his / her place of birth, she/he is considered a migrant.



Internal migration in India is primarily of two types: Long term Migration, resulting in the relocation of an individual or household. Short term Migration, involving back and forth movement between a source and destination.

- **Key Source States:** Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, Andhra Pradesh, Chhattisgarh.
- **Key Destination States:** Delhi, Maharashtra, Gujarat, Haryana, Punjab and Karnataka.
- **Female Migration:** Out of the total internal migrants, 70.7 percent are women (Census of India 2001) and marriage is one of the major reasons for female migration in both the rural and urban areas.
- **Male Migration:** Migration for employment-related reasons is one of the prominent reasons for male migration in both rural and urban areas.
- **Employing Sectors:** Migrants are mostly employed in subsectors like construction, domestic work, textile,

brick-kilns, transportation, mines, quarries, and agriculture.

- **Urbanization:** Rates of urbanization influence rural-urban wage differences and an increase in the demand for labor in urban areas can push up urban wages and increase migration.

The Constitution of India (Article 19) gives the right to all citizens "to move freely throughout the territory of India and to reside and settle in any part of the territory of India. As per Census 2011, 45 million Indians moved outside their district of birth for economic opportunities (be it employment or business). In India, internal migration (fueled by an increasing rate of urbanization and rural-urban wage difference) is far greater than an external migration. India's urban population is expected to grow from 410 million in 2014 to 814 million by 2050. Instead of long-term migration, there is a huge flow of short term migrants in the country.

External Migration: External migration in India can broadly be classified as: Emigration from India to various parts of the world; Immigration of people from different countries to India.

Refugee Migration: There had also been a significant trend of an involuntary or forced immigration to India in the form of refugees.

Home away from home: Where Indians go

Rank	Country	No of Indians (in million)	% of total Indian diaspora
1	UAE	3.5	22.4
2	US	2.0	12.8
3	Saudi Arabia	1.9	12.1
4	Kuwait	1.0	6.4
5	Oman	0.7	4.5
6	UK	0.7	4.5
7	Qatar	0.6	3.8

Total 15.6 million

International Migration and Global action: In 2016 the United Nations General Assembly convened a high-level plenary meeting on addressing large movements of refugees and prepared the report "Safety and Dignity: Addressing Large Movements of Refugees and Migrants". United Nations member states adopted the New York Declaration for Refugees and Migrants, which commits to protect the safety, dignity, human rights and fundamental freedoms of all migrants, regardless of their migratory status. As a result of the New York Declaration, UN Member States agreed to cooperate in the elaboration of a Global Compact for Safe, Orderly and Regular Migration, adopted at an intergovernmental conference on international migration in December 2018 in Morocco. Every year, 8th December is celebrated as International Migrants Day.

Causes

- **Employment:** Basic reasons for intrastate, interstate (migration from rural to urban areas, urban to urban areas) and external migration can be attributed to the search for better employment in industries, trade, transport, and services.

- **Seasonal Migration**: People seasonally migrate for employment in different areas and different industries. For example, significant numbers of people from drought-prone regions migrate seasonally to work in brickmaking, construction, tile factories, and agricultural work.
- Circular Migration or Repeat Migration is the temporary and usually repetitive movement of a migrant worker between home and host areas, typically for the purpose of employment.
- **Education:** Due to the lack of educational facilities at their place of residence, people migrate to urban areas in case of internal migration and other countries in the case of international migration for better academic opportunities. By 2020, India will become the world's largest pool of young people, in contrast, there is a lack of opportunities for employment in India, this leads to the emigration of qualified people.
- **Lack of security:** Political disturbances and inter-ethnic conflicts are also one of the reasons for internal and external migration.There can also be forced displacement due to reasons like wars, and internal political instability.
- **Marriage**: Marriage is one important social factor for internal migration and in case of intra-state migrants majority of the migration is from one rural area to another, due to marriage in the case of females.
- Environmental and Disaster-Induced Factors: There are migrants who are forced to move from rural to urban areas or from one country to another as a result of an environmental disaster in the form of drought, floods,

heatwaves etc, that might have destroyed their homes and farms.

Impact

Positive Impact

- **Labour Demand and Supply**: Migration fills gaps in demand for and supply of labor, efficiently allocates skilled labor, unskilled labor, and cheap labor.
- Economic Remittances: Economic well being of migrants provides insurance against risks to households in the areas of origin, increases consumer expenditure and investment in health, education and assets formation.
- **Skill Development:** Migration enhances the knowledge and skills of migrants through exposure and interaction with the outside world.
- **Quality of Life:** Migration, enhances chances of employment and economic prosperity which in turn improves quality of life. The migrants also send extra income and remittance back home, thereby positively impacting their native place.
- **Social Remittances:** Migration helps to improve the social life of migrants, as they learn about new cultures, customs, and languages which helps to improve brotherhood among people and ensures greater equality and tolerance.
- **Food and Nutrition Security:** According to the 2018 State of Food and Agriculture report by Food and Agriculture Organisation (FAO), outmigration often leads to improved food and nutrition security for migrants.

- **Demographic Advantage:** As a result of outmigration, the population density of the place of origin is reduced and the birth rate decreases.
- **Climate Change Adaptive Mechanism:** Migration has also emerged as a possible adaptive mechanism in the context of climate change and the occurrence of extreme weather events like floods, droughts, and cyclones.

Negative Impact

- **Demographic Profile:** Emigration in large numbers can alter demographic profiles of communities, as most of the young men move out, leaving only the women and elderly to work on the land.
- **Political Exclusion:** Migrant workers are deprived of many opportunities to exercise their political rights like the right to vote.
- Population Explosion and the Influx of workers in the place of destination increases competition for the job, houses, school facilities etc and a large population puts too much pressure on natural resources, amenities, and services.
- Illiterate and Underskilled Migrants are not only unfit for most jobs, because of a lack of basic knowledge and life skills but are also prone to the victimization of exploitation, trafficking, psychological abuse, and gender-based violence in the case of female migrants.
- Increased Slum: Mass Migration results into an increase in slum areas, compromising quality of infrastructure and life at the destination, which further

translates into many other problems such as unhygienic conditions, crime, pollution, etc.

- Brain Drain: Source state suffers from the loss of human capital.

Challenges

- Inclusion and Integration of Migrants: Internal migration is not viewed positively in India and policies are often aimed at reducing internal migration, as a result, there is a lack of integration of migration with the process of development.
- Psychological and Emotional Stress: Any person migrating to a new country faces multiple challenges, from cultural adaptation and language barriers to homesickness and loneliness.
- Employment challenges: Foreign labor migrants often face unacceptable treatment from their employers. For instance, some labor migrants are paid below their contract wage and may be forced to work long hours and denied regular time off. Systems like reservation of jobs in many states and countries for the locals(visa barriers in US, Saudi Arabia's Nitaqat law) pose as the main hurdle.
- Contract Wage System: The problems faced by migrants in destination countries range from contract violation, non-payment of salary, long working hours, and poor working conditions.
- Health Hazards: The poor and harsh living conditions coupled with difficult and risky working conditions, lack of information, and lack of medical health support also leads to several health problems of the migrants.

- Lack of Information: In spite of the challenges and problems faced by the migrants in the destination countries, low tendency to seek assistance from the diplomatic missions in the destination countries were also observed due to lack of knowledge, information about the role of diplomatic missions, trust and effectiveness to enhance access to justice. For internal migrants also there is the Inter-State Migrant Workmen Act (1979), enacted to prevent migrant workers from being exploited, but it is rarely invoked and the penalty is minimal.
- Exclusion from social benefits: The need to provide proof of address, ration cards, Voter IDs and Aadhaar cards, which is difficult due to the fluidity of their lives, deprive them from accessing welfare schemes and policies.

Way Forward

- The Human Development Report by United Nation Development Programme (2009) highlights that migration is integral to the process of human development and it plays a very important role in achieving sustainable development goals, thereby preventing migration could even be counterproductive.
- The United Nations Educational, Scientific and Cultural Organization has highlighted that the policies and programs facilitating the integration of migrants at the destination remain weak at best or non-existent and suggested the inclusion and integration of migrants in development.

Hence India needs to formulate migration centric policies, strategies, and institutional mechanisms in order to ensure

inclusive growth and development and reduce distress induced migration, thereby increasing India's prospects for poverty reduction and achieving Sustainable Development Goals.

The government at Centre needs to provide amenities and social securities for the migrant population which is riddled with the issues of inadequate housing; low-paid, insecure or hazardous work; extreme vulnerability of women and children to trafficking and sex exploitation etc. For instance, schemes like Kerala government's Aawaz health insurance scheme, Apna Ghar project -accommodation for migrant workers, Portable Rights- ensures the basic rights to workers in their respective home state, even as they labour in other states.

The 2030 Agenda (with core principle to "leave no one behind," including migrants) for Sustainable Development recognizes for the first time the contribution of migration to sustainable development. 11 out of the 17 Sustainable Development Goals (SDGs) contain targets and indicators that are relevant to migration or mobility. The SDGs' central reference to migration is made in target 10.7, to facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.

Indian Diaspora

The Diaspora encompasses a group of people who can either trace their origins to India or who are Indian citizens living abroad, either temporarily or permanently. It includes Non-Resident Indians (NRIs), Persons of Indian Origin (PIOs) and Overseas Citizens of India (OCI). PIO and OCI card holders were merged under OCI category in 2015.

Overseas Citizen of India (OCI): A person with OCI status is not an Indian citizen. The person does not have voting rights in

India, nor can contest elections or hold any constitutional office. An Overseas Citizen of India is however entitled to some benefits such as a multiple-entry, multi-purpose life-long visa to visit India. They are exempted from police reporting for any length of stay in the country. They are also granted all rights in parity with NRIs except, the right to acquisition of agricultural or plantation properties.

Non-Resident Indian (NRIs): An Indian citizen who is ordinarily residing outside India and holds an Indian Passport. A person is considered NRI if She is not in India for 182 days or more during the financial year Or; If he/she is in India for less than 365 days during the 4 years preceding that year and less than 60 days in that year. Indian example of large scale migration began during the British rule as indentured labourers to former colonies like Fiji, Kenya and Malaysia (also known as Girmitiya people). Today the Indian diaspora numbers over 20 million, reflecting the full multiplicity, variety of the rich social, ethnic and cultural tapestry of the land of its origin.

Importance of Overseas Indian

One of the greatest benefits of engaging with the 30-million-strong Indian diaspora has been in terms of remittances. Remittances close to 69 billion dollar make an invaluable contribution by aiding in socio-economic development, poverty reduction and changes in consumption behaviour in rural areas. NRIs are more prone to donating to domestic charities because of the strong cultural and emotional feelings that they nurse. Diaspora acts as 'agents of change' facilitating and enhancing investment, accelerating industrial development, and boosting international trade and tourism. Another tangible long-term advantage in nurturing ties with an active Diaspora is an accelerated technological sector. A less tangible but important

advantage in having a large emigrant group is “diaspora diplomacy” and they act as “bridge-builders” between their home and adopted countries. Indo-US Civil Nuclear Deal is a case in point, as ethnic Indians in United States successfully lobbied for clinching of the N-deal. The migration of less-skilled labour (especially to West Asia) has also helped in bringing down disguised unemployment in India. Migration of skilled labours to foreign countries and their eventual success bolstered the nation’s image. Diaspora’s motives to invest in India are in contrast to non-diaspora FDI. Their investments are long lasting as many of them wish to establish a long-term base in India.

Indian Diaspora now comprises 6.4% of the total global migrant population. The United Arab Emirates was the top destination of Indian migrants followed by the US, Saudi Arabia, Pakistan and Oman. The count of the Indian disapora has increased 10% from 15.9 million in 2015, making it the largest in the world, according to the UN’s International Migrant Stock 2019 released on Wednesday. It now comprises 6.4% of the total global migrant population. In 1990, India was behind Russia and Afghanistan as a source of international migrants at 6.6 million with Russia sending 12.7 million abroad and Afghanistan 6.8 million. In 2019, Russia fell to the fourth position behind Indian, Mexico and China with 10.5 million migrants.

The United Arab Emirates (UAE) was the top destination of Indian migrants followed by the US, Saudi Arabia, Pakistan and Oman, as per the data set compiled by the UN Department of Economic and Social Affairs Division. Bangladesh was a top source of migrants to India, followed by Pakistan, Nepal, Sri

Lanka and China. In China's case, the top source of migrants were from South Korea, Brazil, Phillpines and Indonesia. The number of migrants from India was not given by the UN though Indian ministry of External Affairs pegs the number at 35,500. The ministry also puts the numbers of non resident Indians and people of Indian origin around the world at 31 million.

"The estimates are based on official national statistics on the foreign born or the foreign population obtained from population censuses, population registered or nationally representative surveys," the UN said in a press statement. Globally, in 2019, the number of international migrants worldwide was nearly 272 million, up from 221 million in 2010 and 174 million in 2000. More than half of all international migrants lived in Europe (82 million) or Northern America (59 million). Women comprised slightly less than half of all international migrants. The share of women in the total number of international migrants fell from 49.3 % in 2000 to % cent in 2019. The share of migrant women varies across regions. In 2019, the percentage of females among all international migrants was highest in Northern America (51.8 %) and Europe (51.4 %). Central and Southern Asia (49.4 %), and Eastern and South-Eastern Asia (49.3 %) hosted an almost equal proportion of female and male migrants.

Europe hosts the largest number of international migrants, at 82 million; followed by North America at 59 million; North Africa and Western Asia host around 49 million migrants. Two thirds of all international migrants were living in just 20 countries with the largest number of international migrants (51 million - equal to about 19% of the world's total) living in the US. Germany and Saudi Arabia hosted the second and third largest numbers of migrants worldwide (around 13 million each),

followed by the Russian Federation (12 million) and the United Kingdom (10 million). The share of international migrants in the total population varies considerably across regions, the data shows, where foreign-born individuals comprise 21 % of the population of the Oceania region (Australia and New Zealand included), and 16 % of all people in Northern America. In 2019, 38 million international migrants, equivalent to 14% of global migrant population, were under 20 years of age. Three out of every four international migrants are of working age (20-64 years) In 2019, 202 million international migrants, equivalent to 74 % of the global migrant population, were between the ages of 20 and 64. More than three quarters of international migrants were of working age in Eastern and South Eastern Asia, Europe and Northern America.

Government Initiative

Government's initiatives towards the diaspora are two-pronged. Firstly non-residents are provided with consular services, protection and outreach activities. At the same time, policies are created to encourage the diaspora to contribute in India's growth through philanthropy, knowledge transfers, and investments in development projects. There is a Memorandum of Understanding (MOU) between the Ministry of External Affairs (MEA) and the Ministry of Skill Development and Entrepreneurship (MSDE) for implementation of the Pravasi Kaushal Vikas Yojana (PKVY).

Pravasi Kaushal Vikas Yojana: The objective of the Scheme is to institutionalize the process of skill development of emigrant Indian workers. Provide them basic knowledge about laws, language and culture of the destination countries for the purpose of overseas employment. The Scheme also aims at capacity building in the country in the area of development of

standards, learning material, assessment standards, testing and certification on par with global standards.

- Indian Government has also launched Scholarship Programme for Diaspora Children (SPDC) under which 100 scholarships per annum are granted to Persons of Indian Origin (PIO) and Non Resident Indians (NRI) students for undergraduate courses.
- Know India Program' (KIP) is a flagship initiative for Diaspora engagement which familiarizes Indian-origin youth (18-30 years) with their Indian roots and contemporary India.
- Under Minimum Referral Wages (MRW), applicable to Emigration Check Required (ECR) countries, India has increased the minimum wages of Indian workers employed as industrial workers, domestic servants, cleaners and labourers.
- E-migrate system requires all foreign employers to register in the database. It ensures the welfare and check on exploitation met to emigrants.
- Indian government has also started Madad Portal to take timely and speedy action on grievances addressed by people living abroad.
- In words of our prime minister, Indian diaspora are our 'Rashtradoots'. He addressed Indian diaspora in different parts of the world from Madison Square, New York to Kigali, Rawanda.
- The Government of India has given several incentives to NRIs for investing their funds in India. They are exempt from several taxes and other charges. NRI seats are reserved in all the medical, engineering and other professional colleges.

- The Representation of the People (Amendment) Bill 2017 the provision would help non-resident Indians (NRIs) to participate in the electoral process. It extends the facility of 'proxy voting' to overseas Indians, on the lines of service voters.

Challenges

Outside India

- Rising incidence of hate speech and crimes against Indian Diaspora by the locals due to racism, communalism emboldened by coming of nationalist and ultra nationalist governments to power in many countries.
- Increasing anti globalization: Fear of losing jobs and educational opportunities to outsiders has resulted in stricter visa rules in many countries including USA, Australia etc.
- Sectarian crisis, increasing terrorist activities and war in the Middle East countries (Yemen, Oman, Libya, Syria etc) leave our diaspora vulnerable to attacks.
- Adverse local laws to encourage more employment from locals such as Nitaqat Law of Saudi Arabia (mandates one local to be hired in place of 10 migrants) has adversely affected prospects of the Indian working class in Saudi Arabia.

In India

- Out Migration results in substantial drop in the supply of professionals for running institutions and organisations in India.
- Remittances are not always used for beneficial purposes. For instance, India faced problems due to

foreign funding for extremist movements like the Khalistan movement.

- The NRIs are not allowed to set up their firms directly in India due to which India is not able to take the advantage of their entrepreneurial skills.
- E-Migrate system and the Minimum Referral Wages policy have been detrimental to India as companies now find it easier to hire labour from countries like Bangladesh and Pakistan.
- Poor schemes coupled with ineffectual implementation hinder the Diasporas' contribution towards the growth of India.

Way Forward

- India should formalise a rotation program wherein top NRI scientists, engineers, doctors, managers and professionals serve Indian public sector organizations for a brief period, lending their expertise, similar to VAJRA Scheme.
- India should aggressively court NRIs to invest in India — especially for projects which focus on rural development — by offering attractive interest rates on deposits.
- India can open a separate Minister-of-State level department for NRI administration - similar to the Veterans' Administration in the US.
- Social media tools have made it easy and inexpensive for Indian Diaspora to stay in touch with family and friends back home, and their link to India has never been stronger. It is time that the Indian government leveraged this strong bond for the greater good of the nation.

Remittance

A remittance is money sent to another party, usually one in another country. The sender is typically an immigrant and the recipient a relative back home. Remittances represent one of the largest sources of income for people in low-income and developing nations. It often exceeds the amount of direct investment and official development assistance. Remittances help families afford food, healthcare, and basic needs. India is the world's biggest recipient of remittances. Remittances bolsters India's foreign exchange reserves and helps fund its current account deficit. Studies show that remittances alleviate poverty in lower- and middle-income countries, improve nutritional outcomes, are associated with higher spending on education, and reduce child labor in disadvantaged households. They are a vital source of income for developing countries. A fall in remittances affect families' ability to spend on these areas as more of their finances will be directed to solve food shortages and immediate livelihoods needs.

India is the world's biggest recipient of remittances. Among countries, the top remittance recipients were India with $79 billion, followed by China ($67 billion), Mexico ($36 billion), the Philippines ($34 billion), and Egypt ($29 billion). In 2019, India is estimated to have received $83.1 billion in remittances from people working overseas, about 12% of the total expected global inflow. International remittances in 2018 (2020 report) reached $689 billion, out of which India received $78.6 billion from the 17.5 million living abroad. Remittances grew by more than 14% in India, where a flooding disaster in Kerala likely boosted the financial help that migrants sent to families. India

received $62.7 billion in 2016 and $65.3 billion in 2017 from remittances. India has registered a significant flow of remittances from USD 62.7 billion in 2016 to USD 65.3 billion 2017.

Recently, the World Bank released a report on the impact of Covid-19 on migration and remittances. According to the report, India's remittances are projected to fall by about 23% in 2020 to $64 billion—a striking contrast with the growth of 5.5 percent and receipts of $83 billion seen in 2019. Globally remittances are projected to decline by about 20% in 2020. The projected fall is largely due to a fall in the wages and employment of migrant workers due to the recession caused by the Covid-19 pandemic. The migrant workers are vulnerable to loss of employment and wages during an economic crisis in a host country. The sharp decline in crude prices will also hurt remittances from oil-producing countries such as Saudi Arabia and the United Arab Emirates. This will lead to loss of income for expatriate Indians working in the Gulf and elsewhere across the world.

Regional Disparity in Growth and Development

Regional development disparity is a continuous developmental challenge for Indian policy makers. NITI Aayog published Three Year Action Agenda, to recommend policy changes and programmes for action from 2017-18 to 2019-20. This document highlighted regional development disparity as critical development issue. Regional disparity refers to difference in economic development and uneven economic achievement in different geographical regions. It is reflected by the indicators like per capita income, the proportion of population living below the poverty line, the percentage of urban population, percentage of population engaged in agriculture vis-à-vis

engaged in industries, infrastructural development of different states.

Taking into consideration the size and diversities in India, the welfare state decided to orient itself towards the goal of balanced regional development in the very beginning of the phase of planned era of development. In the Third Five Year Plan, balanced development of different parts of the country, extension of the benefits of economic progress to the less developed regions and widespread diffusion of industries are the major objectives and the successive five year plans will focus on realizing these aims. The motive should be to create conditions in which resources in terms of natural endowment, skill and capital in each region are fully utilized. In each region the nature of the problem and the impediments to rapid development in particular fields should be carefully studied, and appropriate measures devised for accelerated development. The essential objective should be to secure the fullest possible utilization of the resources of each region, so that it can contribute its best to the national pool and take its due share from the benefits accruing from national development. Therefore, the development of different regions and of the national economy was viewed as parts of a single process.

Need for Balanced Growth: Within democratic polity, growth and prosperity must exhibit regional balance. Thus, a democratic government striving to achieve such balance is axiomatic. India is subdivided into 29 states differing in terms of their productive potential and the type of industry they can support. The realization of their potential holds the key to increasing the competitiveness of the nation as a whole. Regional disparity in development causes challenges like

violent conflicts, unplanned and haphazard migration e.g. Insurgency in North-east and Left wing extremism in large parts of central and eastern states of India. The sustainability of the growth rate and the goal of the country to achieve its development target will be difficult to meet unless India develops as an integrated whole of regional competency.

Causes of Regional Disparity:

- **Historical Factor**: The British government and industrialists developed only those regions of the country which possessed rich potential for prosperous manufacturing and trading activities. Thus port cities like Bombay, and strategically important areas like Calcutta and Madras received initial development. In the absence of proper land reform measures and proper industrial policy, the country could not attain economic growth to a satisfactory level.

- **Geographical Factors**: The difficult terrain surrounded by flood prone areas, hilly terrain, rivers and dense forests leads to increase in the cost of administration, cost of developmental projects, besides making mobilization of resources particularly difficult. Himalayan states like Himachal Pradesh, Northern Kashmir, Uttarakhand, NorthEastern states remained mostly backward due to its inaccessibility and other inherent difficulties.

- **Location Specific Advantages**: Due to some locational advantages like availability of irrigation, raw materials, market, port facilities etc. some regions are

getting special favour in respect of site selections of various developmental projects e.g. oil refineries are mostly located in close to sea.

- **Early Mover Advantage**: New investment in the private sector has a general tendency to concentrate much on those regions having basic infrastructural facilities. Term-lending institutions and commercial banks tend to concentrate investments in the relatively more developed States.

- **Failure of Planning Mechanism**: Local needs; one size fits all approach, lack of adequate resources, poor implementation of plans, lack of planning capacity at state level reduced capacity of Planning Commission to ensure balanced development.

- **Restricted Success of Green Revolution**: Green revolution improved the agricultural sector to a considerable extent through the adoption of new agricultural strategy of high yielding variety seeds, assured irrigation, provision of technical knowhow etc. However, the benefit of green revolution were restricted to Punjab, Haryana and western Uttar Pradesh as this belt had advantage of irrigation facilities, were traditionally wheat growing states, with adequate policy support from State Governments which other areas lacked and couldn't reap benefits of Green Revolution.

- Law and Order Problem Extremist violence, law and order problem etc. have been obstructing the flow of

investments into backward regions besides making flight of capital from backward states

- **Intra Regional Disparity**: An important aspect of regional disparities in India is the significant level of disparities, which exist within different States. For example, Vidarbha in Maharashtra, Saurashtra in Gujarat. Demand for and creation of some of the States in the past in the wake of popular agitation was based on perceived neglect of certain backward regions in some of the bigger states such as creation of Andhra Pradesh and Gujarat in the fifties and creation of Punjab, Haryana and Himachal Pradesh in the sixties. In each State specific reasons exist for backwardness of regions within states e.g. the major cause of backwardness of Vidarbha and Marathwada in Maharashtra and Northern Karnataka is the scarcity of water. Backwardness of certain regions in Gujarat, Madhya Pradesh, Bihar and Orissa can be associated with the distinct style of living of the inhabitants who are mostly tribals and the neglect of such regions by the ruling elite.

Magnitude of Regional Imbalances in India

Though regional disparities in level of economic development between different parts of the country are clearly visible, an exact measurement of these is a rather difficult task. The most important problem in this regard is that of indicators and relative importance or weightage given to various indicators. Differences in per capita income are often used to bring out disparities in different states. There are several other indicators

also such as industrial growth, agricultural growth, level of literacy, poverty ratio, percentage of industrial workers to total workers, total road length, infant mortality rate etc., that can be taken into consideration for measurement of level of development.

Growth of State Domestic Product (SDP)

The growth of State Domestic Product, as Net State Domestic Product (NSDP) and Gross State Domestic Product (GSDP), is the single most important macro economic indicator of development for inter-state comparisons (Table.1.10). In the nineteen sixties, the highest economic growth rates were recorded by the erstwhile unified Punjab and adjoining areas (now Himachal Pradesh, Punjab and Haryana). The success of green revolution played a significant role in this. In this decade, Bihar was the slowest growing State economy recording just 0.7 per cent growth, which implied a decline in per capita income (-1.3 per cent) because the population was growing at higher and increasing rates. Uttar Pradesh, Rajasthan, Madhya Pradesh and Andhra Pradesh recorded less than 2 per cent growth.

Table.1.10: Trends of Rates of Growth of NSDP and GDSP in Selected States

States	1960-61 to 1969-70 (NSDP)	1970-71 to 1979-80 (NSDP)	1980-81 to 1990-91(GSDP)	1993-94 to 1998-99 (GSDP)
Goa	NA	6.1	5.5	8.3
Punjab	5.6	5.4	5.4	5.0
Haryana	5.5	4.8	6.2	5.8
Maharashtra	2.9	5.7	6.0	7.1
Gujarat	2.7	4.5	5.1	8.0

All India	3.0	3.6	5.6	6.8
Bihar	0.7	2.8	4.7	4.2
Uttar Pradesh	1.6	2.6	4.9	4.5
Madhya Pradesh	1.5	1.3	4.0	4.4
Assam	4.0	3.0	3.6	2.7

In the seventies, the pattern of rates of growth changed marginally. Along with Punjab, Haryana, Jammu & Kashmir, the western States of Maharashtra and Gujarat, and the southern States of Karnataka and Tamil Nadu began to register higher rates of growth. Madhya Pradesh (-1.0) and Kerala (-0.2) were at the bottom with negative real per capita income growth in this period. The national average rate of economic growth increased from the 3.6 per cent of the seventies to 5.6 per cent in the eighties. The inter-state disparities were lowest during the eighties. The standard deviation of NSDP was 1.71 as compared to 2.2 of the seventies. In eighties, the inter-state difference for the rates of growth was 4.0 percentage points between the highest for Delhi (7.6 per cent) and lowest for Assam (3.6 per cent).

During nineties, the national average rate of economic growth picked up from 5.6 percent of eighties to 6.8 percent. But the inter-state variation increased with a standard deviation of 3.1 and the highest (Goa 8.3 per cent) and the lowest (Assam 2.7 per cent) difference of economic growth rates was recorded as 5.6 per cent. During nineties Punjab and Haryana recorded slower rates of growth as compared to the earlier decades, whereas Karnataka, Gujarat, Tamil Nadu, Maharastra, Rajasthan and West Bengal recorded much higher growth. Nineties onwards till date the trend shows a widening of the

gap between the more and less developed States. The liberalization, globalization and privatization as new economic reforms have resulted into more investments in areas which are forward and backward areas have failed to attract investments.

Table.1.11 : Disparity in Growth amongst States/UTs

Period	Measure of Disparity in Growth (Standard Deviation)	
	NSDP	Per capita NSDP
1970-71 to 1979-80	2.22	1.81
1980-81 to 1990-91	1.71	1.02
1993-94 to 1998-99	3.13	2.40

Source: Central Statistical Organisation.

Per Capita Income

For regional disparities, economists have used per capita income as a good measure and indicator of level of development. Based on per capita income there are wide inter-state income inequalities in India (Table.1.12). In the Tenth Five Year Plan, the States were divided into following four categories because of per capita GSDC. The first three categories group the general category States into five States each, based on their per capita GSDP. Group A comprises high income States, which include Goa, Punjab, Maharashtra, Haryana and Gujarat. Group B includes middle income States of Tamil Nadu, Kerala, Karnataka, Andhra Pradesh and Rajasthan. Group C comprises low income States of West Bengal, Madhya Pradesh, Orissa, Uttar Pradesh and Bihar (Madhya Pradesh, Uttar Pradesh and Bihar reflect their undivided status). Group D comprises all the special category States (excluding Uttarakhand).

Table.1.12: Per Capita Income (In Rs. measured as per capita NSDP), 2014-15

State/UT	Per Capita Income	State/UT	Per Capita Income
Arunachal Pradesh	103633	Mizoram	85659
Assam	54618	Nagaland	78526
Bihar	31380	Odisha	64869
Chhattisgarh	78001	Punjab	114561
Goa	242745	Rajasthan	76881
Gujarat	124678	Sikkim	210394
Haryana	148485	Tamil Nadu	130197
Himachal Pradesh	124500	Telangana	125832
Jammu & Kashmir	62857	Tripura	71666
Jharkhand	56737	Uttar Pradesh	43861
Karnataka	132880	Uttarakhand	134784
Kerala	139195	West Bengal#	78903
Madhya Pradesh	56182	Andaman & Nicobar Islands	121954
Maharashtra	134081	Chandigarh	225369
Manipur	52436	Delhi	249004
# West Bengal at base year 2004-05, others 2011-12.		Puducherry	158830

Source: Press Information Bureau, Government of India, Ministry of Statistics & Programme Implementation, 03-August-2017.

Income inequalities in have intensified over the period of time (Table.1.13). The States like Bihar, Uttar Pradesh, Madhya

Pradesh, Assam and Odisha have maintained position in the category to low income states and likewise the States like Goa, Haryana, Punjab, Maharashtra and Gujarat have maintained their position in category of high-income states. The levels of incomes have increased in all states and UTs. The per capita income of Bihar increased about 13.57 times between 1989-90 and 2014-15 and of Assam, 14.67 times. However, the per capita income of high income states has increased at a faster pace. For instance, during this period the per capita income increased 23.87 times and 30.38 times for Haryana and Goa states, respectively. In 1960- 61 the per capita income of Bihar was 65 percent of the per capita income of Haryana, in 1970-71 it was 46 percent, in 1980-81, it was 40 percent, in 1992-93 it was 33.17 percent and by 2014-15 it became just 21 percent of the per capita income of Haryana. Thus, income inequalities have intensified in India. In 2005, the share of the 20 percent richest families of India in consumption expenditure was 42.4 percent whereas the poorest 20 percent families share was only 8.6 percent. Income inequalities have further increased between 2004-05 and 2009-10 and it is reflected by Gini coefficient values. The Gini coefficient values for rural areas increased in this period from 0.27 to 0.28 and in urban areas from 0.35 to 0.39. In 2011-12, the consumption expenditure of richest 10 per cent families was seven times of the poorest 10 per cent families. In urban areas this difference was eleven times. Therefore, it is clear that inter-state, intra-state, inter personal and rural urban income inequalities have increased in this era of planned development.

Table.1.13: Income Inequalities in Selected States of India, 1989 - 2015

States	1989-90	1992-93	2014-15

Bihar	2312	2998	31,380
Assam	3723	4973	54,618
Haryana	6233	9037	1,48,485
Goa	7988	12,800	2,42,745

Source: Press Information Bureau, Government of India, Ministry of Statistics & Programme Implementation, 03-August-2017.

Disparities in Industrial Growth

The interests of the British rulers determined the initial distribution of industries in India. Most of the industries were concentrated at a few centers that had an efficient link to the ports. This pattern continued after independence also. A study of 28 large-scale manufacturing industries in India in 1950 showed the dominance of the western region and West Bengal in the distribution of industries. About 34.6 per cent of the total productive capital was concentrated in western region and it was followed by West Bengal accounting for 24.65 percent of the productive capital, making their combined share 59.25 percent. These two regions accounted for 63.03 percent of total industrial employment, 60.41 percent of gross ex-factory value of output, and 63.95 percent of value added by manufacturing.

Industrialization has been recognized as an important policy measure to accelerate economic growth in backward regions and to progressively reduce regional imbalances. In 1969, the Planning Commission constituted ‘Pandey Working Group’ to suggest criteria for identification of industrially backward states and backward districts in such states. Pandey Committee on the basis of following six variables identified the industrially backward regions - (i) per capita income, (ii) per capita income from mining and industrial sources, (iii) number of workers

register in industries, (iv) per capita consumption of electricity in industries, ((v) length of surfaced roads in relation to population and the area of the State; (vi) railway mileage in relation to the population and area of the State. On the basis of these variables the Working Group identified Andhra Pradesh, Assam, Bihar, Madhya Pradesh, Jammu and Kashmir, Nagaland, Odisha, Rajasthan and Uttar Pradesh and all union territories, except Chandigarh, Delhi and Puducherry, as industrially backward. Subsequently, Meghalaya, Himachal Pradesh and Sikkim were added in this list. The Committee identified 238 districts in these states as industrially backward regions of India. Later on within the frame work of the Industrial Policy Statement of 1980, 286 districts were identified as industrially backward districts. These were sub-divided (i) Category A (very highly backward) consists of 118 districts (including 87 'No Industry Districts'); (ii) Category B (highly backward) consists of 55 districts; and category C (backward) consists of 113 districts. In another survey the Planning Commission (1983) recognized 279 districts as industrially backward as – 131 marginally developed, 55 slightly developed and 113 most backward.

The Ministry of Finance (1994) under the Chairmanship of MK Kaw constituted a study group for identification of the backward districts. On the basis of its report the scheme for providing tax concession to 123 industrially backward districts became effective from 1994 and remained in force until 2005. The 10th Five Year Plan adopted a new approach to deal with the issue of regional disparities. The creation of Backward Region Grant Fund (BRGF) in 2005-06 subsumed the ongoing programme of addressing regional imbalances. In the Eleventh Five Year Plan 272 districts were covered under the BRGF.

The Industrial Infrastructure Upgradation Scheme (IIUS) and Industrial Corridor schemes such as the Delhi-Mumbai Industrial Corridor (DMIC) and Chennai-Bengaluru-Chitradurga Industrial Corridor (CBCIC), the Vizag-Chennai Industrial Corridor, the Amritsar-Kolkatta Industrial Corridor and Bengaluru-Mumbai Economic Corridor are major initiatives to develop manufacturing cities and industrial clusters and accelerate industrial growth and improve investment opportunities and to overcome regional imbalances in industrial development.

Although time-to-time, many studies have been conducted to identify the industrially backward areas of India and to suggest measures for their development but industrialization has remained more or less concentrated mainly in six major industrial complexes of India. The pattern of industrial concentration has not changed much during the planned period despite attempts made at regional dispersal of industries. Considering the three industrially advanced States of Maharashtra, Gujarat and Tamil Nadu together, they accounted for 44.7 percent of gross output, 44.3 percent of value added, 45.2 percent of total invested capital, and 38.3 percent of employment in factory sector. As against these numbers, these three states were home to only 20.2 percent of total population of the country as per Census of India 2011. Thus more than two fifths of the total output, value added and fixed capital and a little less than two- fifths of total employment in factory sector is accounted for only by these three states. This indicates the degree of regional concentration of the industrial activity in the country.

The physical and anthropogenic reasons are responsible for industrial backwardness of many parts of the country. The major causes for industrial backwardness are following – (i) physical factors such as topography, extremes of rainfall - aridity and heavy rainfall regions; (ii) economic – mainly lack of mineral and energy resources and poverty; (iii) socio-cultural – low level of literacy, unskilled work force and lack of entrepreneurial skills; (v) lack of infrastructural facilities such as transportation, communication, electricity and raw materials; (vi) demographic – population explosion, high fertility rates, ethnic tensions; (vii) lack of political will power and vision, insecurities, corruption and vote bank politics.

Disparities in Agricultural Development

Regional disparities exist in this regard too and they have increased over time. The states of Punjab and Haryana and western parts of Uttar Pradesh are well ahead of the rest of the regions. This is largely a result of the success of the programme of High Yielding Varieties (HYVP) of seeds in these states. This programme was introduced in the wheat growing states to begin with and these states were benefited to the greatest extent. Due to the introduction of the HYVP, the combined share of Punjab and Haryana in total output of food grains rose from 7.5 percent in 1964-65 to 17.8 percent in 2003-04. The share of national population living in these states is a mere 4.4 per cent. The per capita output of food grains (2003-04) was 978.3 kg in Punjab, which was about five times the national average. The per capita output of food grains in Haryana was 594.9 kg, about three times the national average. The third ranking state, Uttar Pradesh had a per capita output of food grains amounting to 251.2 kg. Madhya Pradesh with a per capita output of kg ranked fourth in this regard. Thus, the per

capita output in Punjab was about four times the per capita output in the third ranking State. The high productivity of agriculture in Punjab and Haryana is largely green revolution based on irrigation facilities, high consumption of chemical fertilizers, better quality seeds and mechanization of agriculture. In 2013-14, the agricultural productivity in main crop rice, Punjab recorded 3952 kg per hectare output followed by Haryana (3255 kg) and Tamil Nadu (3100 kg) but it was only 1759 kg per hectare in Bihar and 1474 kg in Madhya Pradesh. Likewise, in case of wheat, Punjab recorded 5017 kg per hectare productivity but Chhattisgarh recorded only 1303 kg per hectare output. It means the regional disparities created by green revolution still prevail in India.

Poverty

The growth performance of States based on structural changes in primary, secondary and tertiary sectors have crucial implications in reducing the share of population below poverty line (BPL). The National Sample Survey based estimates show that the percentage of population below the poverty line has declined from 54.88 percent in 1973-74 to 26.1 percent in 1999-2000 for India as a whole. There are wide variations in the level and trends of poverty in States (Table.1.14). It is noteworthy that overall trend represents decline in share of population below poverty but inter- state variations have increased. For instance, in 1973-74 the BPL share in Bihar was 2.2 times the share in Punjab and in 2011-12; it is four times of share in Punjab. States like West Bengal and Kerala have seen tremendous improvements in poverty levels due to expansion of social opportunities by land reforms and human development processes. The increase in share of BPL population between

1999-00 and 2004-05 is due to change in the criteria for poverty line determination by Tendulkar Committee.

Table.1.14: Trends of Population Below Poverty Line, 1973-2005

States	1973-74	1983-84	1993-94	1999-2000	2004-05#	2011-12#
Jammu & Kashmir	40.83	24.24	25.17	3.48	13.2	10.35
Goa	44.26	18.90	14.92	4.40	25.0	5.09
Punjab	28.15	16.18	11.77	6.16	20.9	8.26
Haryana	35.36	21.37	25.05	8.74	24.1	11.16
Kerala	59.79	40.42	25.43	12.72	19.7	7.05
West Bengal	63.43	54.85	35.66	27.02	34.3	19.98
Assam	51.21	40.47	40.86	36.09	34.4	31.98
Madhya Pradesh	61.78	49.78	42.52	37.43	48.6	31.65
Bihar	61.91	62.22	54.96	42.60	54.4	33.74
Odisha	66.18	65.29	48.56	47.15	57.2	32.59
India	54.88	44.48	38.86	26.10	37.2	21.92

Source: Planning Commission, based on NSS and # based on Tendulkar Committee.

As per Tendulakar method the poverty ratio in 1993-94 was 50.1 percent for rural areas, 31.8 per cent for urban areas and overall ratio was 45.3 percent. In 2011-12 the overall poverty ratio was 21.9 percent and for rural areas 25.7 percent and for urban areas 13.7 percent. Therefore, inter-state and rural urban poverty ratio differentials have increased. In 2019, the Indian government stated that 6.7 percent of

its population is below its official poverty limit. ... In 2014, the Rangarajan Committee said that the population below the poverty line was 454 million (38.2 percent of the population) in 2009-2010 and was 363 million (29.5 percent of the population) in 2011–2012.

Infant Mortality Rate

Improvement in the health status of the population has been one of the major goals of this planned era of development that too with special focus on under developed states and under-privileged sections of the society. Infant mortality rate (IMR) is a sensitive indicator of not only health status but also of the level of human development in the context of education, economic conditions and nutrition status. All states have registered declining infant mortality rates over the period 1961 to 2015, yet some states have done better than the others (Table.1.15). For instance, in Madhya Pradesh IMR was 150 which means deaths of 150 infants i.e. children up to one year age out of 1000 live births, and it declined to 50 by 2015 that is became one-third of the previous level. In case of Goa it declined from 57 in 1961 to 9 by 2015, that is about one-sixth of the previous level. The IMR is high even in the high income state Haryana and it is four times of IMR in Goa. Similarly, in case of BPL share the industrialized states of Maharashtra and Gujarat fair poorly.

Table.1.15: Infant Mortality Rates

State	1961	1981	2001	2011	2015
Odisha	115	125	98	57	46
Madhya Pradesh	150	133	97	59	50
Uttar Pradesh	130	99	85	57	46

Rajasthan	114	87	83	52	43
Assam	NA	92	78	55	47
Bihar	94	75	67	44	42
Haryana	94	69	52	44	36
Kerala	52	42	16	12	12
Goa	57	51	36	11	9
India	115	77	71	44	37

Source: Sample Registration System, 2016.

Government Interventions to Reduce Regional Disparities

Higher resource transfers from the Centre to the Backward States via; Planning Commission (before 2014) mainly in the form of plan transfers, and Finance Commission in the form of non-plan transfers. Since 1969 a Special Category status was introduced which was in operation till 13 Finance commission to provide greater percentage of grants to such states from Centre. The large weight given to "Income Distance" by 14th Finance commission is an important step towards plugging the gaps in per-capita income between states.

Development Programmes: Programmes of agriculture, community development programme, Drought Prone Areas Programme, irrigation and power, transport and communications and social services aimed at providing basic facilities and services to people in all the regions. Provision of Facilities in Areas which Lag Behind Industrially River valley projects and multi-purpose projects e.g. Narmada Dam for dry parts of Gujarat and Madhya Pradesh, proposed Ken-Betwa inter river link project for Bundelkhand region etc. Programmes for the Expansion of Village and Small Industries Village and small industries are spread all over the country and various forms of assistance provided by the Central and State

Governments are made available in the areas according to programmes undertaken. Industrial estates have been set up in all States, and increasingly, they are being located in smaller towns and rural areas.

Diffusion of industrial activity and infrastructure: In the location of public sector projects, the claims of relatively backward areas have been kept in view wherever this could be done without giving up essential technical and economic criteria. For North east region East West Corridor project, Special Accelerated Road Development Project (SARDP-NE) and Trans Arunachal Highway for increasing connectivity. There is an on-going major rail construction programme in the NER. 25 rail projects are under way in the region of which 11 are national projects. Subsidies, exemptions and tax breaks given to industries for investing in backward regions. For instance North East Industrial and Investment Promotion Policy (NEIIPP 2007) for Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura; Special Package Scheme for Himachal Pradesh, Uttarakhand and J&K.

Schemes for Development of Backward Areas: The Backward Region Grant Fund (BRGF) is a Programme implemented in 272 identified backward districts in all States of the country to redress regional imbalances in development. BRGF consists of two funding window namely Development Grant and Capacity Building. Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) has been launched in September 2015 for the welfare of tribals and tribal areas and other affected by mining.

Competitive Federalism: Competitive federalism means spirit of competition among two or more states in the matters of trade, investment and commerce. States compete with each other to attract funds and investment, which facilitates efficiency in administration and enhances developmental activities.

Way Forward: India's geographical diversity and different levels of development across regions mean that location specific targeted action would be required in less prosperous regions to ensure that a minimum acceptable level of prosperity. There is need to invigorate civil society in these areas as it is now well accepted in developmental studies that the region with higher social capital tends to develop more rapidly and sustainably. NITI Aayog's Three Year Action Agenda underlines the specific action for North Himalayan states, North-Eastern states, Coastal regions and Islands and Desert & Drought prone areas this action plan should be diligently implemented.

Poverty in India

Prior to 1990s when India was a closed economy, the public distribution system provided necessary resources to all the citizens. However, due to the financial constraints and policy changes after the commencement of Globalisation in India, the government provided necessary resources to the target population i.e., those who deserve the governmental assistance. This lead to the Government's adoption of the Targeted Public Distribution System. That is, the Government provided subsidised food to those who belong to Below Poverty Line. It is difficult to give the exact definition of poverty as it has numerous causes and characteristics. It differs from nation-

nation, urban-rural etc. in other words, the definitions of poverty is based on perspectives. However, the general idea is that when an individual has lesser accessibility and affordability to certain essential like food, clothes, a place to live, healthcare, education etc., then he is said to be living in poverty. The UN and the World Bank calculate poverty through Purchasing Power Parity and nominal relative basis. Therefore the poverty estimation differs during varying perception.

Estimation of poverty in British India:

In India, the first-ever Poverty estimation was done by Dadabhai Naoroji in 1901 which was published in his book "Poverty and Un-British Rule in India". The National Planning Committee of 1936 has estimated poverty in India during the Colonial rule. It calculated poverty linking nutrition, clothing and housing. This method was used in Independent India also. The poverty estimation by the National Planning Committee showed a grim picture of British India's Economy.

- Estimation of poverty in Independent India: A working group was set up in 1962 to estimate the poverty line of the country. This estimation was based on minimum calories required to survive and the cost estimates of the minimum calories in Rural India. According to this, the average poverty line is Rs.20 per month, based on 1960-61 prices.

    - Alagh Committee: Until 1979, poverty was calculated based on the income of the citizens. In 1979, based on the recommendation by a committee headed by Y K Alagh, poverty was estimated based on the calories consumed by the population. According to the committee, poverty estimation differs in rural and urban areas. In the rural area, if a resident consumes

less than 2400 calories per day, then he/ she belongs BPL population. In an urban area, if a resident consumes less than 2100 calories per day than he/she suffers from poverty. This is an assumption that the urban population need lesser calories as they are not involved in physical works like that of the rural population. The Alagh committee was the first in India to define the poverty line.

- Lakdawala Formula: This was proposed by Lakdawala Committee that was headed by D.T.Lakdawala. This is also based on household per capita expenditure. Lakdawala committee used the same method used by the Alagh committee. However, it included certain criteria that were missing in the later. Health and education were considered during the estimation. This committee used CPI-IL (Consumer price index for Industrial Labourers) and CPI-AL (Consumer price index for Agricultural labourers) to determine the poverty line. In this method, the average of the minimum necessary per capita household expenditure is calculated to estimate the poor. The obtained value is the base for the poverty line and anyone who lives in a household with per capita expenditure lesser than the obtained average belongs to the BPL. Through this method, it was estimated that 36% of the population were BPL in 2004-2005 and 22% of the population under BPL in 2011. Poverty in India was estimated using this method until 2011.

- Suresh Tendulkar Committee: This committee was set up by the Planning commission in 2005. The methods

recommended by this committee are used in the current times. It urged the shift from calorie based model and inclusion of monthly expenditure on education, health, electricity and transport. It introduced the new term "Poverty Line Basket" to determine and estimate poverty. It called for the uniformity of poverty line basket for both urban and rural areas. If a person does not have access to any of the goods mentioned under the poverty basket than he/she is suffering from poverty. This method uses the cost of living as the basis for identifying poverty. However, the resulted estimation was very low and resulting in public outcry. This lead to the formation of Rangarajan Committee.

- Rangarajan Committee: Formed in the year 2012, this committee was chaired by Rangarajan. This too adopted calorie based calculation of the poverty level. This had limitations as it calculated only the absolute minimum necessities. This did not include comfortable living standards as a necessity.

The above cases show the complexity and difficulty in the determination of the poverty line. The Indian government still haven't found a solid solution to estimate the poverty level of the country. The task was given 14 member task force headed by NITI Aayog vice-chairman, Aravind Panagaria. They too have failed and have recommended setting up of a new specialized panel to debate the issue.

Causes of Poverty in India

Colonial exploitation: India under the colonial hegemony was forced to de-industrialize resulting in increased raw material production and a decrease in the export of value-added goods like the traditional handicrafts and textiles. The natives were

forced to buy the British goods, thus discouraging them from manufacturing indigenously. This led to massive unemployment. The droughts, diseases and other increased the plight of the Indians during that time.

Increase in the population: the rapid increase in the population due to a decrease in the mortality rate and an increase in the birth rate can be of an asset for the Indian economy. However, in the present scenario, this is turning out to be a liability due to massive unemployment and an increase in the dependence on those working population. The massive population must be converted to human capital to promote the growth of the economy.

Natural Calamities: In India, the maximum of the population who belong to BPL is from states of Bihar, Jharkhand, Odisha, Madhya Pradesh, Chattisgarh, Uttar Pradesh and Uttarakhand. The reason behind this is that these states are prone to natural disasters and also most of the population in these states are from SC/STs thus making them unrepresented. The natural calamities in these states hamper agricultural progress and economic development of these states.

The rise of unorganised sectors: many sectors in the Indian economy are unorganized. This brings in the problem of labour exploitation. The increase in demand for work also causes job insecurities.

Failing Agricultural sector: the agricultural sector is one of the most vulnerable sectors of the Indian economy. Farmer suicides and protests are on the rise due to the increasing debt and decrease in production. This, in the long run, would result in them suffering from poverty. This sector employs a maximum of the Indian population but provides little profit.

Lack of investment: The investment provides more job opportunities. For this, the Indian economy must be favourable

for foreign investment. However, some parts of India remain unfavourable due to corruption, political instability, militancy etc.

Social factors: Illiteracy, unrepresented minorities, social norms, caste systems are still prevalent in certain parts of India.

Lack of skilled labour: the population can be an asset to the economy if they are utilized efficiently. This can be done through human capitalization. Measures to improve the literacy of the population are very slow. Some, due to the lack of sufficient skills are not accepted in the workforce. This results unemployment and poverty.

Corruption: Many measures have been taken by the government to eliminate poverty. However, there is still a lack of political will. The corruption by those in power also contributes to poverty.

Inefficient use of resources: India is a country that has abundant natural resources which, if utilized efficiently, without wastage, can be turned into an asset.

Lack of entrepreneurship: There are many activities in India which can be of asset to the economy. For example, some tribes have rich art and culture which can be utilized for the tribes' growth and development through proper entrepreneurship. However, due to lack of leadership and entrepreneurial skills, they go waste. The tribes remain one of the most vulnerable sections of Indian society.

Lack of infrastructure: Many parts of India still remain isolated despite the rapid economic growth. There are several villages in India which still doesn't have access to basic commodities like electricity, thus resulting in poor standards of living. They don't even have proper roads or railways. Their contribution to the economy goes waste due to the inaccessibility.

The measures taken by the government to alleviate poverty

Swarnajayanti Gram Swarozgar Yojana: It was launched on April 1, 1999. This program merged Integrated Rural Development Program, Training of Rural Youth for Self Employment (TRYSEM), Development of Women and Children in Rural Areas (DWCRA), Million Wells Scheme (MWS), Supply of Improved Toolkits to Rural Artisans (SITRA) and Ganga Kalyan Yojana. Its objective is to alleviate the beneficiaries from BPL. It helps promote self-employment of the rural poor. The fund sharing between the Centre and the State is at the ratio of 75:25. This scheme aims at working in clusters to provide inclusive and effective aid to the rural poor. The rural poor are organized into SHGs to provide training, capacity building and providing assets to generate income. This scheme was renamed as National Rural Livelihood Mission in 2011.This was finally merged to Deen Dayal Upadyaya Antyodyaya Yojana to provide skills training for the poor. This scheme also provides subsidies and shelters for the homeless. The vendor markets are developed to promote job in the rural areas.

Jawahar Gram Samriddhi Yojana: This scheme replaced the erstwhile Jawahar Rozgar Scheme. It was launched in April 1999 to generate employment in rural areas through infrastructure development.

Pradhan Mantri Awaas Yojana: It has two components: Pradhan Mantri Awaas Yojana (Grameen) and Pradhan Mantri Awaas Yojana (Urban). It was launched in 2015. It unites schemes like Ujjwala yojana (provides LPG to BPL), access to toilets, water, drinking water facilities and Saubhagya Yojana (electricity).

Mahatma Gandhi National Rural Employment Guarantee Act,2005: Launched in February 2,2005. It provides 100 days guaranteed employment to rural households. 1/3rd of the jobs reserved for women. If the jobs are not available for the applicants, and they were without jobs within 15 days, then they will be given unemployment allowance. This guarantees employment opportunity to the rural population and accountability of the government. Under this, National Food for Work, which was launched in 2004 was subsumed in 2006.
The National Food for Work provided additional resources and assistance that are absent under Sampoorna Grameen Rozgar Yojana. Under this program, 150 districts were identified as backward by the Planning Commission. They were the beneficiaries of this program. Food security, employment through need-based social, economic and community assets
Pradhan Mantri Kaushal Vikas Yojana: Launched by Ministry of Skills Development and Entrepreneurship in 2015. It is a scheme aimed at enhancement of skills based on the demand of the economy. This scheme is implemented through Nation Skill Development Corporation (NSBC). Training and assessment fees are paid by the government. The training provided under this scheme is based on National Skill Qualification Framework and industry-level standards. The beneficiaries include college graduates and school/ college dropouts.
Rythu Bandhu Scheme: This was a scheme implemented in Telangana to provide financial assistance of Rs.4000 per acre per season to all land-owning farmers.
Pradhan Mantri Kisan Samman Nidhi: This scheme aims to provide the financial assistance to provide working capital support to all the land holding farmers. This brings in the idea of universal basic income for the farmers in India.

The 2019 Global Multidimensional Poverty Index published by the UN Development Program has estimated that multidimensional poverty in India has fallen by 27.5% between 2005-06 and 2015-16. Multidimensional poverty means the estimation of poor not only based on income but also several factors such as poor health, poor working conditions etc. According to World Poverty Clock, close to 44 Indians are escaping from extreme poverty each minute. As of 2011, 21.9% of the Indian population belong to below poverty line. The unemployment rate is at 6.1% according to NSSO. This is a huge problem as unemployment is the direct cause of poverty in the country. The recent years saw the rapid increase in infrastructural developments like roads and housing projects for the alleviation of the poor. This might help boost investments in the country increasing job opportunities.

Way Forward: The government must provide transparency and accountability of various organisations that are responsible for the implementation of the Welfare Schemes. The infrastructure development and skills development must be made a top priority. The problem of inability to determine the poverty line must be resolved to help the target population. Direct income transfer to the needy is an immediate solution. Universal Basic Income should also be considered. Investment in Agriculture by the government is necessary to decrease rural poverty. Subsidies address only short-term issues. Also, there is a need to develop technologies, with the help of which farmers can practice all- weather agriculture.

Unemployment in India

Unemployment occurs when a person who is actively searching for employment is unable to find work. Unemployment is often

used as a measure of the health of the economy. The most frequent measure of unemployment is the unemployment rate, which is the number of unemployed people divided by the number of people in the labor force. The unemployment rate in India rose to 7.2 percent in February 2019, the highest since September 2016, and also up from 5.9 percent in February 2018, according to the latest data compiled by the Centre for Monitoring Indian Economy (CMIE). Labour Participation Rate defines that section of working population in the economy which is currently employed or seeking employment.

National Sample Survey Organization (NSSO) defines employment and unemployment on the following activity statuses of an individual:

- Working (engaged in an economic activity) i.e. 'Employed'.
- Seeking or available for work i.e. 'Unemployed'.
- Neither seeking nor available for work.

The first two constitutes labour force and unemployment rate is the percent of the labour force that is without work. Unemployment rate = (Unemployed Workers / Total labour force) × 100

Types of Unemployment in India

Disguised Unemployment: It is a phenomenon wherein more people are employed than actually needed. It is primarily traced in the agricultural and the unorganized sectors of India.

Seasonal Unemployment: It is an unemployment that occurs during certain seasons of the year. Agricultural labourers in India rarely have work throughout the year.

Structural Unemployment: It is a category of unemployment arising from the mismatch between the jobs available in the

market and the skills of the available workers in the market. Many people in India do not get job due to lack of requisite skills and due to poor education level, it becomes difficult to train them.

Cyclical Unemployment: It is result of the business cycle, where unemployment rises during recessions and declines with economic growth. Cyclical unemployment figures in India are negligible. It is a phenomenon that is mostly found in capitalist economies.

Technological Unemployment: It is loss of jobs due to changes in technology. In 2016, World Bank data predicted that the proportion of jobs threatened by automation in India is 69% year-on-year.

Frictional Unemployment: The Frictional Unemployment also called as Search Unemployment, refers to the time lag between the jobs when an individual is searching for a new job or is switching between the jobs. In other words, an employee requires time for searching a new job or shifting from the existing to a new job, this inevitable time delay causes the frictional unemployment. It is often considered as a voluntary unemployment because it is not caused due to the shortage of job, but in fact, the workers themselves quit their jobs in search of better opportunities.

Vulnerable Employment: This means, people working informally, without proper job contracts and thus sans any legal protection. These persons are deemed 'unemployed' since records of their work are never maintained. It is one of the main types of unemployment in India.

Measurement of Unemployment in India

National Sample Survey Office (NSSO), an organization under Ministry of Statistics and Programme Implementation (MoSPI) measures unemployment in India on following approaches:

Usual Status Approach: This approach estimates only those persons as unemployed who had no gainful work for a major time during the 365 days preceding the date of survey.

Weekly Status Approach: This approach records only those persons as unemployed who did not have gainful work even for an hour on any day of the week preceding the date of survey.

Daily Status Approach: Under this approach, unemployment status of a person is measured for each day in a reference week. A person having no gainful work even for 1 hour in a day is described as unemployed for that day.

Unemployment stats (based on findings from CMIE's latest data):

The unemployment rate in India rose to 7.2 percent in February 2019, the highest since September 2016, and up from 5.9 percent in February 2018. The total number of employed persons in February 2019 is estimated at 400 million against 406 million in the year-ago period and 407.5 million employed in February 2017. The labour participation rate fell from 43.2% in January 2019 to 42.7% in February 2019.

Causes of Unemployment

- Large population.
- Low or no educational levels and vocational skills of working population.
- Inadequate state support, legal complexities and low infrastructural, financial and market linkages to small/ cottage industries or small businesses, making such enterprises unviable with cost and compliance overruns.
- Huge workforce associated with informal sector due to lack of required education/ skills, which is not captured

in any employment data. For ex: domestic helpers, construction workers etc.

- The syllabus taught in schools and colleges, being not as per the current requirements of the industries. This is the main cause of structural unemployment.
- Inadequate growth of infrastructure and low investments in manufacturing sector, hence restricting employment potential of secondary sector.
- Low productivity in agriculture sector combined with lack of alternative opportunities for agricultural worker which makes transition from primary to secondary and tertiary sectors difficult.
- Regressive social norms that deter women from taking/continuing employment.

Impact

- The problem of unemployment gives rise to the problem of poverty.
- Young people after a long time of unemployment indulge in illegal and wrong activities for earning money. This also leads to increase in crime in the country.
- Unemployed persons can easily be enticed by antisocial elements. This makes them lose faith in democratic values of the country.
- It is often seen that unemployed people end up getting addicted to drugs and alcohol or attempts suicide, leading losses to the human resources of the country.
- It also affects economy of the country as the workforce that could have been gainfully employed to generate resources actually gets dependent on the remaining working population, thus escalating socioeconomic

costs for the State. For instance, 1 percent increase in unemployment reduces the GDP by 2 percent

Steps Taken by Government

- Integrated Rural Development Programme (IRDP) was launched in 1980 to create full employment opportunities in rural areas.
- Training of Rural Youth for Self-Employment (TRYSEM): This scheme was started in 1979 with objective to help unemployed rural youth between the age of 18 and 35 years to acquire skills for self-employment. Priority was given to SC/ST Youth and Women.
- RSETI/RUDSETI: With the aim of mitigating the unemployment problem among the youth, a new initiative was tried jointly by Sri Dharmasthala Manjunatheshwara Educational Trust, Syndicate Bank and Canara Bank in 1982 which was the setting up of the "RURAL DEVELOPMENT AND SELF EMPLOYMENT TRAINING INSTITUTE" with its acronym RUDSETI near Dharmasthala in Karnataka. Rural Self Employment Training Institutes/ RSETIs are now managed by Banks with active co-operation from the Government of India and State Government.
- By merging the two erstwhile wage employment programme – National Rural Employment programme (NREP) and Rural Landless Employment Guarantee Programme (RLEGP) the Jawahar Rozgar Yojana (JRY) was started with effect from April, 1, 1989 on 80:20 cost sharing basis between the centre and the States.
- Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA): It is an employment

scheme that was launched in 2005 to provide social security by guaranteeing a minimum of 100 days paid work per year to all the families whose adult members opt for unskilled labour-intensive work. This act provides Right to Work to people.

- Pradhan Mantri Kaushal Vikas Yojana (PMKVY), launched in 2015 has an objective of enabling a large number of Indian youth to take up industry-relevant skill training that will help them in securing a better livelihood.
- Start Up India Scheme, launched in 2016 aims at developing an ecosystem that promotes and nurtures entrepreneurship across the country.
- Stand Up India Scheme, launched in 2016 aims to facilitate bank loans between Rs 10 lakh and Rs. 1 crore to at least one SC or ST borrower and at least one women borrower per bank branch for setting up a greenfield enterprise.

There are number of labour intensive manufacturing sectors in India such as food processing, leather and footwear, wood manufacturers and furniture, textiles and apparel and garments. Special packages, individually designed for each industry are needed to create jobs. Public investment in sectors like health, education, police and judiciary can create many government jobs. Decentralization of Industrial activities is necessary so that people of every region get employment. Development of the rural areas will help mitigate the migration of the rural people to the urban areas thus decreasing the pressure on the urban area jobs. Entrepreneurs generate employments to many in a country; therefore government needs to encourage entrepreneurship among the youth. Concrete measures aimed at removing the social barriers for women's

entry and their continuous participation in the job market is needed. Government needs to keep a strict watch on the education system and should try to implement new ways to generate skilled labour force. Effective implementation of present programs like Make in India, Skill India, Start up and Stand-Up India. There is a need for National Employment Policy (NEP) that would encompass a set of multidimensional interventions covering a whole range of social and economic issues affecting many policy spheres and not just the areas of labour and employment. The policy would be a critical tool to contribute significantly to achieve the goals of the 2030 Agenda for Sustainable Development. The underlying principles for the National Employment Policy may include enhancing human capital through skill development; creating sufficient number of decent quality jobs for all citizens in the formal and informal sectors to absorb those who are available and willing to work; strengthening social cohesion and equity in the labour market; coherence and convergence in various initiatives taken by the government; supporting the private sector to become the major investor in productive enterprises; supporting self-employed persons by strengthening their capabilities to improve their earnings; ensuring employees' basic rights and developing an education training and skill development system aligned with the changing requirements of the labour market.

Inequality in India

The United Nations describes inequality as "the state of not being equal, especially in status, rights and opportunities". Inequality can be broadly classified into two: economic inequality and social inequality. Economic inequality is the unequal distribution of income and opportunity between individuals or different groups in society. Social inequality

occurs when resources in a given society are distributed unevenly based on norms of a society that creates specific patterns along lines of socially defined categories. e.g. religion, kinship, prestige, race, caste, ethnicity, gender etc. have different access to resources of power, prestige and wealth depending on the norms of a society. Both these categories are deeply intertwined and inequality of one type affects the inequality in another. e.g. Social Inequality due to gender have large impact on income of women. In patriarchal societies large gender wage gap tends to exist.

Dimensions of Inequality in India

In India, distinctive forms of social inequality are Gender, Caste, Religion, Ethnicity, Economic Inequality.

Gender Inequality: The Global Gender Gap Report, 2018, ranks India at 142 among 149 countries. Four parameters for measuring gender inequality are economic participation and opportunity, health and survival, educational attainment and political empowerment. Gender wage gap is highest in India according to International Labor Organization women are paid 34% less than men. Women comprise over 42 per cent of the agricultural labour force in the country, yet they own less than 2 percent of its farm land according to the India Human Development Survey (IHDS).

Caste is significant factor for determining access to resources like education, income, health valued by individuals. India's upper caste households earned nearly 47% more than the national average annual household income, the top 10% within these castes owned 60% of the wealth within the group in 2012, as per the World Inequality Database.

Religion: Religious identities are significant for an individual's ability to mobilize resources. Religious identities can cause prejudices which may lead to economic exclusion and other

forms of discrimination which can impact jobs and livelihood opportunities. While minorities such as Christians, Parsis and Jains have a larger share of income/consumption than their population share, Muslim and Buddhist populations have significantly lower access to economic resources.

Ethnicity: Tribal communities in India have been identified as ethnic group on the basis of their unique culture, language, dialect, geographical location, customs etc. The National Family Health Survey 2015-16 (NFHS-4) showed that 45.9% of ST population were in the lowest wealth bracket as compared to 26.6% of SC population, 18.3% of OBCs, 9.7% of other castes.

Economic Inequality: The 2019 report by Oxfam, titled "Public good or Private Wealth?" showed that India's top 10% holds 77.4% of the total national wealth, while the top 1% holds 51.53% of the wealth. The bottom 60% population holds only 4.8% of the national wealth. 13.6 crore Indians, who make up the poorest 10% of the country, have continued to remain in debt for the past 15 years. The Gini coefficient of wealth in India in 2017 is at 0.83, which puts India among the countries with highest inequality countries.

Consequences of Inequalities

- Inequalities tend to produce social conflict among the social groups e.g. caste groups like Jaats, Maratha, Patels are demanding reservations but this demand is opposed by caste groups already claiming the benefits of reservations, such clash of interest due to perceived inequality tend to produce violent conflicts between opposing caste groups.
- Inequalities among ethnic groups have led to various ethnic movements demanding separate states or

autonomous regions or even outright secession from India. North East has been rocked by numerous such ethnic movement e.g. by Nagas for greater Nagalim etc.

- Religious inequality tends to generate feeling of exclusion among religious minority groups. This reduces their participation in mainstream, in India religious minorities have large population their economic exclusion compromises the GDP growth of nation as whole.
- Poor development indicators like IMR, MMR, low per capita income, lower education and learning outcomes at schools, high rate of population growth can be traced to existing socio-economic inequalities.
- High economic inequality is detrimental to public healthcare and education. Upper and Middle classes do not have vested interest in well functioning public healthcare and education as they have means to access private healthcare and education.

Measures to Deal with Inequalities

- **Constitutional Provision**: Enforcement of Constitutional Guarantee of equality as enshrined in fundamental rights. Articles 14, 15 and 16 form part of a scheme of the Constitutional Right to Equality. Article 15 and 16 are incidents of guarantees of Equality, and gives effect to Article 14.
- **Promoting Civil Society:** Provide a greater voice to traditionally oppressed and suppressed groups, including by enabling civil society groups like unions and association with in these groups. Scheduled castes and Scheduled tribes should be motivated to become

entrepreneurs, schemes like Stand up India need to be expanded to widen its reach by increasing funding.

- **Women Empowerment**: For gender equality policies like affirmative action by reserving seats in legislatures, increasing reservation at Local self government both at Urban and village level to 50% in all states, strict implementation of The Equal Remuneration act,1976 to remove wage gap, making education curriculum gender sensitive, raising awareness about women right, changing social norms through schemes like Beti Bachao Beti Padhao etc.
- **Inclusion of Religious Minorities**: Religious minority groups need special attention through representation in government jobs, provision of institutional credit, improvement of their education access, protection of their human rights by empowering National commission for Minority, strengthening rule of law etc.
- **Progressive Taxes**: Additional public resources for public services by progressive taxes on wealthy more and by increasing the effective taxation on corporations, more importantly broadening the tax base through better monitoring of financial transactions.
- **Economic Policies**: By ensuring universal access to public funded high quality services like Public health and education, social security benefits, employment guarantee schemes; inequality can be reduced to great extent.
- **Employment Generation:** The failure to grow manufacturing sectors like Textile, Clothing, automobiles, consumer goods etc. is the important reason of rising inequalities.The Labor-intensive manufacturing has the potential to absorb millions of

people who are leaving farming while service sector tend to benefit majorly urban middle class.

India has committed to attaining the Sustainable Development Goals by 2030, and to end extreme poverty by that year. According to Oxfam if India stops inequality from rising further, it could end extreme poverty for 90 million people by 2019. If it goes further and reduces inequality by 36%, it could virtually eliminate extreme poverty.

Module II:
Review of Economic Development

2.1. Assessment of Indian Agriculture Sector and Recent Initiatives by the Government for its Growth

Contribution of Agriculture in Economic Development

The importance of agriculture in economic development of any country is borne out by the fact that it is the primary sector of the economy. It provides the basic facilities necessary for the existence of mankind and also provides most of the raw materials, which when transformed into finished products serve as basic necessities of human race. In a way, the advance in a wide range of consumer goods manufactures will be eventually affected by the speed of agricultural development. In addition, agriculture must generate export surpluses in order to earn the foreign exchange. However, agriculture is not only a supplier of goods for domestic and export needs but is also a supplier of factors of production such as capital and labour. A rapidly expanding industrial sector necessarily draws some of its labour force from the rural areas.

A fairly consistent body of early theoretical literature on the role of agriculture in economic development can be traced to as far back as the 18th century in the writings of the 'Physiocrates in France. It was their view that only agriculture produced a het product over and above its cost of production. This is agricultural surplus which is used to maintain the 'sterile' class of manufacturers and traders. According to the Psysiocrates, it is only in agriculture that nature labours along with the man and

by her bounty yields not only what the agricultural labour or farmer consumes, but also, a surplus which nourishes the other classes of society. Based on this fact, they concluded that it was only agriculture, which produced an economic surplus over costs of production, and therefore, this sector played the most strategic role in economic development.

The Physiocratic theory with its explicit recognition of the critical role of agriculture in economic development continued to influence economic thinking for a long time even after the Physiocratic system as a whole ceased to exist. Among those who followed the Physiocrates, the Classical economist, in particular (accepted the Physiocratic ideas on competition and freedom and never failed to over look the importance of agriculture in economic development. It is now generally recognized that the basic economic growth model underlying Adam Smith's "The Wealth of Nations", specifically refers only to the agricultural sector. Another Classical economist, David Ricardo considered agriculture the most important sector of the economy.

The Classical's concern that growth did not find any similar expression in the writings of the more mature exponents of neoclassicists. They were mainly interested in short-run economic problems. Marx and Marxists, showed their interests in the growth problems, but, they limited their analysis to the examination of the dynamics of Capitalism. It is due to these reasons that we find little reference in the writings of these economists to the role of agricultural sector in economic development. It was only after Keynesian Revolution in 1930's that intellectuals started showing more attention and interest in the theories of economic development. With the end of World

War II and the emergence of a large number of independent national economies in the old colonies, the literature on economic development, particularly' with reference to the role of agriculture received great impetus.

WA. Lewis famous article entitled Economic Development with Unlimited Supplies of Labour published in The Manchester School of Economic and Social Studies ('1954) may be taken as a starting point of the old theoretical interest in the role of agriculture in economic development which can be traced to the 18h century. Some of the shortcomings of the Lewis model encouraged certain lines of theoretical advances which led to a more effective appreciation of the role of agriculture in economic development. One such line of advance is clearly identifiable as the Fei-Ranis Model (1964). Ragner Nurkse also emphasized the concept of surplus rural population which can be used for economic development. From their analysis, we can briefly outline the crucial significance of the agricultural sector in the economic development as follows: Agriculture constitutes an important source of supply of both manpower and savings for fuelling the expansion of the industrial sector. Disguised unemployment in over populated economies responds to-stimulants of economic growth by providing cheap labour at constant real wages for non-farm sectors' The development of agriculture raises the rural purchasing power and provides a mass market for industrial goods and results in the expansion of investment opportunities.

Viewed in general framework, the contribution of agricultural sector to the economic development can be seen to be constituted of three elements, viz.,(i) the product contribution, (ii) the market contribution and (iii) the factor contribution.

Clearly, the most important contribution of agriculture to economic development is that it constituted by growth of product within the sector itself. This product contribution can be examined as a contribution to the growth of total net or gross product and the growth of product per capita. Another contribution of agricultural sector, which cannot be over shadowed, is market contribution to economic growth by (a) purchasing some production items from other sectors at home and abroad; (b) selling some of its products to purchase consumer goods from other sectors or from abroad, or to dispose of the product in any way other than consumption within the sector. The third type of contribution by a sector to economic growth occurs when there is a transfer or loan of resources from the given sector to others. Thus, if agriculture itself grows, it makes product contribution; if it trades with others, it makes a market contribution and if it transfers resources to other sectors, it makes a factor contribution.

Inter-Relation between Agriculture and Industry

A study of the inter - relation between agriculture and industry in the context of economic development is of vital significance. There are links between the two sectors in the product and factor markets. Agriculture supplies the major wage goods (food) for the non-agricultural sector and raw materials for industrial expansion. Agriculture can also yield an exportable surplus with which the necessary capital goods can be imported for development. On the demand side, agriculture provides a market for industrial products both for intermediate and final uses. The surplus labour in agriculture is a relatively cheap source of supply of this factor for industrial development. There could also be in migration of labour into the agricultural sector during periods of a downswing when this sector as a

shock absorber for those who fall back on land. Besides, there are financial flows between the sectors. A part of the private investment in agriculture may be financed by external funds from the other sectors of the economy in addition to a net inflow of resources into this sector from government account.

The inter-sectoral movement of the products is essentially a function of the pace of economic development. The socio-economic transformation of the farming community is dependent on technological change in agriculture. Similarly, the size of the market which the agricultural sector provides for industrial consumer goods is determined by the proportion of agricultural output-marketed to the industrial sector, the purchasing power of the agriculturists including the terms of trade, the nature of the income distribution in the rural sector and pattern of consumer demand in that sector. Similarly, the demand for food is after a point of time, a declining proportion of increasing income, the lower could be the income elasticity of demand for food. Again, as for the agricultural raw materials, the demand for these commodities is dependent on income levels in the economy as also on the input-output ratios in the industries based on them. Also, as the economy develops, the tertiary sector comprising transport, communications, trade and banking services assumes an expanded role. The linkage between the sectors are such that for sustainable development, a rise in agricultural productivity would have to precede or accompany the development of the non-agriculture sector. An important aspect of inter-sectoral linkages pertains to the secular changes in the sectoral distribution of work force and gross domestic product. In both cases, the share of agriculture is expected to decline as development proceeds. It seen that, in

a developing economy, the income elasticity of demand for all agricultural products would be fairly high.

Role and Significance of Agriculture in India

Agriculture occupies a pivotal position in the Indian economy. Even at this semi-industrialization state, about 50 percent of its population still lives in rural areas and directly or indirectly depends on agriculture for its livelihood. The Agriculture Sector occupies centre stage in Indian economy embodying three thrust areas as (1) to promote inclusive growth, (2) to enhance rural income, and (3) to sustain food security. It accounts for nearly 14% of GDP, about 13 % of exports and supports half of the country's population as its principal source of income (58% of workforce). As per Census 2011, the total number of agricultural cultivators and agricultural laborers increased from 234.1 million in 2001 to 263.o million in 2011. The following points make it clear that agriculture is a significant part of our economic development:

- Share of agriculture in the National Income: share of agriculture in national income is crucial indicator of the role that agriculture plays in economic development of a country. Agriculture is the single largest private sector, it contributes about one third of the National income. The share of agriculture and allied activities in GDP at factor cost has persistently declined from 55.3 percent in 1950-51 to 37.9 percent in 1980-81 and further to 17.4 percent (2011-12 prices) in 2016-17.
- Agriculture is the largest employment providing sector: agriculture has been the major source of livelihood in India. In 1951, 69.5 percent of the working population was engaged in agriculture. This percentage fell to 66.9 percent in 1991 and to 56.7 percent in 2001 and to 52.1 percent in 2004-05 and to 48.9 percent in 208-19. Most

of the underdeveloped countries exhibit this heavy dependence of working population on agriculture.

- Source of food supply: agriculture continues to be the prime sector of progress as there is huge responsibility to feed one billion plus people of India. Unless agriculture is able to continuously increase its food grains production, a crisis is likely to emerge. To meet the domestic demand for food grains, the agriculture sector should enhance its production and productivity.
- Contribution to capital formation: the role of agriculture in enhancing the pace of capital formation in India is vital because agriculture is the largest job provider and generates income in the system. Thus agricultural growth foster saving and thereby improve the capital formation in a country like India.
- Role of agriculture in industrial development: agriculture provides raw materials to the cotton textiles, jute, sugar and vanaspathi industries which are of basic importance to the national economy. Agriculture also provides a market for industrial products.
- Importance in international trade: Agricultural products like tea, coffee, sugar, tobacco, spices, oilseeds, etc.. are the main items of our exports and constitute around 50 percent of India's total exports. The 10th plan estimated that agriculture contributed 14.7 percent of total export earnings of the country. This has great significance for mobilizing foreign exchange reserves and for economic development. India exported $39 billion worth of agricultural products in 2013, making it the seventh largest agricultural exporter and worldwide and the sixth largest net exporter. The share of agri-exports in total exports increased from 12.81%

in 2011-12 to 13.08% (Rs 231,992 Cr) in 2012-13, a record level.

In nutshell, agriculture and allied sector has a critical role in ensuring food security, reducing poverty and sustaining growth in India. Thus, agricultural development is essential for the overall development of the country.

Performance of Agricultural sector in India

Agriculture remains a crucial sector for the Indian economy. Although its contribution to the overall Gross Domestic Product (GDP) has come down from 30 percent in the early 1990s to less than 13 percent in 2014-15, however, its employment share still has been recorded around 45.7 percent during the same year. Due to the vast size of agriculture and its importance for livelihood and it being the primary source of employment for the rural masses, growth of this sector has important implications for poverty reduction in the rural areas. The sector is a major source of food security for a vast majority of low income, poor and vulnerable sections of society. The experience from BRICS countries indicates that a one percentage growth in agriculture is at least two to three times more effective in reducing poverty than the same growth emanating from non-agriculture sectors. Therefore the performance of this sector remains crucial for the overall growth of the economy.

Agricultural sector, broadly defined to include livestock, forestry and fishery, has been trailing in growth performance compared to other sectors in the post liberalisation period. Indian agriculture has witnessed wide variations in growth performance during a span of seven decades after

independence. The variability was particularly pronounced due to the subsistence nature of farming in India and the sector's heavy dependence on monsoon and other climatic parameters. In the initial years after the inception of planned development, it was the green revolution technologies that fired up growth in the sector for nearly three decades. The impact of green revolution tapered off gradually towards the later years of the last century. Economic reforms initiated in early nineties had a significant impact on agricultural sector, primarily due to the opening up of economy to external competition, liberalization of trade and deregulation of input and other sub-sectors.

Five distinct phases of growth were identified1:

(i) Phase I: Pre-green revolution Period (1950-51 to 1967-68)

(ii) Phase II: Early green revolution period (1968-69 to 1985-86)

(iii) Phase III: Period of wider dissemination (1986-87 to 1996-97)

(iv) Phase IV: Post-Reform Period (1997-98 to 2005-06)

(v) Phase V: Period of Recovery (2006-07 to 2009-10/2010-11)

The pre-green revolution period (1950-51 to 1967-68) was characterized by steep decline in growth in GDP agriculture, with decadal growth rates found to plummet sharply from 2.78 per cent to 1.06 per cent between the period 1950-51 and 1967-68. The green revolution was kick started from the year 1966 and the effects of adoption of superior technology and institutional reforms were found to manifest from 1968-69 onwards. The subsequent period is classified as early green

1 **Historical and Spatial Trends in Agriculture: Growth Analysis at National and State level in India-** Ramesh Chand and Shinoj Parappurathu ,National Centre for Agricultural Economics and Policy Research, New Delhi

revolution period and a visible reversal of growth in GDP agriculture was observed.

Divergence in growth rates of overall and agricultural GDP have persisted and even widened after India adopted the reform process in 1991. The GDP growth rate of agriculture peaked in the 1980s (i.e. 1980–89) at above 4 percent, while overall GDP grew at a rate of 5.6 percent during the same time period. Growth rate in agricultural GDP came down to 3.4 percent in the 1990s (i.e. 1990-99) and further to 2.6 percent during the decade of 2000s (i.e. 2000-09). In comparison, the overall GDP jumped from 5.7 percent in the 1990s to 7.4 percent during the 2000s. Thus, while the overall economy accelerated, the agricultural sector decelerated. As a result, the gap between the growth of agriculture, including allied sectors, and that of the rest of the economy continued to widen. The deceleration of growth was started from 1997-98 onwards and a clear indication of slumping of the agricultural sector was visible till the year 2005-06. This slump is widely perceived as an outcome of substantial diversion of resources away from agriculture to other sectors of the economy. However, a significant recovery of growth was observed in the last few years that has pushed the decadal growth rates above 3 per cent. There has been some recovery in the current decade of 2010s whereby the overall GDP growth has plummeted while agriculture growth has shown some recuperation. The widening wedge between agriculture and non agriculture sectors have led to a steeper fall in the share of agriculture and allied sector in the rest of the economy, although no major changes have taken place in the employment structure. In nutshell, the growth series clearly establish the sharp deceleration of the agricultural sector in the post-reforms period and an unambiguous

turnaround in the last five years, which also happens to be the 11th five year plan period onwards.

Agricultural Growth Achievement During Five Year Plans

The performance of agriculture sector in India during five year plans has been a mixed phenomenon with very high growth in some periods but dismal performance in others especially the periods that witnessed abnormal monsoon and adverse climate. Table 2.1 presents realized annual average growth rates in agriculture and allied activities vis-a-vis growth achieved in overall GDP during five year plan periods. At the beginning of planning era highest priority was accorded to increase agricultural production with nearly one third of plan funds allocated to agriculture sector. Several irrigation projects and fertilizer plants were established. However, subsequently focus of growth shifted from agriculture to industry with the beginning of second five year plan. The performance of agriculture (that also includes livestock hereafter) in the first two plans was phenomenal with growth exceeding 3 percent per annum in the first plan and more than 3 and a half percent in the second five year plan. The overall GDP grew at 3.6 and 4.3 percent per annum, respectively during this period.

During the third plan period, green revolution programme was started on a small scale. However, due to two battles, Chinese aggression in 1962 and Indo-Pak war in 1965 and also because of severe and prolonged drought during 1965-66, agriculture performed negative growth during this plan and the country faced a great food crisis. Next three years were the period of annual plans from 1966 to 1969 during which agriculture recorded 6-9 percent per annum growth under the impact of

Green Revolution. In the subsequent two and a half decades of green revolution (from 4th to 8th plan), the agriculture sector in India kept pace with the rising food demand of a growing population. The sector grew at an average growth rate of above 4 percent per annum. The growth rate of overall GDP during this period was slightly above 5 percent per annum. High yielding variety (HYV) seeds, fertilizer use, new agriculture techniques and irrigation facilities led to expansion of area of green revolution which by the mid 1980s covered almost whole of India. However, this performance of satisfaction and optimism lost its momentum in the early 1990s.

The mid 1990s witnessed a tendency of stagnation in foodgrain production while oilseeds which registered peak production under Oilseeds Mission in the mid 1980s to early 1990s seen stagnation once again. Thus, ninth and tenth plan was a period of despair for Indian agriculture. From above 4 percent growth, the agriculture plumed to less than two and a half percent per annum growth rate during the decades between mid 1990s to mid 2000s. As a corrective measure, National Agricultural Policy 2000 was framed and National Commission on Farmers, Chaired by Prof. M. S. Swaminathan was constituted during this period. The Commission submitted its final report in October 2006. National Policy on Farmers 2007was adopted in which several measures were announced including, watershed management, development of horticulture, agricultural credits, insurance scheme for crops, agricultural marketing reforms and so on. As a result of re-emphasis imposed on agriculture, the negative trend of public investment in agriculture was reversed.

The 11th plan targeted a rapid growth of 9 percent per annum increase in economy and 4 percent per annum growth in

agriculture sector. The growth target was successfully met with agriculture once again jumping up from 2.5 percent growth of previous two plans and achieved 4.3 percent more than the target set of 4 percent growth. With agriculture achieving 4 percent growth it enabled the economy to achieve above 8 percent growth first time in the planning era in India. The advanced estimates indicate that 12th Plan once again lags behind the targeted growth of 4 percent per annum for agriculture and 9 percent growth for the overall economy. The agriculture and allied activities have achieved around 2.4 percent growth while overall economy also falls behind at 6.9 percent per annum growth rate. This manifests the fact that if the country wants to achieve double digit growth then agriculture must contribute four percent plus growth rate for fairly a longer period.

Comparing the growth performance of agriculture with other allied activities during the plan period, fishery sector growth was much higher while forestry and lodging observed much lower overall performance as compared to agriculture crop and livestock sector. During the first two plans fishery sector growth was phenomenal, above 5 percent per annum that was even higher than the overall growth of the economy. Subsequently there was some slow down in the growth in the fishery sector but still the overall performance remained above 3 percent per annum during third, fourth and fifth plan. In the next two plans, fishery sector, once again, recuperated above 5 percent per annum growth rate which almost touched 8 percent per annum during 8th plan period. In the next one decade fishery sector observed slight decline in the growth rate while there was some upsurge during the 11th plan period. Compared to fishery, forestry sector performance remained dismal

throughout except the 3rd plan period when the sector observed above 4 percent growth rate.

Table 2.1: Growth rate in Agriculture and Allied Activities during Five Year Plans

Five Year Plans	Period	Agriculture including livestock	Forestry & logging	Fishing	Agriculture forestry & fishing	Overall GDP
GROWTH IN FIVE YEAR PLANS (% PER ANNUM)						
I	1951-52 to 1955-56	3.22	-0.20	5.89	2.88	3.61
II	1956-57 to 1960-61	3.59	0.81	5.10	3.35	4.27
III	1961-62 to 1965-65	-0.75	4.33	3.41	2.77	2.84
IV	1969-70 to 1973-74	2.96	1.06	3.40	3.59	3.35
V	1974-75 to 1978-79	3.97	0.42	3.05	5.78	4.88
VI	1980-81 to 1984-85	6.28	-0.67	5.60	3.03	5.51
VII	1985-86 to 1989-90	3.06	1.37	5.38	4.78	5.66
VIII	1992-93 to1996-97	4.88	0.19	7.88	4.78	6.54
IX	1997-98 to 2001-02	2.48	2.76	2.67	2.49	5.70
X	2002-03 to 2006-07	2.48	1.34	3.63	2.38	7.59
XI	2007-08 to 2011-12	4.27	2.08	4.66	4.06	8.05
XII$	2012-13 to 2016 -17	-	-	-	2.40	6.85
LONG TERM GROWTH (% PER ANNUM)						
Pre GR (1950 to 1968)		2.33	1.40	4.69	2.27	3.84
Post GR (1969 to 1991)		2.84	-0.51	3.75	2.62	4.16
Post Lib (1992 to 2013)		2.97	1.90	3.98	2.98	7.00
Full Period (1950 to 2013)		2.73	0.79	4.33	2.66	4.77
Source:NITI Aayog report						

Growth Trends in Area, Production and Productivity

Indian agriculture has made great strides in providing food security for its people. The foodgrains production has increased from 130 million tonnes in 1980–81 to 272 million tonnes during 2016–17 (2nd revised estimates). However, production of food grains still remains subject of wide fluctuations. Good monsoon for almost a decade with few exceptions ensured that

the country touched a new peak in foodgrains production in 2013-14 of 265 million tonnes. Abnormal monsoon in 2014-15 and 2015-16 once again led to some down fall in foodgrains production while riding on above normal monsoon during 2016-17 enabled the country to achieve above 270 million tonnes during the 2017-18. Among different crops, the most inspiring increase appeared in the case of coarse cereals whose production increased from around 30 million tonnes in the mid-1990s to 40 million tonnes in 2007–08 and further to 44 million tonnes during the 2016-17. Among coarse cereals the stimulating increase occurred in the case of maize whose production increased from less than 10 million tonnes in the mid 1990s to more than 25 million tonnes in 2016-17. Production of pulses remained stagnant to around 14 to 15 million tonnes, the level India had achieved around the late 1980s or early 1990s. The stagnation in production forced the country to import huge amount of pulses. Special pulse programmes enabled the country to reach a new peak of 22 million tonnes during 2016-17. In the case of oilseeds, the new peak achieved in 2016-17 is 33.6 million tonnes, the previous being 24 million tonnes achieved in the mid 1990s as a result of Oilseeds Mission Programme.

Table.2.2 presents the trend growth rates in area, production, and yield of major crops for the country as a whole. It is evident from the statistics that foodgrains production increased at a rate of 3.2 percent in the 1980s, which decelerated to 1.6 percent in the 1990s but recuperated at 2.4 percent in the 2000s. Whereas growth in production was partly contributed by increase in area in the 1980s the growth in area under foodgrains was negative in the 1990s and almost negligible in the 2000s. Looking at yield, during all the three and a half

decades period growth in yield was above 2 percent per annum although yearly fluctuations were observed. The growth trends in individual cereals reveal that production growth rate came down from 3.6 percent in the 1980s to 2 percent in the 1990s and further to 1.9 percent in the 2000s; in the case of rice and this was a result of decline in growth rate of yield in rice as area growth was only around half a percent throughout. In the case of wheat, growth in production remained around 3.5 percent in the 1980s and 1990s and it came down slightly to 2.5 percent per annum in the 2000s.

Growth in production of wheat contributed by rise in yield rate in the 1980s while area growth was the main contributor in the 1990s and 2000s. For kharif coarse cereals, area growth remained negative throughout the period while yield growth contributed 1.8 percent to the growth in production in the 2000s. Rabi coarse cereals on the other hand realized rapid growth of 3.8 percent in the 1990s and above 5.5 percent in 2000s owning to growth in yield rate by 3.4 and 6.2 percent, during the same period, respectively. Thus, among cereals, rabi coarse cereals contributed highest in the recuperation of production growth in food grains.

Table. 2.2: Growth rate in area, yield and production of major crops at all India (exponential growth rate % per annum)

Name of the crop	Description	1980 to 1984	1995 to 2014	1980 to 1989	1990 to 1999	2000 to 2014
Paddy	Area	0.52	-0.02	0.41	0.68	0.05
	Yield	2.96	1.56	3.20	1.32	1.88
	Production	3.50	1.54	3.62	2.00	1.93
Wheat	Area	0.68	0.95	0.46	1.72	1.45
	Yield	3.02	0.96	3.11	1.82	1.10
	Production	3.72	1.91	3.57	3.57	2.57

Kharif Coarse Cereals	Area	-2.03	-1.16	-1.38	-2.75	-1.43
	Yield	2.47	2.72	1.96	1.93	3.3
	Production	0.39	1.53	0.55	-0.87	1.82
Rabi Coarse Cereals	Area	-1.30	-0.73	-1.14	0.43	-0.59
	Yield	2.14	4.66	0.43	3.37	6.1
	Production	0.81	3.89	-0.72	3.81	5.52
Kharif Pulses	Area	5.27	-0.57	8.08	-8.26	-0.25
	Yield	0.38	1.41	0.55	1.87	2.30
	Production	5.67	0.82	8.67	-6.55	2.05
Rabi Pulses	Area	2.53	0.57	4.32	-4.75	2.32
	Yield	1.38	1.31	1.13	1.68	1.86
	Production	3.95	1.90	5.50	-3.15	4.22

Name of the crop	Description	1980 to 1984	1995 to 2014	1980 to 1989	1990 to 1999	2000 to 2014
Total Foodgrains	Area	0.57	-0.04	1.08	-1.42	0.28
	Yield	2.50	1.80	2.11	3.07	2.08
	Production	3.08	1.75	3.21	1.60	2.37
Kharif Oilseeds	Area	3.4	1.3	2.9	0.7	1.8
	Yield	2.7	1.7	2.6	3.7	2.9
	Production	6.2	3.0	5.6	4.4	4.8
Rabi Oilseeds	Area	3.00	-1.00	1.74	-0.69	0.12
	Yield	2.91	2.18	3.43	-0.12	2.14
	Production	5.99	1.17	5.23	-0.81	2.27
Cotton	Area	-0.23	1.92	-1.26	2.71	3.51
	Yield	4.07	5.63	4.10	-0.40	7.54
	Production	3.82	7.66	2.79	2.30	11.31
Sugarcane	Area	1.91	1.22	1.46	1.67	1.46
	Yield	1.49	0.16	1.21	1.05	0.69
	Production	3.43	1.38	2.69	2.74	2.16
Jute & Mesta	Area	-1.98	-1.28	-2.87	0.67	-1.57
	Yield	1.06	0.56	0.11	1.45	0.17
	Production	3.10	1.86	3.07	0.78	1.77

Source: NITI Aayog report

Among pulses, kharif pulses saw a complete U-turn in area from positive 8 percent growth rate in the 1980s to negative 8 percent growth rate in the 1990s and almost negligible growth in the 2000s. Led by area, production growth of kharif pulses also turned from positive 8.7 percent in the 1980s to negative 6.6 percent in the 1990s while there was some retrieval in the 2000s due to increase in yield rate. Rabi pulses also had similar experience of 5.5 percent growth in production in the 1980s to -3.2 percent growth in the 1990s and retrieval of 4.2 percent growth in 2000s which was contributed partly by increase in area and increase in yield rate possibly due to programmes like ISOPOM, NFSM pulses and so on. In the case of oilseeds, there was continuous above 4 percent increase in production of kharif oilseeds due to both rise in area as well as yield rate while yield growth rate contributed increase in production of rabi oilseeds in the 1980s and 2000s whereas in the 1990s production growth was almost negligible. In the case of cotton, introduction of BT cotton led to double digit growth in production in the 2000s compared to less than 3 percent growth in production in the 1980s and 1990s. On the opposite without any such breakthrough in technology sugarcane experienced around 2 percent growth in the production in the entire decades of 1980s, 1990s and 2000s.

State wise Comparison (table.2.3): Crop wise looking first at paddy, high growth (above 3 percent) was observed in Haryana, Punjab, West Bengal, Uttar Pradesh, Odisha, Madhya Pradesh and Tamil Nadu in the 1980s. The growth in production was above 3 percent only in Kerala, Madhya Pradesh and Haryana in the 2000s. On the overall growth in paddy production slowed down from 3.5 percent per annum in 1980-1994 to only 1.9 percent per annum during 2000-2014. In the case of wheat,

above 3 percent growth was observed in Bihar, Haryana, Madhya Pradesh, Punjab, Rajasthan and Uttar Pradesh in the 1980s. In the 2000s, growth in wheat production moved to double digit in Gujarat, above 7 percent in Madhya Pradesh and above 3 percent in Maharashtra and Rajasthan. Overall growth in production declined from 3.7 percent in 1980-1994 to 2.6 percent in 2000-2014.

In kharif coarse cereals, above 2 percent growth in production was observed only in Maharashtra and Rajasthan in the 1980s. Compared to this Tamil Nadu observed 7.8 percent growth in production, followed by Rajasthan, Karnataka and Bihar with growth performance above 3 percent during the 2000s. Consequently the overall growth in kharif coarse cereals increased from 0.4 percent during 1980-1994 to 1.8 percent in 2000-2014. Similar trends were observed for rabi coarse cereals whereby growth in production moved from Karnataka state in the 1980s to double digit growth in Gujarat, Tamil Nadu and Andhra Pradesh, above 7 percent growth in Rajasthan and above 3 percent growth in Haryana along with Karnataka in the 2000s. The overall growth rate in production was less than 1 percent in 1980-1994 that increased to 5.5 percent in 2000-2014. Thus, coarse cereals have provided a silver lining to agriculture growth during the last one and a half decade.

In the case of pulses, while there was some decline in growth rate of production of kharif pulses that was compensated by an increase in production growth in rabi pulses. Among states, Rajasthan, Maharashtra, Tamil Nadu, Gujarat and Andhra Pradesh observed above 5 percent growth in production in kharif pulses in the 1980s that could be maintained only in Rajasthan, Bihar and Madhya Pradesh in the 2000s. Similarly,

in the case of rabi pulses high growth in production was observed in Andhra Pradesh, Maharashtra, Bihar, Madhya Pradesh and Uttar Pradesh in the 1980s which was maintained in the 2000s by high growth in Karnataka, Maharashtra, Odisha, Rajasthan and Madhya Praddsh. In oilseeds, the growth momentum in production was led by Rajasthan, Maharashtra, Gujarat, Madhya Pradesh and Uttar Pradesh in the case of kharif oilseeds and Bihar, Madhya Pradesh, Rajasthan, Odisha and West Bengal in the case of rabi oilseeds. For cotton the emerging states were Gujarat, Madhya Pradesh, Andhra Pradesh, Karnataka and Maharashtra all with double digit growth in the period of 2000-2014, led by both increase in area as well as productivity due to the contribution of BT technology. In the case of sugarcane, only Bihar, Maharashtra and Karnataka observed high growth in the 2000s while in jute & mesta only Bihar observed above 4 percent growth in the production during the period of 2000-2014.

Table 2.3: Growth rate in Area, Yield and Production of Major Crops

Description	Name of the state	1980 to 1994	1995 to 2014	1980s	1990s	2000s (up to 2014)
Paddy	Andhra Pradesh	2.18	1.59	2.51	1.69	1.85
	Assam	2.68	2.07	1.08	1.06	2.60
	Bihar	1.58	2.16	4.14	3.05	2.56
	Haryana	4.09	3.45	2.25	4.36	3.37
	Karnataka	2.74	0.92	0.24	3.64	1.15
	Kerala	-2.04	1.45	-2.95	-18.45	7.32
	Madhya Pradesh	3.42	3.38	2.03	-0.12	5.67
	Orissa	4.06	2.18	3.98	-1.29	2.93
	Punjab	5.71	2.48	6.74	2.50	1.73
	Tamil Nadu	3.89	0.52	3.86	-0.14	0.46
	Uttar Pradesh	4.83	1.08	5.67	3.19	1.45
	West Bengal	5.61	0.84	6.83	2.49	0.36

Wheat	Bihar	4.34	0.49	4.88	3.53	1.65
	Gujarat	-0.06	7.96	-6.42	1.70	11.48
	Haryana	5.40	2.21	5.94	3.78	1.90
	Madhya Pradesh	5.00	3.47	3.65	5.55	7.68
	Maharashtra	0.27	3.08	-2.16	5.23	3.86
	Punjab	3.67	1.13	4.30	2.26	0.91
	Rajasthan	3.94	2.35	2.58	6.47	4.42
	Uttar Pradesh	3.51	1.33	3.75	3.17	1.19
	West Bengal	0.84	0.43	2.91	5.62	-0.44
Kharif Coarse Cereals	Andhra Pradesh	-3.23	2.49	-4.49	0.24	1.82
	Bihar	-1.61	2.17	1.79	-5.95	3.33
	Gujarat	-1.85	-0.76	-5.00	1.79	-0.46
	Haryana	0.18	2.51	-3.49	3.68	1.78
	Karnataka	1.09	2.60	1.06	2.73	3.78
	Madhya Pradesh	-1.03	0.79	1.39	-3.23	0.64
	Maharashtra	2.39	-1.59	1.46	-1.63	-0.93
	Rajasthan	2.39	4.89	1.28	-1.12	4.09
	Tamil Nadu	-0.74	4.07	1.56	-5.61	7.81
	Uttar Pradesh	1.47	0.33	2.68	0.02	1.02
Rabi Coarse Cereals	Andhra Pradesh	-2.65	10.45	-7.22	5.72	11.13
	Gujarat	-5.97	10.24	-10.69	-6.16	20.98
	Haryana	-1.28	2.61	-5.10	-1.89	4.69
	Karnataka	4.08	2.07	4.38	5.13	3.41
	Madhya Pradesh	-5.16	0.62	-7.50	0.25	1.75
	Maharashtra	1.38	0.55	2.29	2.25	1.79
	Rajasthan	-2.77	5.52	-4.29	0.20	7.45
	Tamil Nadu	-0.05	13.12	2.94	9.25	14.92
Kharif Pulses	Uttar Pradesh	-1.37	-2.47	-1.49	-0.90	-1.60
	Andhra Pradesh	5.59	-0.33	7.88	-5.19	-1.34
	Bihar	1.55	3.87	4.73	-4.47	6.35
	Gujarat	7.15	-0.73	6.06	-3.79	2.25
	Karnataka	3.92	2.19	5.24	-6.27	3.38
	Madhya Pradesh	2.31	1.64	5.97	-6.88	4.20

Maharashtra	8.70	-0.54	13.22	-2.56	-0.56
Rajasthan	10.89	4.71	5.27	-14.29	7.39
Tamil Nadu	7.48	-1.58	20.11	-17.30	2.61
Uttar Pradesh	-0.24	-0.52	0.54	-2.48	0.12

Source: NITI Aayog report

Agricultural Policy

Agricultural policy is designed by the government for raising agricultural production and productivity and also for raising the levels of income and standard of living of farmers within a definite time frame. This policy is formulated for all round and comprehensive development of agricultural sector. The following are some of the important objectives of India's agricultural policy.

- Raising the productivity of inputs
- Reduce the pressure of population on Land: surplus labour on land should be shifted to secondary and tertiary sectors, preferably in rural and semi-urban areas.
- Protecting the interest of poor farmers
- Reduce inequality of income in the rural sector
- Modernizing agricultural sector
- Checking environmental degradation
- Encourage agricultural research and training
- Removing bureaucratic obstacles

National Agricultural Policy 2000

The National Agricultural Policy was announced on July 28, 2000. The policy has been necessitated due to the relatively poor growth of agriculture during the nineties. The policy document started: "Capital inadequacy, lack of infrastructural support and demand side constrains such as controls on movement, storage and sale of agricultural products, etc. have

continued to affect the economic viability of agriculture sector. Consequently, growth has also tended to slacken during the nineties". The policy document aims to attain following objectives:

- An annual growth rate of over 4 percent in the agricultural sector
- Growth that is based on efficient use of resources and conserves our soil, water and bio-diversity
- Growth with equity, that is growth is widespread across regions and farmers
- Growth that is demand driven and caters to domestic market and maximizes benefits from exports of agricultural products in the face of challenges from economic liberalization and globalization.
- Growth that is sustainable technologically, environmentally and economically.

In order to attain these objectives, National Agricultural Policy envisages measures in the areas: sustainable agriculture, food and nutritional security, generation and transfer of technology, incentives for agriculture, institutional structures and risk management. The policy endeavored to promote technically sound, economically viable, environmentally non-grading and socially acceptable use of country's natural resources to promote sustainable agriculture.

Policy Initiatives for women farmers: for sustainable developments of agriculture and rural economy, the contribution of women to agriculture and food production cannot be ignored. Globally, there is empirical evidence that women have a decisive role in ensuring food security and preserving local agro-biodiversity. Rural women are responsible for the integrated management and use of diverse

natural resources to meet the daily household needs (FAO,2011). As per census 2011, out of total female main workers, 55 percent were agricultural labourers and 24 percent were cultivators. However, only 12.8 percent of the operational holdings were owned by women, which reflect gender disparity in ownership of landholdings in agriculture. With growing rural to urban migration by men, there is feminization of agriculture sector, with increasing number of women in multiple roles as cultivators, entrepreneurs and labourers. Recognizing the critical role of women in agriculture, the Ministry of Agriculture and Farmers Welfare has declared 15th October of every year as Women Farmer's Day.

Green Revolution/ New Strategy in Agriculture Development

The term green revolution was first used by William Gaud and Norman Borlaug is the Father of the Green Revolution. In the year 1965, the government of India launched the Green Revolution with the help of a geneticist, now known as the father of the Green revolution (India) M.S. Swaminathan. The movement of green revolution was a great success and changed the country's status from a food-deficient economy to one of the world's leading agricultural nations. It started in 1967 and lasted till 1978. The Green Revolution is referred to as the process of increasing agricultural production by incorporating modern tools and techniques. It is the period when agriculture of the country was converted into an industrial system due to the adoption of modern methods and techniques like the use of high yielding variety seeds, tractors, irrigation facilities, pesticides, and fertilizers. Until 1967, the government majorly concentrated on expanding the farming areas. But, the rapidly

increasing population than the food production called for a drastic and immediate action to increase yield which came in the form of Green Revolution. The method of green revolution focused on three basic elements, that are: Using seeds with improved genetics (High Yielding Variety seeds), Double cropping in the existing farmland and, the continuing expansion of farming areas. Intensive Agriculture District Programme (IADP) and Intensive Agricultural Area Programme (IAAP) are introduced in this period.

Components of Green Revolution

The HYV Seeds: HYV has increased responsiveness to Chemical Fertilizers, their period of maturing is short which enables the farmer to go for multiple cropping. For example, the new seeds of the Rice and Wheat take around 100 and 110 days respectively, contrary to this the traditional varieties of wheat and rice take around 130 and 150 days respectively to harvest. HYV seeds help in generating more employment since under optimum conditions they require more labour per unit area.

Irrigation: It is the second most important component of Green Revolution after HYV, and over and under-irrigation, both are injurious to the crop. As Indian rainfall is unreliable, irregular and seasonal, there is an urgent need to expand irrigation potential. The timing of irrigation and quantity of water supplied are important for the satisfactory performance of the crop, as in case of wheat appropriate timing and spacing of irrigation raise the yield as much as 50%, even if other inputs like fertiliser etc are not applied.

Chemical Fertilizers: The natural fertility of the soil decreases over the period of time and HYV seeds are also known as

hungry varieties, which require a high dose of fertilizers to give high yields. In terms of fertiliser consumption till 1970, southern India was leading, later Northern India particularly, Punjab, Haryana and Uttar Pradesh became the main consumers.

Insecticide and Pesticide: The monoculture promoted by the Green Revolution is more vulnerable to insects and pests, thus use of Pesticide and Germicide becomes compulsory for secured yields.

Consolidation of Holding: Small and fragmented landholding has been the main problem in the progress of agriculture in India.

Land Reforms: Under zamindari system zamindars used to exploit the farmers, thus after independence reform where introduced and intermediaries like Zamindari system were abolished, further ceiling laws were imposed. One of the objectives of the land reform was land to the tiller.

Agriculture Credit: The inputs like Technology, HYV Seeds, Fertilizer, Pesticide etc all depend on the availability of the credit. Easy and cheaper credit is a must.

Rural Electrification: Electric power which is the nucleus of all technological development is imperative for multiple cropping and intensification of Agriculture.

Farm Mechanisation: Mechanisation saves human labour and quickens the farm operations; thus, it improves the farm efficiency and productivity.

Agriculture Universities: Agriculture universities and other institutes are primarily engaged in agriculture research and passing on the research finding to the farmers.

Positive Impacts of Green Revolution

- Increased Agriculture Production- The production of wheat increased from around 24 Million tonnes in 1970-71 to around 96 Million tonnes in 2013-14, and the production of rice increased from around 31 Million tonnes in 1965-66 to around 106 Million tonnes in 2013-14.
- The prosperity of Farmers- Earning of farmer increased with the increase in production.
- Reduction in the import of food-grains.
- Dispersal of Rice and Wheat cultivation to non-traditional areas- Green Revolution spread the Rice cultivation to the semi-arid areas of Punjab, Haryana and Western Uttar Pradesh, and the wheat cultivation has spread to the areas of Eastern Uttar Pradesh, Madhya Pradesh, Rajasthan and some parts of Maharashtra, Gujarat and West Bengal.
- Industrial Growth- Due to the large-scale mechanisation which was brought by Green Revolution, demand for different types of machines like tractors, harvesters, combines etc increased and along with increased demand in fertilizers, insecticide, pesticide etc, the growth spurt in the industries producing these items.
- Rural Employment- Large no. of farm labourer migrated from the areas like Eastern Uttar Pradesh, Bihar to Punjab, where they got better employment opportunities.

Negative Impacts of the Green Revolution

- Intercrop disparities- Green Revolution has promoted Monoculture of some remunerative species and it is wheat which has benefitted most and

sometimes people due to this very reason, term Green Revolution as Wheat Revolution. Green Revolution has snatched areas from crops like coarse cereals, pulses and oilseeds and at the same time, major commercial crops like Cotton, Jute, Sugarcane, Tea are also almost untouched by it.

- Regional Disparities- According to some estimates Green Revolution benefitted only 40% of the total crop area and 60% is still untouched by it, this has given rise to regional disparities. The benefitted areas include Punjab, Haryana, Western UP in Northern India and Andhra Pradesh and Tamil Nadu in South India.
- Rise in interpersonal disparities- Big farmers who own 10 hectares or more land, are benefitted most from the Green Revolution, as they have more financial resources to buy better seeds, fertilizers and other required inputs. Thus, the green revolution made rich richer and left the poor poorer, which resulted in widespread social and economic tensions.
- Unemployment- Except in Punjab, and to some extent in Haryana, Green Revolution induced Farm Mechanisation has created widespread unemployment among the rural labourers.
- Ecological problems like Soli Salinity, Alkalinity, Waterlogging, Desertification, Soil Erosion.
- Depletion of Underground Water- As the canal irrigation is not sufficient in the semi-arid areas of Punjab, Haryana, Western Uttar Pradesh, to meet the irrigation demand farmer depend heavily on Tube well irrigation which had led to depletion of the level of groundwater in these areas.

- Deforestation- Green Revolution heartland like Punjab and Haryana are almost devoid of the forest with around 3% of forest area in both while UP is having slightly more than 5% area under the forest.
- Environmental Pollution- Indiscriminate use of chemicals has led to environmental pollution as some of the chemicals enter the water by getting dissolved in it and pollute both surface and groundwater. Moreover, the chemicals enter into the soil and destroy useful microorganisms.

Second Green Revolution

Due to the limitations of the first Green Revolution in increasing the production of pulses, oilseeds, fruits, and vegetables, which are very important for ensuring nutritional security, the second revolution was introduced. The focus of the first green revolution was on increasing the production of food grains without considering the environmental impacts of it while the second green revolution is committed towards sustainable agriculture.

The aim of 2nd Green Revolution are:

- To enhance agricultural productivity to promote food security.
- More focus on Bio-Technology.
- To encourage sustainable Agriculture.
- To increase the per capita income of farmers and raise their standard of living.
- To become self-sufficient in staple food, pulses, oilseeds.

Strategies for the Second Green Revolution

- Micro-irrigation System- It enables optimal synergies of 3 components of Green Revolution-improved seed, water and fertilizer.
- Organic Farming
- Precision Farming- It is concerned with using fewer resources and reducing the production cost, by analysing the variation in various aspects of field and environment like- weather, Soil, vegetation, water etc.
- Green Agriculture- A system of agriculture based upon, integrated pest management, integrated nutrient management and it does not eliminate the use of minimum quantities of fertilizer and chemical pesticides.

Timeline

- 1961- Intensive Agriculture Development Program(IADP), which focussed upon diffusing technical know-how, credit and Agricultural Technology in the selected district in a pilot mode, made the way for Green Revolution in India.
- 1966- The High Yielding Varieties (HYVP) program was introduced in the Kharif Season of 1966.
- 2002- Govt of India proposed the 2nd Green Revolution, with the inclusion of Genetically Engineered crops.
- 2005-06- National Horticulture Mission to enhance the production of fruit, vegetables, spices, flowers etc. were introduced.
- 2010-11- Bringing Green Revolution to Eastern India (BGREI).

Land Reforms: Progress and Shortcomings

Land is the primary input in agriculture. The ownership and operation of land is the basis of agrarian structure and it determines the efficiency of agricultural production. Land reform mean, abolishing the existing defective structure of land holding, by introducing a rationalized structure in order to ensure economic development with social justice and equality. Land reform, can be defined in narrow and broad manner. In the narrow sense, it refers to the distribution of property rights in the land for the benefit of small farmer and agricultural labourers. In the broad sense, It means any improvement in institutions of land tenure or agricultural organization. The two main aspect of land reforms are redistribution and development. On the one hand, land reforms aim at redistribution of ownership of holding from the point of view of social justice and on the other hand, it aims at the re-organization of operational holdings from the view points of optimum utilization of land. It aim at redistribution of land by abolishing intermediaries and bring the actual cultivators in direct contact with the state so that a congenial atmosphere is created for bringing economic equality, social justice and economic development.

Land reform measures are recommended on the basis of economic, social and political grounds. On economic grounds land reform is highly required for the creation of economic incentives, creation of employment opportunities, development of secondary and tertiary sectors, mobilization of savings and capital formation etc. Social factors also, influence the speeding up of land reform measures. A class of economic parasites eating up the lion share of resources and the consequent injustice calls for a redistribution of land ownership. On social grounds, land reforms measures are initiated to eradicate the

exploitation of one class by another to achieve social justice; to achieve equality in the distribution of wealth and income and for the improvement in the standard of living of the people. Political factors are also put forward to accelerate land reform measures. Economic power in most cases works as a means to attain political power. The economically powerful landed aristocracy works as powerful lobby and inhibits political freedom and popular sovereignty. Very often this political powers manipulated to economic exploitation of the people in the lower strata of the society. Only measures of transferring the economic power in favour of the working class undo the situation. An agrarian reform measure can help to some extent liquidate the power of landed aristocracy.

Objectives of Land Reforms: The major objectives of land reforms are:

- Re-structuring of agrarian relations to attain an egalitarian social structure
- Elimination of exploitation in land relations
- Actualization of the goal of "land to the tillers"
- Increase agricultural production and productivity
- Facilitating land base development of rural poor
- Maximize the welfare of society

In short, the underlying purpose of land reforms is both economic and social. From the economic point of view the purpose of land reform is to maximize agricultural output and productivity. From the social point of view the aim is that there should be no exploitation of one class by another. It is a means of redistributing agricultural land in favour of the less privileged classes.

Progress/Components of Land Reforms

The government of India launched the land reforms with laudable goals. The progress of land reforms or components can be discussed in the following heads:

Abolition of Intermediaries: the zamindari system manifested absentee land lordism at its worst. The zamindars hardly performed any productive function. The abolition of intermediaries was given high priority after independence. Each state enacted its own legislation for this purpose. For instance Kerala state enacted Kerala Land Reforms Act of 1969 and implemented on 1st January 1970 and West Bengal in 1967. It was expected that at this step would minimize exploitation of farmers by the middle men.

Tenancy Reforms: tenants can be classified into occupancy tenants, tenants at will, and sub tenants. Occupancy tenants enjoy the permanent rights like the owner and do not face the fear of eviction as long as they pay rent on tide. However, tenants at will, and sub tenants are in a precarious position and their very existence depends on the mercy of landlords and this makes them to prone to various exploitative practices adopted by latter. Therefore, it is to protect these people that special laws have to be enacted and implemented. The measures taken by the government to protect the cultivators include:

Fixation of Rent/ Regulation of Rent: before 1951 as much as 50 percent or more of produce used to paid as rent. The first five year plan recommended that the maximum rent payable by tenants should not generally exceed 20 percent or 25 percent of gross produce of land. But the rates of rent have been fixed at different levels in different states. The fixation of rent legally is a great relief to tenants.

Security of Tenure: to protect tenants from ejectment / eviction and grand them permanent rights in land, legislation have been passed in most of the states. Legislation for security of tenure had three essential aims: cultivators can be ejected only under the law, land may be resumed by an owner if at all for personal cultivation only, and in the event of resumption of land for personal cultivation, the tenant is assured of a prescribed minimum land area.

Conferment of Ownership Rights on Tenants: laws have been passed in several states to confer ownership rights on the cultivating tenants. It has been estimated that as a result of laws conferring ownership rights on tenants in various states, approximately 12.42 million tenants have acquired ownership rights over 6.32 million hectares of land.

Reorganization of Agriculture: it includes ceiling on agricultural holdings, consolidation of holdings, cooperative farming and land records. Let us explain elements in a briefly:

Ceiling on Agricultural Holdings: By 'ceiling' on land holdings we mean the fixing of the maximum of holding that an individual cultivator or household may possess. Beyond this maximum size all land belonging to the landlords is taken over by government and redistributed among the land less cultivators.

Co-operative Farming: this reform has been advocated to solve the problems created by subdivision and fragmentation of holdings. The idea is that farmers have very small holdings should join hands and pool their lands and other resources for the purpose of cultivation. Earnings from the land is divided among the farmers in accordance with the principles mutually agreed up on among them. It is based on the principle of co-operation.

Consolidation of Holdings: consolidation of fragmented agricultural land has been an integral part of the land reform policy. initially, the programme of consolidation was started on voluntary basis but was later made compulsory. Recognizing the importance of consolidation, legislations have been passed in most of the states to prevent sub-division and fragmentation of land. In fact, only 15 states have passed laws of consolidation.

Land Records: correct and up-to-date land records are an essential condition for effective implementation of land reforms programme. Inefficient bureaucracy, complex and unscientific land records system created troubles in the management of land by the people. Land records are now being computerized throughout the country, although the progress is slow.

Land Reforms in India: Assessment/ Evaluation

An evaluation of the implementation of land reforms brings out that land reforms in India achieved only a partial success. Land reforms in India are steps in the right direction, but due to lack of implementation, the actual results are far from satisfactory. Whereas legislation succeeded in the matter of abolition of intermediaries, other objective of land reform namely tenancy reform and ceilings on landholdings were only partially realized. The partial success of land reforms is attributable to the fact that the reform measures were generally promulgated by ruling elites composed of the upper class of agrarian society. The distribution of land has remained much skewed despite the enactment of legislation for land reforms. The Indian rural scene is characterized by extreme inequality in land and asset distribution. The reasons for the poor performance of land reforms programmes in India are listed by Task Force on Agrarian Relations are lack of political will, inadequate

implementing machinery, legal hurdles, lack of updated land records, no pressure from below, lack of integrated approach etc.

Recent Government Initiatives for Agricultural Development

Some of the recent major government initiatives in the sector are as follows:

- E-NAM: National Agriculture Market (eNAM) is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities. Small Farmers Agribusiness Consortium (SFAC) is the lead agency for implementing eNAM under the aegis of Ministry of Agriculture and Farmers' Welfare, Government of India. It is to promote uniformity in agriculture marketing by streamlining of procedures across the integrated markets, removing information asymmetry between buyers and sellers and promoting real time price discovery based on actual demand and supply. Integration of APMCs across the country through a common online market platform to facilitate pan-India trade in agriculture commodities, providing better price discovery through transparent auction process based on quality of produce along with timely online payment.
- National Mission For Sustainable Agriculture (NMSA): it has been formulated for enhancing agricultural productivity especially in rainfed areas focusing on integrated farming, water use efficiency, soil health management and synergizing resource conservation. NMSA will cater to key dimensions of 'Water use efficiency', 'Nutrient Management' and 'Livelihood diversification' through adoption of sustainable

development pathway by progressively shifting to environmental friendly technologies, adoption of energy efficient equipments, conservation of natural resources, integrated farming, etc.

- Schemes under NMSA
- Rainfed Area Development (RAD): RAD is being implemented by RFS Division
- Soil Health Management (SHM): SHM is being implemented by INM Division
- Sub Mission on Agro Forestry (SMAF): SMAF is being implemented by NRM Division
- Paramparagat Krishi Vikas Yojana (PKVY): PKVY is being implemented by INM Division
- Soil and Land Use Survey of India (SLUSI): Being implemented by RFS Division
- National Rainfed Area Authority (NRAA): Being implemented by RFS Division
- Mission Organic Value Chain Development in North Eastern Region (MOVCDNER): Being implemented by INM Division
- National Centre of Organic Farming (NCOF): Being implemented by INM Division
- Central Fertilizer Quality Control and Training Institute (CFQC&TI): implemented by INM Division
- Pradhan Mantri Krishi Sinchai Yojana (PMKSY): Har Khet ko Pani "Prime Minister Krishi Sinchayee Yojana". Government of India is committed to accord high priority to water conservation and its management. To this effect Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has been formulated with the vision of extending the coverage of irrigation 'Har Khet ko pani' and improving water use efficiency 'More

crop per drop' in a focused manner with end to end solution on source creation, distribution, management, field application and extension activities

- Pradhan Mantri Fasal Bima Yojana (PMFBY) is the government sponsored crop insurance scheme that integrates multiple stakeholders on a single platform. The objectives of the scheme are to provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests & diseases, to stabilise the income of farmers to ensure their continuance in farming, to encourage farmers to adopt innovative and modern agricultural practices, to ensure flow of credit to the agriculture sector.
- Gramin Bhandaran Yojna: the objective of this Scheme are create scientific storage capacity with allied facilities in rural areas, to meet the requirements of farmers for storing farm produce, processed farm produce and agricultural inputs, promotion of grading, standardization and quality control of agricultural produce to improve their marketability, prevent distress sale immediately after harvest by providing the facility of pledge financing and marketing credit by strengthening agricultural marketing infrastructure in the country.
- Livestock insurance Scheme: This scheme aims to provide protection mechanism to the farmers and cattle rearers against any eventual loss of their animals due to death and to demonstrate the benefit of the insurance of livestock to the people and popularize it with the ultimate goal of attaining qualitative improvement in livestock and their products.

- Scheme on Fisheries Training and Extension: It was launched to provide training for fishery sector so as to assist in undertaking fisheries extension programmes effectively.
- National Scheme on Welfare of Fishermen: This scheme was launched to provide financial assistance to fishers for construction of house, community hall for recreation and common working place. It also aims to install tube-wells for drinking water and assistance during lean period through saving cum relief component.
- Micro Irrigation Fund (MIF): The government approved a dedicated Rs5,000 crore fund to bring more land area under micro-irrigation as part of its objective to boost agriculture production and farmers income. The fund has been set up under NABARD, which will provide this amount to states on concessional rate of interest to promote micro-irrigation, which currently has a coverage of only 10 million hectares as against the potential of 70 million hectares
- In September,2019, Prime Minister, Mr Narendra Modi launched the National Animal Disease Control Programme (NADCP), expected to eradicate foot and mouth disease (FMD) and brucellosis in livestock.
- In May 2019, NABARD announced an investment of Rs 700 crore (US$ 100 million) venture capital fund for equity investments in agriculture and rural-focused start-ups
- As per the Ministry of Agriculture, during 2019-20, Rs 1.50 crore (0.21 million) has been allocated to state of Andaman and Nicobar as a central share for

implementation of per drop more crop component of Pradhan Mantri Krishi Sinchai Yojana (PMKSY).

- Under Budget 2019-20, Pradhan Mantri Samman Nidhi Yojana was introduced under which a minimum fixed pension of Rs 3000 (US$ 42.92) to be provided to the eligible small and marginal farmers, subject to certain exclusion clauses, on attaining the age of 60 years.
- As per the Union Budget 2019-20, government will work with State Governments to allow farmers to benefit from e-NAM.
- Prime Minister of India, launched the Pradhan Mantri Kisan Samman Nidhi Yojana (PM-Kisan) and transferred Rs 2,021 crore (US$ 284.48 million) to the bank accounts of more than 10 million beneficiaries on February 24, 2019.
- The Government of India has come out with the Transport and Marketing Assistance (TMA) scheme to provide financial assistance for transport and marketing of agriculture products in order to boost agriculture exports.
- The Agriculture Export Policy, 2018 was approved by Government of India in December 2018. The new policy aims to increase India's agricultural exports to US$ 60 billion by 2022 and US$ 100 billion in the next few years with a stable trade policy regime.
- In September 2018, the Government of India announced Rs 15,053 crore (US$ 2.25 billion) procurement policy named 'Pradhan Mantri Annadata Aay SanraksHan Abhiyan' (PM-AASHA), under which states can decide the compensation scheme and can also partner with private agencies to ensure fair prices for farmers in the country.

- In September 2018, the Cabinet Committee on Economic Affairs (CCEA) approved a Rs 5,500 crore (US$ 820.41 million) assistance package for the sugar industry in India.
- The Government of India is going to provide Rs 2,000 crore (US$ 306.29 million) for computerisation of Primary Agricultural Credit Society (PACS) to ensure cooperatives are benefitted through digital technology.
- With an aim to boost innovation and entrepreneurship in agriculture, the Government of India is introducing a new AGRI-UDAAN programme to mentor start-ups and to enable them to connect with potential investors.
- The Government of India has launched the Pradhan Mantri Krishi Sinchai Yojana (PMKSY) with an investment of Rs 50,000 crore (US$ 7.7 billion) aimed at development of irrigation sources for providing a permanent solution from drought.
- The Government of India plans to triple the capacity of food processing sector in India from the current 10 per cent of agriculture produce and has also committed Rs 6,000 crore (US$ 936.38 billion) as investments for mega food parks in the country, as a part of the Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters (SAMPADA).
- The Government of India has allowed 100 per cent FDI in marketing of food products and in food product e-commerce under the automatic route.

2.2. Industrial Sector in India

Industrialization has come to be regarded as synonymous with economic development. There is hardly a country in the world that could reach the level of per capita income of industrially

developed countries of the West, on the back of its agriculture and processing of its products. (Petroleum producing countries, like Saudi Arabia, Kuwait and UAE represent a special case or exception to the positive relationship between per capita income and the share of manufacture) The essential criteria that are being used to distinguish a developed economy from a developing one relate to the proportion of work force engaged in industrial activity, the proportion of national output. There is a general consensus among development economists – a rare phenomenon – that rapid industrialization holds the key to rapid economic growth, as productivity levels in industry are much higher than in agriculture. Moreover, industrialization is regarded as an important policy to affect fundamental economic and social changes in developing economy which are considered as necessary conditions to raise their growth potentials. Fast industrialization as the developmental goal has a universal appeal, notwithstanding the fact that industrialization may give rise to problems like pollution, premature exhaustion of raw materials, unemployment and inequalities in income distribution. India has been no exception to this universal urge.

Industrialization is a process by which the center of gravity of the economy shifts from agriculture to industry. It involves two things: Adoption of technologically superior techniques of production that help to transform basic raw materials and intermediate goods into manufactured goods. Application of modern techniques of management and organization like economic calculations, accountancy and management techniques, etc. The classical growth theories recognized the role of physical capital accumulation as a determinant of growth. The Harrod-Domar model of growth emphasized the

influence of physical capital and savings in creating effective demand as well as productive capacity in explaining the growth process. The role of productivity in the growth process was recognized by Solow in a growth accounting framework in late 1950s. Evolution of the endogenous growth theory towards the end of the 1980s drew attention to the role of continuous advances in human skills and technology along with factor accumulation to offset the dampening effect of diminishing returns in sustaining the growth process.

Industrial sector performance is critical to achieving the ambitious goal of making India a five-trillion economy. The sector plays a decisive role in determining the overall growth of national output and employment through its backward and forward linkages with the other two sectors of the economy. It contributes close to 30 per cent of total gross value added (GVA). The sector is, however, vulnerable to several internal and external economic challenges which affect its overall performance. The performance of industries in respect of their production can be well depicted in terms of the rate at which the industrial output has growth and changes in the structural composition of industries that have marked in the industrial set up. The trends in respect of these aspects of industries are traced since independence. With Independence, India turned its back on an open economy in pursuit of its objective of industrial self-sufficiency.

Industrial Growth in India Since Independence

The overall rate of industrial production has been over 6 percent since 1951, this has however not been a steady figure through all these years. For the first 15 years since 1951 (from 1951 to 1965) the growth rate has been higher than the long

trend rate and an accelerating one. Beginning from 4.8 percent growth for the first four years since independence, the growth came to be 5.7 percent during 1951-52. This moved to 7.2 percent during 1955-60 and further to 9 percent during 1960-65. This rising trend however got a set back during the 10 years following 1965, when a falling rate marked the industrial output. The growth decelerated to 4.1 percent and thus became lower than the long term trend rate. However this poor performance was more than the compensated by the rise in the growth rate over the trend rate in the year since the mid 70s. starting from a growth rate 4.6 percent during 1976-8, it rose and remained high in the range of about 7 percent and over 9 percent during the 80s, except for one year (1982-83) when it was low at 3.2 percent. For the decades as a whole, from 1980-81 to 1990-9, the growth rate has been 7.8 percent.

The rising trend in the growth rate however suffered a setback in the earlier 90s. The rate fell from over 8 percent in 1990-91 to below 1 percent in 1991-92, over 2 percent in 1992-93 and to over 4 percent in the succeeding year. However, it has marked a sharp rise to 8.6 percent since 1994-95. The earlier steep decline in the growth rate has been caused by the government's recent policies to stabilize the economy, with a view to eliminate the large fiscal and balance of payments deficits and curbing the high inflationary rise in prices. However, this decline in the growth rate was considered to be transitory phase which might last for a year or so. It is expected that under the new policies of promoting market, private sector and foreign direct investments, the industrial output would not only pick up earlier high growth but may remain much above it in future.

Structural Changes in Industrial Development

In addition to the uptrend in the growth rate, the industrial scene has been marked by a change in the structural composition of industries which is of considerable significance for the economy. This becomes obvious when we examine the growth rates in terms of the end use of industrial output. Since the second plan, the basic and capital goods industries witnessed a rapid growth. It in fact remained higher than the general growth rate of industries. As a result, the industrial structure now leans quite heavily towards the capacity building industries. This trend started since the second plan (1956-61) which accorded the highest priority to these industries. As against this, the growth rates of intermediate goods and consumer goods have mostly been lower than the general growth rate. It needs to be mentioned that of the two types of consumer goods namely durable and non-durable consumer goods, the former witnessed a higher rate which, compares well with that of the basic and capital goods industries. The high growth rates in respect of these industries in a sense appear high only because the initial starting base of these industries was very low. However, from another angle, this means that a fast growth was necessary to correct the imbalance in the industrial structure.

The result of a fast growth of the basic and capital goods industries is that the country's capacity for the production of industrial goods has been much expanded. This is roughly indicated by the fact that the weightage to the basic and capital goods industries in the index of industrial production is more than half at 55.85%. This has increased from a lower weightage at 47.53 in the index of industrial production with 1970 as base

which in turn has risen from 36.87% in the earlier index of production with 1960 as the base. This structural change is significant as it follows a country to build infrastructure which facilitates direct productive activities. It also means large possibilities of producing machines and machines which produce consumer goods. In fact, it is for this reason that much diversification in the products has taken place in the country and for the same reason, the country is no longer dependent on imports of some goods of vital importance for the economy. This has also enabled the country to produce goods which cannot be imported or imported with great difficulty.

Industrial Policy of India (Before and after 1991)

The New Industrial Policy (NIP), which is in operation since 1991 marks a big departure tom the old policy. The resultant changes in the industrial scene will reshape the entire economic life in a profound way. Prior to this policy, several policy statements governed the functioning of industries. The major policy formulation which held the ground all these years since the mid-fifties was however the one announced in 1956. Subsequent announcements were by and large in the nature of minor changes in one or the other part or parts of the policy of 1956, largely to meet, the problems faced in the years when these changes were made. These policy statements were made in 1973, 1977 , 1980, 1985 and 1986. But in essentials, the 1956 policy remained intact all these years.

In the old industrial scenario, the public sector had been assigned a greater and more crucial role in the development of industries relative to the private sector. The NIP seems to go against this key feature of the old policy. There is for example,

a reduction in the number of industries reserved for the public sector from 23 to only 6. Again with the provision in the NIP to refer the public enterprise which are chronically sick and which are unlikely to be turn around to the Board for Industrial and Financial Reconstruction (BIFR) or other similar high level institution, may result in the liquidation of some enterprise. Further, under the NIP, the governments to make a review of the public sector in respect of several industries such as those based on low technology, small scale and non-strategic areas, inefficient and unproductive areas etc. The disinvestment of public holdings to the extent of 20 percent of some of the public enterprises would subject these enterprises to the discipline of market forces. Because of this, the public sector will lose some of its public character following this erosion of the public ownership and public character of the public sector, the growth of basic and capital goods industries will no longer be its exclusive or even main concern.

The prevention of concentration of economic power in private hands and promotion of regional balance, which were the two major objectives of the old industrial policy have been hampered by the NIP. The amendment of the MRTP Act to remove the threshold limit of assets in respect of MRTP companies and confining only to the malpractices of the business houses, including the public sector units means no concern for the objective of prevention of concentration of economic power in private hands. The objective of reducing inequalities in the industrial development of different regions will also remain far from achieved. In fact, with the delicensing of large many industries and easing of procedures as also the locational policy, the new policy may reinforce the attraction of the already developed regions. This is obvious from the fact

that while liberalizing of licensing and procedures gives freedom to set up any industry except those reserved for the public sector. The locational policy shows concern about the big cities of over one million population and rural and backward areas without considering regional imbalances.

Another important feature which distinguishes the NIP from the old policy is in respect of the use of market. Under the NIP, the market has been assigned a very large area where it will operate. The easy entry of foreign private direct investment to the extent of majority ownership in their projects will also strengthen the market related competitive forces. Similar is the case of agreements relating to the transfer of foreign technology into the country. The limiting of the public sector to a smaller number of industries than before will also expand the area of operation for the private sector. The amendment of the MRTP Act with no threshold limit on their assets will further strengthen the economic power of the private sector. The use of market incentives, namely, profits, wages, rent and interest will also predominate as the motives of the owners of factors for participation in economic activities. This new profile of the industrial economy is in total contrast to what has gone before when the decision in respect of production capacities, product etc. used to be concentrated in the hands of administrators.

Besides providing for large private sector, a greater role of market, and competition and the market related incentives, the NIP aims at integrating the domestic economy with the world economy or globalization of the economy. The removal of restrictions on the private domestic as also private foreign entrepreneurs in respect of large number of industries, brings the domestic market near to the world market. The entry of

foreign direct investments and technology will link Indian investment and technology profiles to these of foreign countries. The entry and exit of foreign companies into and out of India in terms of commercial considerations will powerfully influence the economic decisions of the domestic entrepreneurs. This is in total contrast to the position before when the economy, though involved in exchanging goods and services with other countries, as also inviting foreign capital, was a controlled one and to an extent a closed one.

Index of Industrial Production (IIP)

The IIP is an index for India which details out the growth of various sectors in an economy such as mining, electricity and manufacturing. It is compiled and published monthly by the Central Statistical Organization. In essence, the IIP, which measures the industrial output. The manufacturing sector which has a large (almost 80 percent) weight in the IIP. IIP also tests the economic policies of the government. A record of higher growth in this index leads higher economic growth, generate more employment opportunities and enhance purchasing power of the people.

The overall IIP growth in India has moderated to 3.8 per cent in 2018-19 compared to 4.4 per cent in 2017-18. During the current year 2019-20 (April-November), it grew at 0.6 per cent as compared to 5.0 per cent in the corresponding period of previous year. The moderation in growth is mainly arising from subdued manufacturing activities due to slower credit flow to medium and small industries, reduced lending by NBFCs owing to liquidity crunch, tapering of domestic demand for key sectors such as automotive sector, pharmaceuticals, and

machinery and equipment, volatility in international crude oil prices, prevailing trade related uncertainties, etc. Exports of key labour intensive sectors, such as gems & jewellery, basic metals, leather products and textile products under-performed during the current financial year.

Industries such as coal, fertilizers, cement, electricity, crude oil, natural gas, refinery Products and steel are the eight core industries of India and played a crucial role in the aggregate industrial production, export and employment of the country. These eight core industries have a total weight of nearly 38 percent in the IIP registered cumulative growth of 4.8 percent in 2016-17 as compared to 3 percent in 2015-16. IIP assigns a weight of 77.6 per cent to manufacturing followed by 14.4 per cent to mining and 8.0 per cent to electricity.

Inter-Regional Dimensions of Industrial Growth in India

Disparities among different regions or world nations have become a concern to policy makers in most of the countries. As far as India is concerned, regional disparities are inheritance from the colonial past. During the pre-independence period, economic policies of the government were designed to protect the interests of the British economy rather than for advancing the welfare of Indians. It is widely acknowledged that lop-sided government policies led to the decline and decay of India's traditional industries. In the pre-Independence period, due to vested interests of the policy measures big provinces developed around the port towns of Bombay, Madras and Calcutta which eventually turned out to be the most industrially advanced states of contemporary India. On the other hand, many states that possess rich stocks of mineral resources like Bihar,

Madhya Pradesh and Orissa experienced stumpy or inconsistent economic growth. The trickling down effects of development of some regions of the union to hinterlands had also not been effective as had been the case in developed countries. Also, the centralized planning that started in 1951 could not yield any significant dispersal of economic activities from the developed to the less or underdeveloped regions of the country.

The first two five year plans that laid much stress on increased production or equitable distribution of resources virtually ended up in an effort to break the stagnation in the country. Accordingly, in the process of completing the projects for which the groundwork was already done in the pre planning period or the projects that could be completed in the short span of time, allocation of outlays were made towards those states which had a capacity to spend and achieve the targets. Thus, it practically led to higher inequalities in the development of different region. In the Third Five Year Plan (1961-66) the concept of balanced development of different parts of the country was taken up and a push was given to spread industries more widely. Several industrialization inducing measures like the establishment of public sector projects in industrially less developed states, prohibiting heavy industries from locating in already industrially developed areas, introduction of special packages for development of industrial infrastructure in poorer states and special financial benefits for industrial development in backward areas along with setting up industrial parks in areas with potential were introduced. It resulted in the spread of industries to many other cities beyond original leaders in the pre-reforms period. However, during the post reforms period inequalities in terms of industrialization tend to widen.

The interstate disparities amplified during the post-reforms period. During the post-reforms period industrial variables followed by infrastructural variables turned out to be the important ones explaining the interstate variations in India. Increasing inequalities in terms of industries also got a mileage from the viewpoint of the advocates of convergence theorem. They postulated that industrial development followed by general economic development facilitates some regions with better resources to grow faster than the others initially. Subsequently, when the law of diminishing marginal returns sets in, in the industrialized regions due to differential marginal productivity of capital, it trims down the gap in the levels of income across regions. Same seems to be replicated in the context of post economic reforms India. Removal of controls from investment resulted in the attraction of investment by the regions having better infrastructure thus, resulting into greater regional inequalities in the recent past as backward regions that used to get resources from the Central Government through gifts and grants are almost denied the same owing to financial constriction.

2.3. Make in India Initiatives

The Make in India initiative was launched by Prime Minister in September 2014 as part of a wider set of nation-building initiatives.

Background: Devised to transform India into a global design and manufacturing hub, Make in India was a timely response to a critical situation. By 2013, the much-hyped emerging markets bubble had burst, and India's growth rate had fallen to its lowest level in a decade. The promise of the BRICS Nations (Brazil, Russia, India, China and South Africa) had faded, and

India was tagged as one of the so-called ‘Fragile Five’. Global investors debated whether the world’s largest democracy was a risk or an opportunity. India’s 1.2 billion citizens questioned whether India was too big to succeed or too big to fail. India was on the brink of severe economic failure, desperately in need of a big push.

Make in India was launched by Prime Minister against the backdrop of this crisis and quickly became a rallying cry for India’s innumerable stakeholders and partners. It was a powerful, galvanising call to action to India’s citizens and business leaders, and an invitation to potential partners and investors around the world. But Make in India is much more than an inspiring slogan. It represents a comprehensive and unprecedented overhaul of outdated processes and policies. Most importantly, it represents a complete change of the government’s mindset – a shift from issuing authority to business partner, in keeping with Prime Minister's tenet of ‘Minimum Government, Maximum Governance’.

Plan: To start a movement, you need a strategy that inspires, empowers and enables in equal measure. Make in India needed a different kind of campaign: instead of the typical statistics-laden newspaper advertisements, this exercise required messaging that was informative, well-packaged and most importantly, credible. It had to (a) inspire confidence in India’s capabilities amongst potential partners abroad, the Indian business community and citizens at large; (b) provide a framework for a vast amount of technical information on 25 industry sectors; and (c) reach out to a vast local and global audience via social media and constantly keep them updated about opportunities, reforms, etc.

The Department for Promotion of Industry and Internal Trade (DPIIT) worked with a group of highly specialised agencies to build brand new infrastructure, including a dedicated help desk and a mobile-first website that packed a wide array of information into a simple and sleek menu. Designed primarily for mobile screens, the site's architecture ensured that exhaustive levels of detail are neatly tucked away so as not to overwhelm the user. 25 sector brochures were also developed - contents included key facts and figures, policies and initiatives and sector-specific contact details, all of which was made available in print and on the website.

The Make in India initiative has been built on layers of collaborative effort. DIPP initiated this process by inviting participation from Union Ministers, Secretaries to the Government of India, state governments, industry leaders, and various knowledge partners. Next, a National Workshop on sector specific industries in December 2014 brought Secretaries to the Government of India and industry leaders together to debate and formulate an action plan for the next three years, aimed at raising the contribution of the manufacturing sector to 25% of the GDP by 2020. This plan was presented to the Prime Minister, Union Ministers, industry associations and industry leaders by the Secretaries to the Union Government and the Chief Secretary, Maharashtra on behalf of state governments.

These exercises resulted in a road map for the single largest manufacturing initiative undertaken by a nation in recent history. They also demonstrated the transformational power of public-private partnership, and have become a hallmark of the Make in India initiative. This collaborative model has also been

successfully extended to include India's global partners, as evidenced by the recent in-depth interactions between India and the United States of America.

Progress:

It also seeks to facilitate job creation, foster innovation, enhance skill development and protect intellectual property. The logo of 'Make in India' – a lion made of gear wheels – itself reflects the integral role of manufacturing in government's vision and national development. The initiative is built on four pillars which are as follows:

- New Processes: The government is introducing several reforms to create possibilities for getting Foreign Direct Investment (FDI) and foster business partnerships. Some initiatives have already been undertaken to alleviate the business environment from outdated policies and regulations. This reform is also aligned with parameters of World Bank's 'Ease of Doing Business' index to improve India's ranking on it.
- New Infrastructure: Infrastructure is integral to the growth of any industry. The government intends to develop industrial corridors and build smart cities with state-of-the-art technology and high-speed communication. Innovation and research activities are supported by a fast-paced registration system and improved infrastructure for Intellectual Property Rights (IPR) registrations. Along with the development of infrastructure, the training for the skilled workforce for the sectors is also being addressed.
- New Sectors: 'Make in India' has identified 25 sectors to promote with the detailed information being shared through an interactive web-portal. The most striking

indicator of progress is the unprecedented opening of key sectors – including railways, defense, insurance and medical devices – to substantially higher levels of Foreign Direct Investment. The Government has allowed 100% FDI in Railway2and removed restrictions in Construction. It has also recently increased the cap of FDI to 100% in Defense and Pharmaceutical.

- New Mindset: Government in India has always been seen as a regulator and not a facilitator. This initiative intends to change this by bringing a paradigm shift in the way Government interacts with various industries. It will focus on acting as a partner in the economic development of the country alongside the corporate sector.

Since the launch of Make in India in September 2014, FDI inflows of USD 77 billion including a equity inflows of USD 56 billion has been received for the period October 2014 to March 2016. This represents about a 44% increase in FDI Equity inflows over the same corresponding period. 'Zero defect zero effect' is a key phrase which has come to be associated with the Make in India campaign. In the words of Prime Minister Narendra Modi, "Let's think about making our product which has 'zero defect'… and 'zero effect' so that the manufacturing does not have an adverse effect on our environment". Thus, sustainable development in the country is being made possible by imposing high-quality manufacturing standards while minimising environmental and ecological impact.

An Investor Facilitation Cell (IFC) dedicated for the Make in India campaign was formed in September 2014 with an

objective to assist investors in seeking regulatory approvals, hand-holding services through the pre-investment phase, execution and after-care support. The Indian embassies and consulates proactively disseminate information on the potential for investment in the identified sectors. DPIIT has set up a special management team to facilitate and fast track investment proposals from Japan. The team known as ‘Japan Plus’ was operationalized in October 2014. Similarly, 'Korea Plus', launched in June 2016, facilitates fast track investment proposals from South Korea and offers holistic support to Korean companies wishing to enter the Indian market. Within the short span of time, there are many instances of the initiative’s success. In December 2015, Micromax announced that it would put up three new manufacturing units in Rajasthan, Telangana and Andhra Pradesh. Japan announced it would set up a USD 12 billion fund for Make in India-related projects, called the “Japan-India Make-in-India Special Finance Facility” after the Japanese Prime Minister Shinzo Abe’s visit to the country. Huawei opened a new Research and Development (R&D) campus in Bengaluru and is in the process of setting up a telecom hardware manufacturing plant in Chennai. France-based LH Aviation signed a Memorandum of Understanding (MoU) with OIS Advanced Technologies to set up a manufacturing facility in India for producing drones. Foxconn announced it would invest USD 5 billion over five years for R&D and creating a hi-tech semiconductor manufacturing facility in Maharashtra. Samsung said it would manufacture the Samsung Z1 in its plant in Noida while General Motors declared that it would invest USD 1 billion to begin producing automobiles in the capital state.6And this is only the tip of the iceberg as there are many more proposals in the pipeline.

Various sectors have been opened-up for FDI like defense, manufacturing, railways, space, single brand retail, etc. Also, for ease of doing business, the regulatory policies have been relaxed to facilitate more investments. Across various regions of the country; six industrial corridors are being developed. Industrial Cities will also come up along these corridors. Today, India's credibility is stronger than ever. There is visible momentum, energy and optimism. Make in India is opening investment doors. Multiple enterprises are adopting its mantra. The world's largest democracy is well on its way to becoming the world's most powerful economy.

2.4. Service Sector: Growth Rate, Share in Exports and Imports, Software Exports

The growing share of the services sector in the gross domestic product (GDP) of India indicates the importance of the sector to the economy. The services sector accounted for about 30 percent of total GDP of India in 1950s; its share in GDP increased to 38 per cent in the 1980s, then to 43 per cent in the 1990s, 56.5 percent in 2012-13 and finally it is 55.3 percent in 2019-20. Thus, the services sector currently accounts for more than half of India's GDP. This process of tertiarization (dominance of the tertiary or services sector) of the economy has been accompanied by a decline in the share of the primary sector (agriculture) and a more or less constant share of the secondary (industry) sector over the years. The sector has contributed 54.17 per cent of India's Gross Value Added at current price in 2018-19*. India's services sector GVA grew at a CAGR of 6.96 per cent to US$ 1,356.49 billion in FY19 from US$ 846.84 billion in FY12. Net export estimate from April

2019 to January 2020 in services is US$ 181.20 billion and import is US$ 112.09 billion. The expansion in services activity was driven by boost in capacity and demand along with favourable public policies.

In spite of its growing share in the total GDP, there is a serious mismatch between the share of services in total GDP and the corresponding share of services in total employment. For example, while the share of the services in GDP increased from 34 percent in 1970s to 55.3 percent in 2019-20, the corresponding share of services sector employment in total employment changed from 15 per cent in 1972-73 to only about 31.9 percent in 2019-20. As a consequence, a large proportion of workers remain in rural agriculture. Among others, this has led to a situation of a large gap in productivity between agricultural workers and workers in the services sector. The services sector is a highly non-homogeneous sector comprising a wide range of activities. There are differences within the services sector with regard to the contribution of different subsectors to GDP and to employment. Consequently, the labour productivity within the services sector is also likely to vary widely.

Unlike agriculture (the primary sector) and industry (the secondary sector), the services sector (the tertiary sector) is much more heterogeneous in nature. Further, due to communications led technological advancement, the process of globalization and increased reliance of outsourcing as a mode of production organization, rapid changes have occurred in the economic structures of many economies including India. The large part of this change is visible in the form of growth and

change in the structure of economies in favour of larger share of the services sector.

What constitute the services sector?

The term services sector refers to, at the most aggregate level, a large group of activities that include trade, hospitality (hotels, restaurants), transportation, communication, entertainment, health, education, public services and so on. It can be argued that, even at the aggregate level, the services sector is more heterogeneous than the other two sectors, agriculture (primary sector) and industry (secondary sector). Thus if the primary sector involves producing goods directly from natural resources (agriculture, fishing, hunting, mining and so on) and secondary sector involves modifying material goods into other more useful products and commodities, then the tertiary sector or the services sector includes all activities that do not produce or modify material goods. In other words unlike the output of agriculture, mining or manufacturing which are material and tangible, the output of the services sector such as teaching, cleaning, selling, curing and entertaining have no physical form and therefore are immaterial or intangible.

Factors that have led to spurt in services growth

Demand led

The increased demand for services by the producers of goods and services is in part due to firms externalizing service functions that previously had been performed internally. It has also been argued that in comparative terms, there has been a spurt in the intermediate demand for services in recent years. The growth of multinational firms, the increase in international trade, and the proliferation of products' are also seen as causing an increase in the demand for services. Some have argued that

multinational firms that compete in increasingly complex business environments have expanded the amount of effort devoted to activities such as planning, coordination, and control and consequently have increased their use of services.

Supply side

The supply side factors that have contributed to the increased role of the services sector. This is more prominently seen with regard to services employment and with regard to the advanced industrial economies. The technology led increases in labour productivity in manufacturing sector could lead to relative changes in employment share such that this results in the net decline in manufacturing employment and no change or increase in the services employment. The relative increase in the share of services sector employment may not be due to opportunities or productivity levels in the services sector, but more to do with the productivity levels in the manufacturing sector – this is because the manufacturing sector is the "learning sector" while the services sector is not.

Services Sector Measurement Issues

There are mainly three main sets of problems with regard to measurement of services sector value added. The first set of problems relates to the inability to measure the value of output itself. For example, there are services that are not marketed or do not have an explicit 'market value' such as services that are provided by public administration. In such cases, it is difficult to obtain an economic value of the services provided. A part of this problem is also the difficulty in obtaining the actual 'quantity of service' provided. In case of a number of services, their true economic value is difficult to measure and evaluate. While government services to its citizens tops the list of

services that are problematic in obtaining their economic value, other such services are ownership dwellings, defence services, banking and financial services and so on. The problem of measurement of the services sector has engaged governments and scholars since several years. The difficulty is in the pricing of various services such as public administration, health services, education services and so on where the state may play a major role and many of these services may not have a 'market value'. Here the general method of measuring value added is the value of wages given to workers in the sector. Thus an increase in either employment or in wages both lead to a corresponding increase in value added.

The second set of problems relate to obtaining the real value of services as opposed to the nominal value of services. The absence of appropriate price deflators for many different types of services makes it difficult to arrive at the value added in services in real terms. There have been a number of attempts to overcome this problem by using different methods of deflation. The most popular method is the method of double deflation. In the method of double deflation, the value of output and value of inputs are deflated separately by their appropriate price indices and the value added for the service is then estimated as the difference between the output and inputs.

The third set of issues is to do with the inability to actually make measurements on the ground and hence the use of indicators as proxies for the existence and growth of some services. For example, in the case of a number of services, employment (that is, the total number of persons employed in that in providing that service to rest of the economy) is used as an indicator to arrive at the size and growth of the service. Thus

the total value added in the services sector is arrived at using different methods and measures for different services.

Services Sector Measurement Issues in India

The main problem with regard to estimating services GDP in India emanates from the fact that the estimates for GDP are arrived at in seven main categories, each being subdivided into subcategories and each of the subcategories in turn being classified further into three institutional sectors viz., private sector, public corporate sector and the unorganized sector. Each of these three institutional sectors has its own characteristics, making collection of data and estimates complicated and complex.

Due to the lack of availability of appropriate data, the method used in arriving at the estimate of GDP in case of a number of services, especially in the unorganized sector and in a few cases in the private corporate sector. A method is evolved where by GDP is obtained as a product of estimates of value added per worker and estimates of total number of workers. In this method, first a measure of the average gross value added (GVA) per workers in the particular sector or sub-sector is obtained through specialized surveys that are conducted for this purpose. The estimates for the total employment in the sector are then obtained from another source. The estimated GVA and total employment are then multiplied to obtain estimates of the GDP of that sector.

The problem with this method is that not only there could be a regular mismatch between obtaining estimates for GVA and employment, resource and other constraints imply the GVA estimates or even employment estimate in the inter-survey period which can be five to six years in case of NSS and ten

years in case of the Census are based on extrapolations. In case of services sector which has been identified as fast changing and growing sector of the economy, such extrapolations on thin past data do not lead to robust estimates. This is obvious from the difference in estimates for the same year and in current prices of various services when the series are revised from time to time. Not surprisingly, the differences are higher, at higher levels of disaggregation.

Another limitation with regard to the measurement and estimation of services GDP in India is that estimates are not obtained at a sufficiently disaggregated level. While there is an improvement on this front with every new release of GDP series, the latest being the series with base year 2004-05, when compared with manufacturing sector, the services are far behind. In this exercise of improving the coverage in every new GDP services, the Central Statistical Organisation also regroups economic activities according to a new classification scheme.

Analysis of the services sector GDP in India

Growth and structure of services sector GDP in India 1950 to 1980

The services sector in India has experienced sustained and secular growth for early years. For the period from 1950-51 till 1965-66, the average annual growth rate of the services sector was about 4.3 per cent. Within the services sector, however, there is a wide variation in the growth performance of different sub-sectors. Some services grew faster than the average for all services and others grew slower. Between 1950-51 and 1965-66, the services that grew at a rate faster than the average growth rate for the entire services sector are: Public administration (6.37 per cent), Banking (6.8 per cent),

Insurance (6.8 per cent), Road transport (6.06 per cent) and Trade (5.2 per cent). Other sub-sectors that were relatively smaller in size and had smaller base values and experienced higher growth rates during this period were: Education (8 per cent), Water transport (6.15 per cent), Air transport (9.64 per cent) Health (5 per cent) and Communications (7 per cent).

The services sub-sectors that experienced lower than average growth in the period from 1950-51 to 1965-66 belonged to the category of Personal services (2.33 per cent) and to Dwellings and business services (2.45 per cent). Within personal services the low growth services were Domestic services (1.8 per cent), Laundry, dyeing & dry cleaning (4.18 per cent), Barber & beauty shops (1.32 per cent) and Tailoring (1.87 per cent). Within business services the low growth services were Dwellings (2.34) real estate (3.72) and legal services (0.25).

In the second sub-period from 1966-67 to 1979-80, the pattern of growth in the services sector is more or less similar to first sub period from 1950 to 1966. Between 1966-67 and 1979-80, the average annual growth rate for the entire services sector of 4.33 per cent was no different from the earlier period of 4.30 per cent per annum. Several sub sectors within the services sector also experienced growth rates similar to the earlier period except Trade (2.33 per cent) and Hotels (2.13 per cent) that experienced lower than average growth rates while the growth rates of business services (6.33 per cent) appeared to pick up. The low rates of growth in the personal services continued and further dropped to below a percentage point for all personal services including Domestic service (0.56 per cent), Laundry, dyeing & dry cleaning (0.93 per cent) Barber &

beauty shops (0.81 per cent) and Tailoring services (0.44 per cent).

Structure of the Services Sector in 1950

In 1950 at the time that India gained independence, the structure of the services sector was such that Trade (25 per cent) and Dwellings (23.8 per cent) together accounted for about half the services sector GDP. The other important services in terms of GDP were Public administration (9 per cent) and Recreation (5.4 per cent). Other services that accounted for more than 3 per cent of the total services sector GDP were Religious and community organisation (4.7 per cent), Road transport (4.5 per cent), Railways (3.7 per cent) and Education (4.1 per cent). All personal services together accounted for 8.4 per cent of the total services sector GDP.

Structure in 1966 and changes from 1950 to 1966

Between 1950 and 1966, the first period under consideration in this analysis, there was no major change in the shares of Hotels, Restaurants and Railways. However, notable increases in shares were found for Road transport (whose share increased from 4.5 per cent in 1950-51 to 7.4 per cent in 1965-66), the entire banking sector (2.4 per cent to 3.3 per cent) and specifically for banks (1.2 per cent to 2.7 per cent). Other sub sectors that experienced large increases in their shares relative to the total services sector belonged to the domain of the public sector or the state sector. The share of Education services increased from 4.1 per cent to 7.3 per cent, which was essentially the expansion of public education system. Similarly, share of Public sector communications increased from 0.5 per cent to 0.7 per cent and finally Public administration also increased from accounting for 9.0 per cent of total services to 12.4 per

cent. In the period from 1950 to 1966, major decline in shares were accounted for by Recreation and entertainment services (whose share in total services declined from 5.4 per cent in 1950 to 2.9 per cent in 1965-66), Personal services (from 8.4 per cent to 3.8 per cent), Radio and TV (from 1 per cent to 0.5 per cent) and Dwellings (from 23.8 to 17.8 per cent).

Structure of Different Services in 1980 and Changes from 1966 to 1980

As noted in the earlier discussion on growth of different services, overall, the growth rates of services remained similar in the two periods from 1950 to 1966 and from 1966 to 1980. However there were large differences in growth rates of individual service activities in these two sub periods. This gets reflected as changes in the shares of different individual services by the year 1980.

For example, Road transport continued to increase in share accounting for 5.8 per cent in 1965-66 and 7.4 per cent in 1979-80. Similarly, the share of air transport increased from 0.2 per cent to 0.6 per cent (an almost trebling of its share) and storage from 0.2 per cent to 0.4 per cent. The Banking and insurance sector also increased its share with Banks' share in services increasing from 1.7 per cent to 2.5 per cent and that of non-life insurance increasing from 0.9 per cent to 1.3 per cent. The growth of the public sector led services continued in this period. While the share of education services remained unchanged that of medical services increased from 2.1 per cent o 2.6 per cent, that of public sector communications increased from 0.7 per cent to 0.9 per cent and finally public administration from 12.4 per cent to 14.7 per cent.

In the period from 1966-67 to 1979-80, the service activities that experienced a relative decline in their shares were trade (whose share in total services GDP declined from 28.4 per cent in 1965-66 to 21.8 per cent in 1979-80). The share of hotels also declined from 2.2 per cent to 1.7 per cent. Among the other services the decline of dwellings (17.8 per cent to 14.7 per cent), recreation and entertainment services (2.9 per cent to 2.1 per cent) and personal services (6.2 per cent to 3.8 per cent). The last three continue with a declining trend that began in the 1950s. The only public sector led service that experienced a decline in its share was Railways from 4 per cent to 3.5 per cent.

Contribution to growth 1950 to 1980

Growing sectors contribute to overall growth, and larger sectors due to their size also contribute to growth. In the period from 1950 to 1966, Trade, Dwellings, Public administration, Education services, Road transport, Railways and Banks together contributed to about 80 per cent of the overall services sector growth (Table.2.4). Of these, Trade (30.5 per cent), Dwellings (13 per cent) and Public administration (13.3 per cent) accounted for over 55 per cent the services sector growth.

The services growth pattern changed in the next period from 1966 to 1980. Besides a notable decline in some services such as Trade, growth in services began to get more and more diversified. In terms of contribution to total services growth, Public administration, Trade, Dwellings, Road Transport, Education services, Banking and Railways together contributed to about 68 per cent of the total growth. The contribution to services growth from Trade (15.4 per cent), Dwellings (11.9 per cent) Education (7.1 per cent) and Railways (3 per cent)

was lower in this period than in the previous period. The contribution to growth of Public administration (16.2 per cent), Road transport (8.2 per cent) and Banking (5.5 per cent) was higher in this period as compared to the previous sub period.

Table.2.4: Contribution to GDP growth by service sub-sectors, 1950-51 to 1979-80 (%)

SNo.	Description of category	1950-51 to 1965-66	1965-66 to 1979-80
1	Public administration & defence	13.3	16.2
2	Trade	30.5	15.4
3	Dwellings	13.0	11.9
4	Road transport	6.4	8.2
5	Education (and research & scientific)	7.7	7.1
6	Railways	4.2	3.0
7	Banks	2.0	2.9
8	Medical & health	2.2	2.8
9	Non-life insurance	1.0	1.4
10	Hotel and restaurant	2.4	1.1
11	All other services	17.3	30.0

Source: Planning Commission

Growth and structure of services GDP in India 1980 to 2004-05

In this section we analyse the growth and the structure of the service sector GDP for the more recent period, from 1980 till 2010. For the purposes of the analysis we have sub- divided this period into three sub periods. The first sub period is from 1980-81 to 1996-97, the second sub period is from 1996-97 to 2004-05 and the last sub-period is from 2004-05 to

2009-10.The growth of the services sector accelerated from the early 1980s onwards. The average annual growth rate of the services sector from 1980-81 to 1995-96 was about 6.5 percent. The services sector growth further increased to 7.7 percent in the period from 1996-97 to 2004-05 and finally to 10.3 percent in the most recent period from 2004- 05 to 2009-10.

In the period from 1980 to 1995-96, among the relatively larger service activities, Road transport (7.3 percent) Banks (8.8 percent) and Hotels and restaurants (7 percent) had growth rates of sectoral GDP higher than the average for services (6.9 per cent). Among the services that were relatively of smaller size but experienced notable high growth in this period were Business services (10.7 percent), Public sector communications (7.3 percent), life insurance (8.7 percent) and Public sector telephones (10.7 percent). All other services such as Trade, Public administration, Education services and Railways that accounted to major part of the growth in services in the earlier period from 1950 to 1980, appear to have lower than average growth from 1980-1 to 1995-96.

Pattern of services growth appears to change from 1996-97 onwards. From 1996-97 till 2004-05, the total services GDP grew at 7.7 percent. The highlights of services growth in this period are high growth of banking and insurance services, communication services and business services. The growth rate of trade that had declined in the previous two time periods appears to have picked up between 1995-96 and 2004-05. The annual average growth rate of Trade in this period was 10.7 percent. Road transport continued with its previous growth performance, achieving about 8.6 percent per annum. The most spectacular growth performance is however from the

communication services. In this, public sector telephones (20.8 percent) and private sector communication (36 percent) both emerge as rising services, albeit from a low base. In this period there was also high growth in the banking and insurance sector, banks (13 percent), non-life insurance (8.6 percent) and life insurance (16 percent). The services that remained relatively large but experienced lower than average growth rates between 1996-97 and 2004-05 were Dwellings (2.6 percent), Public administration (6.3 per cent) and the Railways (5.1 percent).

Structure and change in the structure of services from 1980 to 2004

In the 1980s the services sector was in a way dominated by the public sector. Of the top 10 services which together accounted for about 79 percent of services GDP, services dominated by public sector accounted for over 30 percent. These are Public administration (14.5 percent of services GDP), Railways (3.4 percent), Medical and health services (2.6 percent), and banks (2.4 percent). The other services that were partially in the public sector domain are Road transport (14.6 percent) and Education (6.9 percent). The non-public sector related services that accounted for major share of services GDP in the 1980s were Trade (22.2 percent), Dwellings (14.6 percent) Road transport (7.9 percent), and Recreation services (2.1 percent).

By 1995-96, a few years into the regime of new economic policies that favored privatization and reduced role of the state, the services that were previously in the public sector continue to grow. However, this growth could be due to the presence and growth in the private sector activities in these services. Public administration and Railways, the two services fully in the public domain had lower shares in services GDP in 1995-96 as

compared with that in the 1980s. In the year 1995-96, the top 10 services in terms of GDP remain the same as in 1980s, except for a few changes. Recreation and entertainment with a lower share in 1995-96 than in 1980 exits from the list of top ten services while the fast growing non-banking financial institutions accounting for about 3.4 percent of the services GDP is in. Business services GDP which has experienced significant growth over this period appear to be in the 11th position in terms of GDP shares in 1995-96. Trade, whose growth rate was below the services sector average for several years begins to revive, and its share in 1995-96, though lower than in 1980, is still higher than in 1991-92. On the other hand, public administration that also had lower than average growth rates in the period from 1980 to 1995-96, has a lower share in 1995-96.

Major changes in the structure of services GDP happened from 1995-96 to 2004-05. Trade continued to lead as the largest contributor to services GDP by accounting for about 27.5 per cent of services GDP. This is the highest share Trade has ever had since 1950s. In 2004-05, Public administration (11.1 percent), Dwellings (10.5 percent), Road transport (9 percent), Education (7.4 percent), Banks (5.5 percent) and Business services (5.5 percent) are the major contributors to services GDP. Other important services accounting for over two per cent of the services GDP are Hotel and restaurants (2.7 percent), Non- banking financial institutions (2.7 percent) and Public sector communications (2.1 percent).

Contribution to growth 1980 to 2004-05

A few services continued as major contributors to growth of services GDP (Table.2.5). The top five contributors to services

growth in the period from 1980 to 1996 were Trade (which accounted for about 21.5 per cent of total services growth), followed by Dwellings (16.2 per cent), Public administration & defence (12.2 per cent), Road transport (8.4 per cent) and Education services (6.9 per cent). Together these top five services contributed to about 65 per cent of the services growth in the period from 1980 to 1996. In the period from 1996 to 2004-05, the contribution to services GDP growth of two important services declined and they are Dwellings (which had sharp decline contributing only to about 5.2 per cent of services GDP growth) and Public administration which contributed to about 10.2 per cent of GDP growth, down from the earlier period of about 12.2 per cent.

Growth and structure in the most recent period 2004-05 to 2009-10

The most recent period for which we attempt to analyse services sector GDP growth and structure, 2004-05 to 2009-10, is also the most vibrant and high growth period for the economy as a whole, but more for the services sector. Of all the periods discussed earlier, the growth rate of services GDP was the highest (at 10.3 per cent per annum) in this period. As in the previous periods, several individual service activities outperformed the average in terms of GDP growth. New and emerging services that appeared in the previous years as having potential for growth now proved that point by exhibiting remarkably high rates of GDP growth.

Table.2.5: Contribution to GDP growth by service sub-sectors, 1979-80 to 2009-10 (%)

SNo.	Description of category	1979-80 to 1995-96	1995-96 to 2004-05	2004-05 to 2009-10
1	Trade	21.5	29.8	24.3

2	Banks	3.4	6.0	10.6
3	Public administration & defence	12.2	10.2	9.8
4	Business services	1.7	5.2	9.2
5	Road transport	8.4	9.4	6.8
6	Education (and research & scientific)	6.9	7.7	6.2
7	Private sector communications	0.0	0.6	4.1
8	Dwellings	16.2	5.4	3.6
9	Public sector Telephones	0.7	1.9	3.3
10	Hotel and restaurant	1.8	3.0	2.3
11	Railways	2.0	1.5	1.6
12	Medical & health	2.8	3.6	1.4
13	All other services	22.5	15.6	16.8

Source: Planning commission report

Relatively large service activities that outperformed the average annual growth rate of services in this period were Banks (20.1 per cent), Business services (17.2 per cent), Private sector communications (41.1 per cent), Public sector communications (16.4 per cent) and non-life insurance services (14.7 per cent). Other services that accounted for relatively smaller proportion of total services GDP, nevertheless had very high growth rates of GDP in this period were Real estate (26.0 per cent), life insurance (19.4 per cent) and air transport (14.8 per cent). The services that continued to be important in terms of their share in GDP but grew significantly slowly in this period are Dwellings (3.6 per cent), Road Transport (7.7 per cent) and non-banking financial institutions (3.8 per cent).

The structure of the services sector from 2004-05 to 2009-10

In 2009-10, as in the previous years, Trade was the largest of all service sub-sectors accounting for about 26 per cent of

services GDP. This was marginally lower than its share in 2004-05 which was about 27.5 per cent. Public administration came second accounting for about 10.5 per cent of services GDP in 2009-10. This was followed by Banks (8.3 per cent), Road transport (8.1 per cent), Dwellings (7.6 per cent), Business services (7.4 per cent) and Education (6.9 per cent).

The top ten contributors to services GDP growth in this period are presented in Table 2. Trade contributed to about a fourth of the total services growth. The services that contributed to growth in services GDP growth at a rate higher than in the previous time period were Banks (10.6 per cent), Business services (9.2 per cent) Private sector communications (4.1 per cent) and public sector telephones (3.3 per cent). Other services that were in the top ten in terms of their contribution to services GDP growth were Public administration (9.8 per cent), Road transport (6.8 per cent), Education services (6.2 per cent), Dwellings (3.6 per cent) and Hotels and restaurants (2.3 per cent).

Business services have emerged as a major contributor to services sector GDP growth between 2004-05 and 2009-10. Business services accounted for about 7.4 per cent of services GDP in 2009-10. These services in turn are made up of computer related services (5.4 per cent), accounting services (0.2 per cent), Research and development (1.5 per cent) and Legal services (0.5 per cent). In terms of growth of GDP, high double digit growth by the business services is essentially led by computer related services (17.34 per cent) and Research and Development (19.04 per cent). The nature and type of business services show that these have relatively higher exposure to the external sector. Given their size, business services could have

important contributions to the services GDP growth itself. Business services contributed to about 9.2 per cent of the total services sector growth and of this, the computer related services contributed as much as 6.9 per cent.

To summarise this discussion on the growth and structure of services sector in India, the largest sub-sector in the services sector is trade – retail and wholesale trade taken together. Besides retail and wholesale trade in fruits, vegetables, milk, meat, grocery, and so on, this also includes motor vehicle sales and service, machinery, and so on. Trade accounted for 26 per cent of total services GDP in 2009-10. This is followed by banking and financial services (11.1 per cent in 2009-10) – banks, postal savings, pension funds and so on. Public administration comes third accounting for about 10.5 per cent in 2009- 10, followed by road transport (8 per cent) and Dwellings 7.6 per cent.

Trade in Service Sector

RBI's Balance of Payments data suggests that services exports during April-September 2019 maintained their momentum from 2018-19, with a growth (YoY) of 6.4 per cent. The jump in export growth of travel, software, business and financial services offset the contraction in export growth of insurance and other services (including construction, etc.) (Table.2.6). The robust growth in business services exports was driven by higher receipts for R&D services, professional and management consultancy services, and technical and trade related services.

Table.2.6: Services Trade Performance by Sub-Sector

Commodity Group	Share (per cent)		Value (US$ billion)			Growth (per cent YoY)		
	2008-09	2018-19	2017-18	2018-19	Apr-Sep 2019-20 (P)	2017-18	2018-19	April-Sep 2019-20 (P)
Total Services Exports			**195.1**	**208.0**	**104.6**	**18.8**	**6.6**	**6.4**
Travel	10	14	28.4	28.4	14.6	22.0	0.3	8.2
Transportation	11	9	17.4	19.5	10.5	10.0	11.6	10.8
Insurance	1	1	2.5	2.7	1.2	13.6	6.2	-4.9
GNIE*	0.4	0.3	0.7	0.6	0.3	12.9	-8.1	3.5
Software Services	44	40	77.3	83.5	46.1	4.0	7.9	12.7
Business Services	18	19	37.3	39.1	22.4	13.4	4.7	18.6
Financial Services	4	2	5.2	4.9	2.5	1.3	-5.9	4.3
Communication	2	1	2.1	2.6	1.3	-11.7	22.1	18.3
Total Services Imports			**117.5**	**126.1**	**64.1**	**22.6**	**7.3**	**7.9**
Travel	18	17	19.5	21.7	12.2	18.6	11.2	4.3
Transportation	25	16	17.6	20.5	12.1	24.6	16.6	22.8
Insurance	2	1	1.7	1.8	0.8	13.7	5.3	-0.7
GNIE*	2	1	0.8	1.1	0.6	32.5	40.3	11.9
Software Services	5	5	5.1	5.8	4.0	43.3	13.1	33.7
Business Services	29	32	36.6	40.4	22.9	13.3	10.3	19.6
Financial Services	6	3	5.5	3.5	1.1	-5.4	-37.0	-40.7
Communication	2	1	1.0	1.1	0.6	4.8	18.4	25.1
Services Trade Balance			**77.6**	**81.9**	**40.5**			
Goods Trade Balance			**-160.0**	**-180.3**	**-84.3**			

Source: RBI.
Note: *GNIE = Government not included elsewhere; P: Preliminary.

Trends in the composition of services exports over the past decade show that the shares of traditional services, such as transport, and value-added services, such as software, financial services and communications, have witnessed a decline. Meanwhile, the share of travel services has increased over the past decade and that of business services has risen slightly. The share of software services has declined by 4 percentage points over the past decade to reach 40 per cent of total services exports in 2018-19. Yet, India's services exports remain concentrated in software services, accounting for twice the share of the second-largest component, business services. This has made the software sector, and therefore overall services exports, susceptible to changes in exchange rate, global IT spending, stringent USA visa norms, and rising cost pressures due to increased local hiring in export destinations. Even though global IT spending, as projected by Gartner in October 2019, is expected to accelerate in 2020, rising production costs and uncertainty related to Brexit and USA's visa norms pose downward risks to India's software exports.

Services import growth (YoY) during April-September 2019 was 7.9 per cent. An increase in import growth for transport, software, communication and business services offset the contraction in imports of financial and insurance services and the slowdown in imports of travel services. Increased business services payments were primarily driven by professional, management and consultancy services, and technical and trade related services. Net exports of services increased from US$ 38.9 billion during April-September 2018 to US$ 40.5 billion during April- September 2019, up 4.1 per cent YoY. The services trade surplus, largely driven by the surplus in software services, financed about 48 per cent of India's merchandise deficit during April-September 2019, partially offsetting the impact on the current account deficit.

Besides software services, India runs a small trade surplus in travel, insurance and financial services. However, within travel services, India persistently runs a trade deficit in education services with education imports, i.e., expenditure incurred by Indian students traveling abroad for education purposes on tuition, room and boarding, reaching about US$ 3 billion in 2018-19. Adding to this other payments for education purposes such as fees paid for correspondence courses abroad, which constitute as payments for receiving education services abroad, there has been a marked increase in India's education services imports in the recent years amounting to US$ 5.0 billion in 2018-19.

From a long-run perspective, India's focus on boosting services exports during bilateral trade negotiations augurs well for mitigating bilateral trade deficits with trading partners. Looking

ahead, world trade volume for goods and services are projected to recover in 2020 following a deceleration in 2019. Global uncertainty, protectionism and stricter migration rules would be key factors in shaping India's services trade ahead.

India in World Commercial Services Exports

The increasing role of services in economic activity is also reflected in the growing importance of services in global trade and in India's trade. Looking at two time periods, 2005-11 and 2012-2018, it is evident that both commercial services2 exports and goods exports have slowed in India and globally in the recent years (Table.2.7). However, while merchandise exports were growing faster than commercial services exports during 2005-11, commercial services exports have outperformed goods exports lately. This has led to an increase in the share of commercial services exports in overall exports both in India and globally.

Table.2.7: Performance of Services and Merchandise Exports in India and World

Country	Growth in merchandise exports (per cent)		Growth in commercial services exports (per cent)		Share of commercial services exports in total exports (per cent)	
	CAGR 2005-11	CAGR 2012-18	CAGR 2005-11	CAGR 2012-18	2005	2018
World	9.7	0.8	8.9	4.4	19.8	22.9
India	20.4	1.5	17.7	5.9	34.2	38.6

Source: WTO.
Note: Calculations are on calendar year basis.

According to WTO data, India's share in world's commercial services exports has risen steadily over the past decade to reach 3.5 per cent in 2018, twice the share in world's merchandise exports at 1.7 per cent. India now ranks 8th among the world's largest commercial services exporters and continues to register strong growth performance relative to the other major services-

exporting countries as well as world services export growth (Table.2.8).

Table.2.8 Commercial Service Exports in top 10 Exporting Countries

Country	Share in global commercial services exports in 2018	Global ranking in 2018	Growth in Commercial Services Exports (per cent YoY)		
			2017	2018	Jan-June 2019
World			**8.0**	**7.7**	**N.A.**
USA	14.0	1	5.2	3.8	0.7
UK	6.5	2	2.4	5.6	-3.0
Germany	5.6	3	8.0	7.3	-2.4
France	5.0	4	5.7	6.2	-7.0
China	4.6	5	8.7	17.1	4.2
Netherlands	4.2	6	14.3	11.4	3.4
Ireland	3.6	7	20.5	14.3	10.9
India	**3.5**	**8**	**14.5**	**10.7**	**7.1**
Japan	3.2	9	6.4	3.1	3.6
Singapore	3.2	10	10.0	6.6	-2.1

Source: WTO.
Note: Calculations are on calendar year basis; N.A.: not available

2.5. Infrastructure at Cross Roads

It is well-accepted that investment in infrastructure is necessary for growth. Power shortages lead to dependence on expensive captive power, which in turn impels high costs and lack of competitiveness for the economy. Inadequate transport infrastructure leads to bottlenecks both in the supply of raw materials as well as movement of finished goods to the marketplace. The price that farmers get for their produce is depressed if there is no connectivity through good quality rural roads, which in turn keeps rural incomes depressed negating the fruits of high overall growth performance. For all these reasons, provision of adequate infrastructure is essential for growth and for making growth inclusive. India recently launched the National Infrastructure Pipeline for the period FY 2020-2025.

Sectoral Developments

- **Road Sector**

Road transport is the dominant mode of transportation in terms of its contribution to Gross Value Added (GVA) and traffic share. The share of transport sector in the GVA for 2017-18 was about 4.77 per cent of which the share of road transport is the largest at 3.06 per cent, followed by the share of the Railways (0.75 per cent), air transport (0.15 per cent) and water transport (0.06 per cent). Similarly, as per the National Transport Development Policy Committee Report, as of 2011-12, road transport is estimated to handle 69 per cent and 90 per cent of the countrywide freight and passenger traffic, respectively. The Ministry of Road Transport & Highways (MoRTH) is mandated with the development and maintenance of road networks especially the National Highways as well as the implementation of the Motor Vehicle Act under which it formulates broad policies relating to road transport.

Road Network in the Country: A good road network is an essential requirement for the rapid growth of the economy. Roads provide connectivity to remote areas, open up backward regions and facilitate access to markets, trade and investment. Roads should not be looked at in isolation, but as part of an integrated multi-modal transport system, which provides crucial links with airports, railway stations, ports and other logistical hubs. As on 31.3.2018, India had a road network of about 59.64 lakh km. The total length of National Highways was 1.32 lakh km as on March 1, 2019. The place at which roads have been constructed has grown significantly from 17 kms per day in 2015-16 to 29.7 kms per day in 2018-19. However, the pace seems to have moderated in 2019-20 (Table.2.9). Total

investment in the Roads and Highway sector has gone up more than three times in five year period of 2014-15 to 2018- 19.

Table.2.9: Road Length Awarded & Constructed (Length in km)

	2015-16	2016-17	2017-18	2018-19	2019-20 #
Award of NHs/Road projects	10,098	15,948	17,054	5,494	2,103
Construction of NHs/Roads	6,061	8,231	9,829	10,855	4,622
Road construction per day	17	23	27	29.65	12.7

Source: MoRTH. Note: # - As on 30.09.2019.

- **Railways**

Indian Railways (IR) with over 68,000 route kms is the third largest network in the world under single management. During the year 2018-19, Indian Railways carried 120 crore tonnes of freight and 840 crore passengers making it the world's largest passenger carrier and 4th largest freight carrier. Revenue Earning Freight loading by IR during 2018-19 was 12,215 lakh tonnes as against 11,596 lakh tonnes during 2017-18, registering an increase of 5.34 per cent. Passengers originating was 84,390 lakh in 2018-19 as compared to 82,858 lakh in 2017-18, registering an increase of 1.85 per cent in 2018-19 over the previous year.

Rail Safety: Safety is accorded the highest priority by Indian Railways and steps are being undertaken on a continuous basis to prevent accidents and to enhance safety of the passengers. During 2018-19, consequential train accidents decreased from 73 to 59 in comparison to the corresponding period of the previous year. In the year 2019-20 (April - October 2019), 41 consequential train accidents have occurred. Cleanliness and environmental Initiatives by Indian Railway: Indian Railways

cover over 8,700 stations and carry around 230 lakh passengers daily with clientele of varied socio-economic backgrounds.

Cleanliness is a continuous process and every endeavour is made to keep the stations and coaches in properly maintained and clean condition. Special Cleanliness Campaigns under Swachh Bharat Abhiyan were launched by Indian Railways on October 2, 2014. Regular intensive campaigns/drives have been organized since then by the Indian Railways with the sole objective to achieve significant and sustainable improvements in cleanliness standards. Modernization of stations: Modernization/upgradation of Railway stations in Indian Railways is a continuous and on-going process. 1,253 stations have been identified for development under Adarsh Station Scheme and are planned to be developed by 2019-20. A dedicated SPV, Indian Railway Station Development Corporation (IRSDC) Limited has been set up to carry out modernization of railway stations. IRSDC is working on modernization of many stations on PPP mode.

- **Civil Aviation**

India is the third largest domestic market for civil aviation in the world. India has 136 commercially-managed airports by Airports Authority of India (AAI) and 6 under Public- Private Partnerships (PPP) for Operation, Maintenance and Development of airports. The airline operators in India have scaled up their aircraft seat capacity from an estimated 0.07 annual seats per capita in 2013 to 0.12 in 2018. The comparable estimates for China, the second largest domestic market in the world, over this period were 0.33 in 2013 and 0.49 in 2018, while those of the United States of America, the largest domestic market, were 2.59 in 2013 and 2.95 in 2018.

Indian aviation re-established its resilience in the year 2019-20. Despite a large airline suspending operations on April 17, 2019, the sector swiftly sprung back to fill the void created in passenger and air cargo capacity. Capacity utilization is also being augmented by way of automation at airports. Overall objective is to meet the growing demand and set global best practices and performance quality standards. A total of 43 airports have been operationalized since the scheme for operationalizing unserved airports (Udan) was taken up, of which 4 were done in FY 2019-20. On airport connectivity, India stood first along with 7 others (USA, China, Japan, UK, etc.) in the Global Competitiveness Report 2019 of World Economic Forum.

To ease the strain on existing airport capacities, 100 more airports are to be made operational by FY 2023-24. Besides using 46 idle airstrips, 16 private greenfield airports, 15 AAI airports, 31 heliports, and 12 waterdromes would be developed. To bring in efficiency and resources, six airports (Ahmedabad, Guwahati, Jaipur, Lucknow, Mangalore, and Thiruvananthapuram) have been taken up for development under PPP mode. Five new greenfield airports [Durgapur (West Bengal), Shirdi (Maharashtra), Pakyong (Sikkim), and Kannur (Kerala) and Kalaburagi/ Gulbarga (Karnataka)] were successfully operationalized this year. To continue with the high growth trajectory, the Government has been providing a congenial environment so that the Indian carriers double their fleet from about 680 aircraft (number of aircrafts endorsed on Scheduled Airlines) at the close of November 2019 to over 1,200 by FY 2023-24. This would be achieved by easing leasing and financing from Indian shores in conformance with the provisions of the Cape Town Convention and Protocol on

Aircraft Equipment, efficient use of air traffic rights, encouraging domestic and international passenger and goods transfers, and rationalizing the tax regime.

- **Shipping**

Shipping is essential to both commodity and services trade of any country. Around 95 per cent of India's trade by volume and 68 per cent in terms of value is transported by sea. The performance of the global shipping industry is generally mirrored by Indian shipping. India's shipping tonnage was only 1.92 lakh Gross Tonnage (GT) on the eve of independence. It increased gradually thereafter, but was practically stagnant at around 70 lakh GT till the beginning of 2004-05. However, the tonnage tax regime introduced by the Government of India in that year boosted the growth of the Indian fleet as well as its tonnage. However, it is an undeniable fact that the after-effects of the global economic downturn are still having negative effect on the global shipping industry in general and Indian Shipping industry in particular.

As on 30th September, 2019, India had a fleet strength of 1,419 ships. Despite one of the largest merchant shipping fleet among developing countries, India's share in total world dead weight tonnage (DWT) is only 0.9 per cent as on January 1, 2019 according to Institute of Shipping Economics and Logistics. The existing Indian fleet is also aging, with the average age increasing from 15 years in 1999 to 19.71 years as on October 1, 2019 (42.06 per cent of the fleet is 21 years and above and 12.49 per cent is in the 16 to 20 year age group).

Ports Sector: The Major Ports in the country have an installed capacity of 1,514.09 MTPA as in March, 2019 and handled traffic of 699.09 MT during 2018-19. While increasing

the capacity of major ports, Ministry of Shipping has been striving to improve the operational efficiencies through mechanization, digitization and process simplification. As a result key efficiency parameters have improved considerably. The Average Turnaround Time in 2018-19 improved to 59.51 Hrs as against 64.43 Hrs in 2017-18. The Average Output Per Ship Berthday has increased from 15,333 Tonnes in 2017-18 to 16541 Tonnes in 2018-19.

- **Telecom Sector**

Total telephone connections in India grew by 18.8 per cent from 9,961 lakh in 2014-2015 to 11,834 lakh in 2018-19. As on 30 September 2019, the total subscription stood at 11,943 lakh of which 5,147 lakh connections were in the rural areas and 6,796 lakh in the urban areas. Landline telephone connections were at 206 lakh while the number of wireless telephone connections stood at 11,736 lakh at the end of September 2019. The wireless telephony now constitutes 98.27 per cent of all subscriptions whereas share of landline telephones now stands at only 1.73 per cent. The overall tele-density in India stands at 90.45 per cent, the rural tele-density being 57.35 per cent and urban teledensity being 160.71 per cent at the end of September 2019. The private sector dominates with a share of 88.81 per cent (10,606 lakh connections) at the end of September, 2019 while the share of public sector was 11.19 per cent (1,336 lakh connections).

Internet and broadband penetration in India has kept a rapid pace. The number of internet subscribers (both broadband and narrowband put together) stood at 6,653 lakh at the end of June 2019 as compared to 2,516 lakh in 2014. The number of mobile internet subscribers was 6,436 lakh at the end of June 2019

while the number of wireline internet subscribers was 217 lakh. Total broadband connections increased by about ten times, from 610 lakh in 2014 to 5,946 lakh in June 2019. This has accelerated the growth in internet traffic, with data usage touching the highest ever level of 462 lakh terabytes in the year 2018. India is now the global leader in monthly data consumption, with average consumption per subscriber per month increasing 157 times from 62 MB in 2014 to 9.8 GB in June 2019. The cost of data has also reduced substantially, enabling affordable internet access for millions of citizens.

Challenges: There are 4 major players in the sector - 3 in the private sector and BSNL & MTNL in the public sector, operating in mutually exclusive zones. Since 2016, the sector has witnessed substantial competition and price cutting by the Telecom Service Providers (TSPs) creating financial stress in the sector. As a result, the sector is experiencing consolidation. While some operators have filed for bankruptcy, others have merged, in their quest to improve viability. The price of data in the country is among the lowest in the world. For the quarter ending June2019, the price of data was ` 7.7 per GB as compared to ` 200 per GB in June 2016. The Average Revenue Per User (ARPU) for GSM based mobile services has also gone down substantially from ` 126 in June 2016 to 74.30 in June 2019.

BSNL and MTNL are also affected by the tariff war that has impacted their cash flow resulting in mounting losses. The Government has drawn up a plan to revive these PSUs. The revival plan consists of several measures including reduction of staff cost through Voluntary Retirement Scheme, allotment of spectrum for 4G services, monetization of land/building, tower

and fiber assets of BSNL/MTNL, debt restructuring through sovereign guarantee bonds and 'in-principle' approval for merger of BSNL and MTNL

- **Petroleum and Natural Gas**

India is the third largest energy consumer in the world after USA and China . With a share of 5.8 per cent of the world's primary energy consumption, India's energy requirement is fulfilled primarily by Coal, Crude Oil, Renewable Energy and Natural Gas. However, India's oil production is one of the lowest among the major economies of the world and has been declining over a period of time. During 2019-20, the domestic crude oil production is estimated to be 32.6 MMT (Economic Survey calculations), it shows the trends in crude oil production that has witnessed a secular decline since 2014-15 with corresponding fall in onshore as well as offshore crude oil production. The reduction in crude oil production may be attributed to natural decline in ageing and matured fields and no major discoveries. It is worthwhile to note that the proven reserves of crude oil have decreased concurrently since 2014, with the steeper fall in onshore reserves. However, the decline in reserves till 2018 has seen a reversal in 2019, with reserves rising from 594 MMT in 2018 to 619 MMT in 2019.

The surge in reserves of crude oil in 2019 is accompanied by corresponding increase in onshore and offshore reserves, with onshore reserves rising at a steeper rate. This may be the result of the major reforms undertaken by Ministry of Petroleum and Natural Gas in exploration and licensing policy to enhance exploration activities, attract domestic and foreign investment and accelerate domestic production of oil and gas from existing fields. The share of private/ joint ventures in onshore crude oil

reserves were falling till 2018, but has seen an uptick in 2019. In case of offshore reserves of crude oil, the participation of private sector is steadily rising, with the share of private/ JVs reaching to 19.5 per cent in 2019.

India with a refining capacity of 249.4 MMTPA is the fourth largest in the world after the United States, China and Russia. Refinery capacity increased from 234.0 MMT in 2017- 18 to 247.6 MMT in 2018-19, while Crude Oil processed rose to 257.2 MMT in 2018-19 as against 251.9 MMT in 2017-18. However, refinery capacity utilisation fell to 103.9 per cent in 2018-19, compared to 107.7 per cent in 2017-18. There is a need to augment refining capacity to meet growing demand for petroleum fuels and petrochemicals. During 2019-20, the domestic production of natural gas is estimated to be 31.8 billion cubic metres (BCM) (Economic Survey calculations). The declining trend in domestic production of natural gas till 2016-17 was arrested in 2017-18 and it rose further in 2018-19. The similar trend can be observed for offshore production of natural gas, while onshore production increased continuously since 2014-15. The production of natural gas is dominated by PSUs, with its share increasing over the period.

In order to encourage the participation of private entities in oil and natural gas sector, Government has undertaken several reform measures which, inter-alia, include simplified fiscal and contractual terms, bidding of exploration blocks under Category II and III sedimentary basins without any production or revenue sharing to Government, early monetization of discoveries by extending fiscal incentives, incentivizing gas production including marketing and pricing freedom, induction of latest technology and capital, more

functional freedom to National Oil Companies for collaboration and private sector participation for production enhancement methods in nomination fields, etc.

- **Power**

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 has improved its ranking to 76th position in the Energy Transition Index published by the World Economic Forum (WEF). Fostering Effective Energy Transition, 2019 Report of WEF states, "India, Indonesia and Bangladesh have made fast progress towards universal electrification due to strong political commitment, a stable policy regime, use of grid expansion, and decentralized generation sources, and a supportive environment for investment in infrastructure."

Along with universal electrification, commendable progress has been made in generation and transmission of electricity. The installed capacity has increased from 3,56,100 MW in March 2019 to 3,64,960 MW as on 31.10.2019. The fuel-wise and sector-wise distribution shows that thermal power accounts for about 63 per cent of total installed capacity and roughly half of the generation capacity is in the private sector. Total generation of energy (including imports and renewable sources of energy) was 659 BU (as on 30.09.2019). In addition, the peak deficit i.e. the percentage shortfall in peak power supply vis-a-vis peak hour demand has declined from around 9 per cent in 2012-13 to 0.7 per cent during 2019-20 (October 2019).

Access to electricity is necessary for making growth inclusive and for promoting ease of living. Pradhan Mantri Sahaj Bijli

Har Ghar Yojana (Saubhagya) was launched on September 25, 2017 with an outlay of ` 16,320 crores to achieve universal household electrification by providing last mile connectivity by 31.03.2019. All the States have reported electrification of all households on Saubhagya portal, as on 31.03.2019, except few households in LWE affected Bastar region of Chhattisgarh. Supply of electricity to the rural domestic consumers is a good indicator of inclusive growth. As a result of various initiatives taken by Government of India along with the State governments, 18 States have reported supply of more than 20 hours of electricity supply while remaining states have reported about 15 or more hours. This is a major achievement compared to yester years when there were regular power cuts.

- **Mining Sector**

As per available information, India produces as many as 95 minerals which include 4 hydrocarbon energy minerals (coal, lignite, petroleum & natural gas), 5 atomic minerals (ilmenite, rutile, zircon, uranium, and monazite), 10 metallic, 21 non-metallic and 55 minor minerals. It provides basic raw materials to many important industries. Mining and quarrying sector contribution (at current price) to GVA accounted for about 2.38 per cent during 2018-19 as per provisional estimates of Annual National Income 2018-19 published by NSO. Based on the overall trend, the Index of Mineral Production (base 2011-12 = 100) for the year 2018-19 is estimated to be 107.9 as compared to 104.9 of previous year. There has been a notable turnaround in mineral production because of policy reforms. The production of major minerals during the year 2018-19 has recorded a growth of 25 per cent when compared to last year in terms of value.

- **Housing and Urban Infrastructure**

India is one of the fastest growing countries in the world with rapid urbanization. There were about 37.7 crore people residing in the urban habitats of India (Census 2011), comprising about 31 per cent of the total population which is expected to reach 60.6 crore by 2030 (2015:UN). The Pradhan Mantri Awas Yojana- Urban (PMAY-U) was launched in June, 2015 to provide pucca house with basic amenities to all eligible urban poor. The States/UTs were mandated to conduct demand survey to estimate the housing demand in their respective cities/towns. So far, a validated demand of 1.12 crore houses has been registered. Urban habitats and cities are the epicentres of economic growth which has contributed significantly to the Indian economy. Over 60 per cent of India's current GDP comes from the cities and towns. The construction sector accounts for 8.2 per cent of GDP which includes housing and employs about 12 per cent of the workforce1. Therefore, the investment made under PMAY (U) not only provides pucca houses to the eligible families to achieve the goal of 'Housing for All' but also triggers multiplier effect on the overall economy. PMAY-U is one of the largest housing schemes of the world covering complete urban India. PMAY (U) is being implemented through four verticals.

The scheme of PMAY (U) is rapidly moving towards achieving the vision for providing a pucca house to every household by 2022. Out of 1.03 crore houses approved, 60 lakhs have been grounded for construction, of which 32 lakh houses have been completed and delivered. The significant progress of PMAY (U) with regard to earlier schemes is an outcome of comprehensive strategy of inclusion, scheme architecture, use of digital/space technology, funding

mechanism etc. As a principle, the scheme adopts demand driven approach carrying forward the ethos of cooperative federalism. Unlike the earlier schemes, the States/UTs have been authorised to prepare and approve the projects based on city wise demand survey to meet the requirement of their housing demand. A State Level Appraisal Committee (SLAC) for Technical Appraisal of the Projects and a State Level Sanctioning and Monitoring Committee (SLSMC) under the chairmanship of Chief Secretary of the States/UTs for approval of the projects have been constituted in each State/UT. As land and colonisation is the State subject, the function of beneficiary identification based on eligibility criteria has also been entrusted to States/UTs. Such flexibility has resulted in greater participation of the States/UTs and the citizens. The scheme has mandated ownership of the house in the name of female of household or in the joint name along with male member of the household to enable women's empowerment.

Given the large number of houses sanctioned under the Mission, arrangement for regular funding for project is vital for grounding and completion of projects. Over and above the year-on-year budgetary provisions, a separate mechanism through creation of National Urban Housing Funds (NUHF) has been approved by Union Cabinet to mobilise resources through Extra Budgetary Resources (EBR) to the tune of ` 60,000 crore for funding PMAY(U). Such arrangement has enabled the Ministry to provide Central assistance in a time bound manner for uninterrupted progress of projects with States/UTs and Central Nodal Agencies (CNAs). Government has also created an Affordable Housing Fund (AHF) in the National Housing Bank (NHB) with an initial corpus of ` 10,000 crore using priority sector lending shortfall of

banks/financial institutions. The fund is used for micro financing of the HFCs and NBFCs which provide loans at reduced interest rate to the individual borrowers for promoting home ownership.

Current Implementation Status of Smart Cities Mission (SCM): All 100 cities under Smart City Mission have incorporated Special Purpose Vehicles (SPVs), City Level Advisory Forums (CLAFs) and appointed Project Management Consultants (PMCs). Since the launch of the mission, 5,151 projects worth more than ` 2 lakh crores are at various stages of implementation in the 100 cities. As on November 14, 2019, 4,154 SCM projects worth ` 1.49 lakh crores (72 per cent of the total proposals) have been tendered, of which 3,359 projects worth ` 1.05 lakh crores (51 per cent of total proposals) have been issued work orders. 1,290 projects worth 22,569 crores have been completed and are operational.

2.6. Prices: Headline Inflation- Inflation based on WPI and CPI combined, Food Inflation, Core Inflation

- **Inflation**

The policies of the government can be judged on the basis of its capabilities to attain high economic growth with less price volatilities. The vital goal of any government is to accelerate economic growth with price stability. The monetary and fiscal authorities envisaged various economic policies to control economic fluctuations in the system. The price stability doesn't mean zero inflation, that is mild inflation is essential to boost confidence among the investors to expand their activities which generates employment opportunities and income. That is economic growth is consistent with the mild inflation. Thus, the

price stability indicates low, stable and predictable inflation in an economy.

Meaning and Definition

The essential features of inflation are the general price level is continuously rising and the value of money is declining.

Milton Friedman has stated that "inflation is the process of a steady and sustained rise in prices''.

Coulborn defines inflation as "too much money chasing too few goods''

Measurement of Inflation in India

Inflation is a sustained increase in the general price level of goods and services in an economy over a period. In India, inflation is measured using various price indices. These indices help to arrive at a single figure for inflation when prices of different commodities are changing at varying rates. The most commonly cited indices are Wholesale Price Index (WPI), which is a measure of average change in wholesale prices of goods in the economy, and Consumer Price Index (CPI), which measures the change in the general level of retail prices of selected goods and services that households purchase for the purpose of consumption.

- **Wholesale Price Index WPI**

It is the most widely used inflation indicator in India. WPI series is compiled and released by the Office of the Economic Adviser (OEA), Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry, Government of India (GOI). WPI tries to capture the movement of prices in the economy at the wholesale level. This index does not cover services and non-tradable commodities. The base year of WPI is revised from time to time in order to sync it up with the other indicators in the economy. India changed the base year for calculating WPI based inflation from 1993-94 to 2004-05 and

finally to 2011-12. Inflation in India is calculated on a point to point time. The WPI at the end of a particular month in the current year is compared with the WPI on the same day in the previous year and the percentage change in the WPI over the year is the rate of inflation.

As per the manual on WPI (2004-05=100) released by CSO, WPI is based on select items which are considered important regionally on the basis of traded values of commodity baskets. Construction of WPI series with base year 2004-05 involves taking each product group in the commodity basket which covers at least 80 percent of the traded value at the group level. The components of WPI are divided into three groups: Primary Articles which mostly consist of Food items; Fuel and Power; and Manufactured Products. The comparative weights, number of items and quotations for different components of old and new WPI series. According to the WPI manual (base 2011-12=100), GOI13, "In the WPI (base 2004-05) series, ex-factory prices, inclusive of excise duties, were used as first point of bulk sale in respect of manufactured products. However, in the 2011-12 WPI series, the effective prices for Manufactured Products used for compilation has been changed to be defined as the "basic/list price- rebate/ trade discount", thus leaving out any indirect taxes such as Central Excise Duty (CED) as part of price definition." Excluding indirect taxes from price definition is in concordance with the international practice of computing inflation and brings it closer to the concept of producer price index.

WPI series with base year 2004-05 is calculated in the following manner. Firstly, the price index for each commodity is calculated individually using the price relativesg for all price

quotations of a commodity. Then a simple arithmetic mean is computed for all price relatives. The same procedure is adopted for all 676 price quotations to obtain 676 price indices. However, the procedure to compute price indices for WPI with base year 2011-12 has changed. First, the elementary price index is calculated using "Jevons Index formula", which uses the Geometric Mean (GM) of price Relatives. This is the lowest level of aggregation which yields the price indices. In the second stage, the elementary price indices are aggregated using weighted Arithmetic Mean (AM) and higher level indices are obtained using Laspeyre's index formulah . As pointed out in the WPI manual GOI13, WPI data collection is not done on a defined periodicity and there are no pan-India collection centres. Price quotations for manufactured items are collected through online surveys conducted by the Ministry of Commerce and Industry whereby designated factories submit their data online. Price quotations for food items are put together by the Ministry of Agriculture whereas fossil fuel prices are put together by Ministry of Petroleum and Natural Gas and by Public Sector Units (PSUs). Earlier, WPI data was released on a weekly basis by Ministry of Commerce and Industry but since February 2012, it is available only on a monthly basis. The WPI based inflation is used by the government in formulation of trade, fiscal and other economic policies. Business firms, policy makers, statisticians, and accountants use WPI as a useful objective indexing tool when they formulate price adjustment clauses. However, there are also certain limitations in the use of WPI index. Price of services is not included in WPI index. Moreover, for all economic policymaking, the CPI is used as a relevant indicator, internationally and not the WPI.

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- **Consumer Price Index**

Consumer price Index measures price changes from the perspective of a retail buyer. It measures changes over time in the level of retail prices of selected goods and services on which consumers of a defined group spend their incomes.
Four types of CPI are as follows:

- CPI for Industrial Workers (IW).
- CPI for Agricultural Labourer (AL).
- CPI for Rural Labourer (RL).
- CPI (Rural/Urban/Combined).

Of these, the first three are compiled by the Labour Bureau in the Ministry of Labour and Employment. Fourth is compiled by the Central Statistical Organisation (CSO) in the Ministry of Statistics and Programme Implementation. Base Year for CPI is 2012.

CPI vs. WPI

WPI, tracks inflation at the producer level and CPI captures changes in prices levels at the consumer level. Both baskets measure inflationary trends (the movement of price signals) within the broader economy, the two indices differ in which weightages are assigned to food,

fuel and manufactured items.WPI does not capture changes in the prices of services, which CPI does. In April 2014, the RBI had adopted the CPI as its key measure of inflation.

Headline Inflation

Headline Inflation is the total inflation for the period, comprising a basket of commodities. It is the Consumer Price Index (CPI) measure that examines the weighted average of prices of a basket of consumer goods and services such as food, fuel and medical care. CPI demonstrates the overall inflation in the economy.

It is used to measure short- term effects on the economy. It gives overall picture of commodities' price changes and reflects overall demand or consumption trends. It is used to measure the effect of food and energy whose prices are highly volatile in nature. Inflation in CPI means lower income group of people would be hurt more. It means that the magnitude of inflation effect on the bottom line people as most their income is spent on the basic essential items. Food and energy are important constituent of daily requirement and face constant shocks due to demand supply gap. The supply shocks like deficit rainfall, oil prices affect headline inflation, which are temporary and will be adjusted soon. Therefore, policies framed on headline inflation may be ineffective as there is lag between policy framing and inflation levels. So, headline inflation is important for medium to long-term policy formulation.

If the headline inflation persist for longer time it will have its effects on the core inflation too, so necessitating the policy action as in log run it may trigger second round of inflation. To control inflation in CPI, RBI set medium term target to 4% with

a band of +-2.When shocks to headline inflation persist for longer period of time, The critical role of monetary policy, then, is to block their effects of supply shocks by anchoring long-term inflation expectations.

With new Monetary Policy Framework, RBI is formulating policies based on headline inflation trends to address overall inflation rather than narrow picture by excluding food and fuel.

- **Core Inflation**

It is used to measure effect of core needs like transport, communication, living etc. It provides direction of inflation in economy excluding effect of volatile goods which fluctuate due to every shocks. It excludes the temporary supply shocks related to food and fuel.
It is better for short-term policy formulation. Core inflation represent long run trend in the price level. Core inflation paved the path for overall inflation in future.
core inflation is the means to achieve low and stable inflation.

- **Food Inflation**

Food inflation in India has remained stubborn in recent years. It is the one component of headline inflation. Food inflation may benefit farmers as they will receive higher returns for their produce, whereas consumers will suffer as they will have to pay higher prices as compared to last year for the same food items.
Reasons for food Inflation: With rise in income, the expenditure on non-food rise faster than food expenditure. This is owing to the relatively low income elasticity for food expenditure. However, rising income is generally accompanied by increase in preference for higher value and more nutritious food items. Another aspect is the structural constraints facing Indian agriculture leading to demand-supply gaps and thus persistent build-up of food price pressure. These constraints are

rising population, limited supply and competing uses of cultivable land, low agricultural productivity which remained more or less stagnant during the 2000s. The vagaries of climate change, in particular, the adequacy, spatial and temporal distribution of rainfall together with lack of necessary inputs and mechanization often resulted in fluctuating agricultural production and thus bouts in food prices. Rising personal disposable income, particularly, in rural areas with the implementation of MGNREGA and the steep hikes in MSPs (minimum support price) in recent years may have also contributed to increase in and changing composition of demand for food and thus higher food inflation. The role of fiscal and monetary policy, especially the impact of the stimulus packages and the monetary stance in the wake of the global financial crisis have also been ascribed to have also contributed to rising inflation in general.

A number of proximate factors such as increasing demand particularly arising from higher rural wages, rising agricultural cost of production, changing consumption pattern favoring protein items, increases in minimum support prices (MSPs) and droughts in certain years are believed to have led to higher food inflation.

2.7. Monetary Management in India Prior to 1990 and position after 1990s

In India, the transition of economic policies in general, and financial sector policies in particular, from a control oriented regime to a liberalised but regulated regime has been reflected in changes in the nature of monetary management. While the basic objectives of monetary policy, namely price stability and ensuring credit flow to support growth, have remained unchanged, the underlying operating environment for monetary policy has undergone a significant transformation. An

increasing concern is the maintenance of financial stability. The basic emphasis of monetary policy since the initiation of reforms has been to reduce segmentation through better linkages between various segments of the financial markets including money, Government securities and forex markets. The key development that has enabled a more independent monetary policy environment was the discontinuation of automatic monetisation of the Government's fiscal deficit through an agreement between the Government and the Reserve Bank in 1997. The enactment of the Fiscal Responsibility and Budget Management (FRBM) Act, 2003 has strengthened this further. Development of the monetary policy framework has also involved a great deal of institutional initiatives to enable efficient functioning of the money market: development of appropriate trading, payments and settlement systems along with technological infrastructure.

The preamble of the Reserve Bank of India Act, 1934 enjoins the central bank "…to regulate the
issue of Bank Notes and keeping of reserves with a view to securing monetary stability in India and generally to operate the currency and credit system of the country to its advantage…". Within this broad mandate, the Reserve Bank's monetary policy pursues the twin objectives of price stability and ensuring the availability of credit to the productive sectors in the Indian economy. The emphasis between the twin objectives of price stability and growth has, however, varied over time depending on the evolving price-output situation. Initially, this was guided by the concept of developmental central banking crystallized in the First Five Year Plan, which required the Reserve Bank to create an institutional framework for industrial as well as rural credit to support economic growth (GoI,1951). This reflected a

widespread consensus that public investment could spur rapid growth.

The concomitant deficit financing associated with public investment began to spill over into inflation and concerns began to be expressed over the inflationary consequences of the fiscal deficit during the 1960s. These concerns gathered momentum during the 1970s as inflation trended up to around nine per cent during the 1970s. Against this backdrop of persistent high inflation, the Chakravar ty Committee recommended that price stability emerge as the "dominant" objective of monetary policy with a concomitant commitment to fiscal discipline (RBI, 1985). Besides the conventional wisdom that fluctuations in prices affected business decisions, inflation was also seen as a social injustice, especially as the poor seldom had hedges against inflation.

The case for price stability as the dominant - if not sole - objective of monetary policy gathered momentum in the early years of financial liberalisation. Although it had to stabilise the economy in the face of the balance of payments crisis of 1991, the Reserve Bank emphasised that its ultimate mission was to steer monetary policy with its sights set firmly on inflation control (RBI, 1992). Price stability was seen to be critical to sustain the process of reforms (RBI, 1993). This acquired a new urgency as strong capital flows, after the liberalisation of the external sector, began to push inflation into the double digits. The very fact that inflation could be reined in during the second half of the 1990s by tightening monetary conditions - in turn, enabled by improved monetary-fiscal interface, as discussed later - appeared to demonstrate the potency of monetary policy in ensuring price stability (RBI, 1997). In the latter half of the 1990s, as the economy slowed down, monetary policy pursued an accommodative stance with an explicit policy preference for

a softer interest rate regime while continuing a constant vigil on the inflation front. The macroeconomic scenario began to change by the first half of 2004-05. In the face of sharp increases in international commodity prices and the persistence of a large liquidity overhang, the Reserve Bank reaffirmed that maintaining confidence in price stability was a continuing policy objective (RBI,2004). The inflation situation would be watched closely in order to respond in a timely and measured manner.

Thus, price stability has been an abiding objective of monetary policy since the early 1950s although the success with price stability has varied over time in response to the evolving monetary-fiscal interface. It is only since the second half of 1990s that both inflation and inflation expectations have moderated substantially. There is very little disagreement about the fact that price stability should continue to be a key objective of monetary policy. The Advisory Group on Monetary and Financial Policies (Chairman: Shri M. Narasimham) recommended that the Reserve Bank should be mandated a sole price stability objective (RBI, 2000a). With the opening up of the Indian economy and its growing integration, monetary policy had to contend not only with price stability but also to ensure orderly conditions in the financial markets. The growing integration of financial markets, while necessary for economic efficiency, posed challenges for monetary management in terms of heightened risks of contagion. Episodes of financial volatility, often sparked off by sudden switches in capital flows in response to various shocks - such as the East Asian financial crisis, sanctions after the nuclear explosions, downgrading of credit ratings, the meltdown of the information technology bubble and the September 11 US terrorist attacks - required a swift monetary policy response. The Reserve Bank, therefore,

began to emphasise the need to ensure orderly conditions in financial markets as a prime concern of monetary management. Financial stability is now being recognised as a key consideration in the conduct of monetary policy, in terms of ensuring uninterrupted financial transactions; maintenance of a level of confidence in the financial system amongst all the participants and stakeholders; and absence of excess volatility that unduly and adversely affects real economic activity.

Monetary and Fiscal Co-ordination: The Indian Experience

The evolving relationship between the Reserve Bank and the Government over time can be analytically divided into four distinct phases. These span the periods of i) 1935-48, ii) 1948-69, iii) 1969-91 and iv) 1991 onwards. Interestingly, the proposal to set up a central bank, originally made by the Royal Commission on Indian Currency and Finance (Chairman: Sir Edward Hilton Young) in 1926, was itself long held up partly on account of the debates over the precise mechanism, which would ensure the independence of the central bank from the budgetary demands of the fiscal (Deshmukh, 1948; RBI, 1970; Rangarajan, 1993). During the first phase, the Reserve Bank, although set up as a privately owned and managed entity, was virtually subservient to the dictates of the British Indian Government, especially in view of the war effort. This was demonstrated by a Government threat to supersede the Reserve Bank board if it did not recommend monetary and exchange rate policies compatible with fiscal policy (RBI, 1970). The second phase began with the nationalisation of the Reserve Bank in 1948. The pressure on public finances, emerging from the programme of large-scale industrialization taken up in the Second Five Year Plan, led the Government to turn

increasingly to the Reserve Bank for financing its deficit. It is during this phase that the process of automatic financing of the fiscal deficit through ad hoc Treasury Bills as and when the Government balances fell below a stipulated minimum took root (RBI, 1983). This led to persistent deficit financing with inflationary consequences. Fiscal dominance increased further during the 1970s and 1980s. The entire financial system came to be geared to funding the budgetary requirements of the fiscal. The continuous process of monetisation of the fiscal deficit, in particular, ended up effectively subjugating monetary policy to the imperatives of fiscal policy. It was in this context that the Chakravarty Committee (RBI, 1985) recommended a cap on the net Reserve Bank credit to the Government.

The fourth phase, co-incident with the programme of financial sector reforms, has been redrawing the institutional relationship between the Reserve Bank and the Central Government to ease the fiscal constraint on monetary policy (Rangarajan, 1993). An important initial step in this was the process of pricing Government debt at market-determined rate. This was supported by the development of a Government securities market. The emergence of a Government securities market enabled, and in turn was facilitated, by the reduction in SLR to the statutory minimum of 25.0 per cent of net demand and time liabilities. The investments in Government paper are now guided, to a large extent, by portfolio considerations, rather than administrative fiat (Reddy, 1999). Ad hoc Treasury Bills were phased out in April 1997 with a view to enabling the Reserve Bank to gain better control over money supply. During this period, the Reserve Bank adopted a strategy of combining private placements and devolvements in Government securities

in order to moderate the impact of fluctuations in monetary conditions on the interest cost of public debt.

The Finance Minister, in the Union Budget Speech, 2000- 01 announced that in the fast changing world of modern finance it had become necessary to accord greater operational flexibility to the Reserve Bank for the conduct of monetary policy and regulation of the financial system. A key step forward in this respect has been the enactment of the Fiscal Responsibility and Budget Management (FRBM) Act, 2003 which, inter alia, prohibits borrowings from the Reserve Bank from the fiscal year 2006-07 except by way of WMA or under exceptional circumstances. This is backed by limits on the fiscal deficit. The FRBM Act also seeks to eliminate the revenue deficit by March 2008.

2.8. New Initiatives of the Government Towards Black Money

- **Concepts And Definitions Of Black Money**

There is no uniform or accepted definition of 'black' money. Several terms are in use – such as 'black money', 'black income', 'dirty money', 'black wealth', 'underground wealth', 'black economy', 'parallel economy', 'shadow economy', 'underground' or 'unofficial' economy. If money breaks laws in its origin, movement or use, and is not reported for tax purposes, then it would fall within the meaning of black money. The broader meaning would encompass and include money derived from corruption and other illegal ways – to include drug trafficking, counterfeiting currency, smuggling, arms trafficking, etc. It would also include all market based legal production of goods and services that are concealed from public authorities for the following reasons –

to evade payment of taxes (income tax, excise duty, sales tax, stamp duty, etc);
(ii) to evade payment of other statutory contributions;
(iii) to evade minimum wages, working hours and safety standards, etc.; and
(iv) to evade complying with laws and administrative procedures.

There are three sources of black money – crime, corruption and business. The 'criminal' component of black money would normally include proceeds from a range of activities including racketeering, trafficking in counterfeit and contraband goods, forgery, securities fraud, embezzlement, sexual exploitation and prostitution, drug money, bank frauds and illegal trade in arms. The 'corrupt' component of such money would stem from bribery and theft by those holding public office – such as by grant of business, bribes to alter land use or to regularize unauthorized construction, leakages from government social spending programmes, speed money to circumvent or fast-track procedures, black marketing of price controlled services, etc.

The 'commercial' limb of black money usually results from tax evasion by attempting to hide transactions and any audit trail relating thereto, leading to evasion of one or more taxes. The main reason for such black economy is underreporting revenues / receipts / production, inflating expenses, not correctly reporting workers employed to avoid statutory obligations for their welfare. Opening of the economy permits contracts of all kinds particularly for allocation of scarce resources such as mineral and spectrum, which, in the absence of transparent rules and procedures for licenses and non-compliance of contractual obligations of the persons concerned, leads to increased generation of black money. In all the three forms of

black money ‘criminal’, ‘corrupt’ and ‘commercial’ subterfuges are created which include false documentation, sham transactions, benami entities, mispricing and collusion. This is often done by layering transactions to hide their origin.

Studies correlating the extent of corruption with the size of the ‘shadow economy’ have been few. There is, however, reason to believe that it differs among high and low income countries. In high income countries, the official sector provides good governance and proper enforcement of contracts. In the developing countries, on the other hand, enterprises could engage in entirely unreported activity restaurants, bars, doctors, lawyers and even bigger manufacturing entities may indulge in under-reporting. Big companies, though easier to monitor in order to escape rigours of taxation may take recourse to inducements. Under such socio-economic conditions, the ‘underground’ economy and corruption are likely to reinforce each other.

Level of development affects extent of black economy in another way. Developing countries have large parts of their economy in the informal sector, which is difficult to regulate. Further, cash component of the economy is usually higher and leads to problems of monitoring. Lack of regulation and monitoring reinforces the black economy and also helps its expansion. Opportunities for leakages increase. Low level of literacy reduces penetration of the banking sector resulting in a large cash economy.

Inflation of expenses takes money out of the system and, therefore, turns ‘black’. Wrong claims of deductions or incentives provided in the law reduce the tax liability and thereby keep more funds with the concerned person than with the State. However, money in this case remains within the

system and cannot be said to be unaccounted or 'black'. Similarly, shifting of profit for taxation outside the country through transfer pricing by related concerns results in organizing a reverse capital flow from poor to rich countries. This also cannot be said to be 'black' in that money does not go 'underground'.

Approaches to estimating the size of the black economy

There is no uniformity of methodology or approach, or certainty of estimation relating to 'black' money. The main difficulty arises on account of the fact that the 'black' economy exists in the shadows. There is, therefore, wide variation in the figures reported as estimates are required to be made in indirect ways. The 'shadow' economy is not distinct, and the 'parallel' economy enmeshes the white economy. Different methods adopted have their own limitations. One of the methods is the input / output method. Therefore, where the input-output ratio is known, the output can be estimated. The method consists of using this ratio along with the input to calculate the true output. When this is compared with the declared output, the difference between the true output and the declared output represents undisclosed output of the shadow economy. This method is deceptively simple and, though it may apply more appropriately to the industry sector, ignores the fast changing technological breakthroughs, which in turn contribute to the changing output input ratios. The method is difficult to apply in the context of countries where the tertiary sector grows at a faster pace compared to the primary and secondary sectors.

There is another approach – that of the monetarists, which is based on the fact that money is needed to circulate incomes in both 'black' and the 'white' economy. As the official economy

is known, the difference between this amount and the money in circulation could be assumed to be the circulating 'black' component. In one model, the velocity of money (that is to say the number of times currency moves in a year) enables the estimation of income circulated annually. A comparison of this with the income captured in National Accounting System (NAS) gives the income not captured, which is the 'black' income generated. The assumption that NAS represents 'white' incomes is not always true all incomes which are not captured in NAS are not 'black' incomes for instance, incomes of the large unorganized sector.

The Survey Approach represents yet another method, wherein sample surveys are carried. They may be on the consumption pattern of a representative sample, which is then compared with the total consumption of the country. Sometimes, such surveys are carried to check illegal activities prevalent in a certain sample. In this method, the problems are of a truly representative sample, unambiguous set of questions, the willingness of persons in the sample size to reveal true facts implying a certain comfort level with the interviewers as no one wants to admit any illegality before strangers.

There is also the 'fiscal approach' method, the underlying basis of which is that the economy comprises of several sectors, with each having its own sets of practices. The contribution of these sectors is separately worked, which when added would give the size of the entire 'black' economy. However, the manner of identifying the 'black component' in these sectors and assumptions suffer from inherent subjectivity of the researcher. This method has been used in various surveys.

Estimates of Black Money

Attempts have been made in the past to quantify 'black' income in India. Broadly speaking, the estimates made so far have followed two distinct approaches:

Kaldor's approach of quantifying non-salary incomes above the exemption limit of Income-tax. The Direct Taxes Enquiry Committee (i.e. Wanchoo Committee, 1971) used this method with some modifications in the report India Tax Reform (1956), and

(ii) Edgar L. Feige method of working out transaction-income on the basis of currency deposit ratio and deriving from it the 'black' income of the economy.

Kaldor's report

N. Kaldor in his report estimated the non- salary income on the basis of the break-up of national income into: (i) Wages and salaries, (ii) Income of the self-employed, and (iii) Profit, interest, rent etc. Excluding wages and salaries from the contribution to net domestic product, he derived total nonsalary income. For various sectors of the economy, on the basis of assumed proportions of non-salary incomes above the exemption limit, Kaldor estimated such non-salary income. An estimate of the actual non-salary income assessed to tax was made for each sector in order to arrive at the total non-salary income assessed to tax. The difference between the estimated non-salary income above the exemption limit and the actual non-salary income assessed to tax measures the size of the 'black' income.

Wanchoo Committee's estimate

Direct Taxes Enquiry Committee followed the method adopted by Kaldor with suitable modifications. It estimated assessable non-salary income for the year 1961-62 at Rs. 2,686 crore and non-salary income actually assessed to tax to be of the order of Rs. 1,875 crore. Accordingly, the income, which escaped

income tax, was of the order of Rs.811 crore. This estimate of tax-evaded income required some adjustments because of exemptions and deductions allowed under the Income Tax Act. After making the rough adjustments, Wanchoo Committee found that "the estimated income on which tax has been evaded (black income) would probably be Rs.700 crore and Rs.1,000 crore for the years 1961-62 and 1965-66 respectively". "Projecting this estimate further to 1968-69 on the basis of percentage increase in national income from 1961-62 to 1968-69, the income on which tax was evaded for 1968-69 can be estimated at a figure of Rs.1,800 crore."

Rangnekar's estimate

Dr. D.K. Rangnekar, a member of the Wanchoo Committee, dissented from the estimates made by the Wanchoo Committee. According to him, tax evaded income for 1961-62 was of the order of Rs.1,150 crore, as compared to Wanchoo Committee's estimate of Rs. 811 crore. For 1965-66, it was Rs.2,350 crore, against Rs.1,000 crore estimated by the Wanchoo Committee. The projections of 'black' income for 1968-69 and 1969-70 were Rs.2,833 crore and Rs.3,080 crore respectively.

Chopra's estimate

Mr. O.P. Chopra, a noted Economist, published a series of papers on the subject of unaccounted income. He prepared a series of estimates of unaccounted income (black income) for a period of 17 years, i.e., 1960-61 to 1976-77. Chopra's methodology marked a significant departure from the Wanchoo Committee approach and as a consequence, he found a larger divergence in the two series from 1973 onwards when the income above the exemption limit registered a significant increase. The broad underlying assumptions of his methodology are:

Only non-salary income is concealed;

Taxes other than income-tax are evaded and the study is restricted to only that part of income which is subject to income-tax. Thus, tax evasion which may be due to (a) non-payment or underpayment of excise duty, (b) sales-tax,(c) customs duties, or (d) substituting agricultural income for non-agricultural income, is not captured;

The efficiency of the tax administration remains unchanged;

The ratio of non-salary income above the exemption limit to total non-salary income has remained the same; and

The ratio of non-salary income to total income accruing from various sectors of the economy remains the same.

The crucial finding of Chopra's study is that after 1973-74, the ratio of unaccounted income to assessable non-salary income has gone up, whereas the Wanchoo Committee assumed this ratio to have remained constant. As a consequence, after 1973-74, there is wide divergence between the estimates of Wanchoo Committee and those of Chopra. Chopra also corroborates the hypotheses that tax evasion is more likely to be resorted to when the rate of tax is comparatively high. His findings also support the hypothesis that increase in prices leads to an increase in unaccounted income. Further, he has given a significant finding that funds are diverted to non taxable agriculture sector, to convert unaccounted (black) income into legal (white) income. Chopra's study estimated unaccounted income to have increased from Rs.916 crore in 1960-61, i.e. 6.5% of Gross National Product (GNP) at factor cost, to Rs.8,098 crore in 1976-77 (11.4% of GNP).

Study commissioned by Government of India (2011): The Government has commissioned fresh study on unaccounted income / wealth both inside and outside the country, bringing out the nature of activities engendering money 'laundering' and its ramifications on national security to be conducted by three

national-level institutes, viz. National Institute of Public Finance and Policy (NIPFP), National Institute of Financial Management (NIFM) and National Council of Applied Economic Research (NCAER).

- **Measures to tackle black money**

There are two dimensions of the issue of black money, first, its generation and, second, its consumption and use, including laundering of black money back to mainstream economy. Dealing with this menace has to cover both these aspects. So far as generation of black money from crime or corruption is concerned, its remedy does not lie merely in legislative or enforcement domains but also in finding much deeper socio-economic solutions. However, generation of black money from legitimate activities has been dealt with extensively, and we make several recommendations in this regard. Further, consumption and laundering of black money, if effectively tracked and controlled, may have the 'squeeze effect' on the overall activities resulting in creation and sustenance of black economy. While there may not be any need to have new law to especially deal with black money and black economy, various existing laws need to be comprehensively reviewed by the concerned administrative ministries on a regular basis keeping in view the changing economic scenario, and provisions dealing with violations need to be strengthened accordingly.

Strategy to tackle black money

The Committee has identified following strategy to tackle black money:-

- Preventing generation of black money
- Discouraging use of black money
- Effective detection of black money
- Effective investigation & adjudication

Other steps

Preventing generation of black money

India must ensure transparent, time-bound & better regulated approvals / permits, single window delivery of services to the extent possible and speedier judicial processes. The Electronic Delivery of Services Bill, 2011 that seeks to provide for electronic delivery of public services by the government to all persons to ensure transparency, efficiency, accountability, accessibility and reliability in delivery of such services has been tabled before the Parliament in December, 2011.

The fight against the monstrosity of black money has to be at ethical, socio-economic and administrative levels. At the ethical level, we have to reinforce value / moral education in the school curriculum and build good character citizens, particularly highlighting the ills of tax evasion and black money. At the socio-economic level, the thrust of public policy should be to discourage conspicuous & wasteful consumption / expenditure, encourage savings, frugality and simplicity, and reduce the gap between the rich and the poor.

The Government is also considering legislating public procurement law. The Public Procurement Bill, 2012 intends to regulate public procurement by all ministries and central government departments. It aims at ensuring transparency, fair and equitable treatment of bidders, promote competition, and enhance efficiency and economy in the public procurement process.

In order to ensure transparent and efficient allocation of natural and man-made resources, oversight in the form of comprehensive regulations and ombudsman for grievance redressal, particularly for scarce resources as in land, minerals,

forests, telecom, etc. need to be introduced and implemented expeditiously. Social sector schemes involving huge public expenditure under various programmes reportedly suffer from possible manipulations and leakages. Direct transfers to the accounts of beneficiaries can provide a solution, as it would prevent manipulations like bogus muster rolls, etc. While efforts such as UID and direct transfer of subsidies will stop leakages in some sectors, in other sectors the problem will have to be addressed differently. We, accordingly, recommend that social audit be made mandatory for all social sector schemes that do not involve direct transfer of credit to the bank account of the beneficiary, at the district / field level, and a second and subsequent AG audit at the HQ level. We also recommend that a system of random inspections by teams of sponsoring Ministry / Department / Agency may monitor utilization of public funds for social sector schemes.

There should be a dedicated training center for all law enforcement agencies dealing with financial crimes and offences, as this requires special skills. A delegation from the CBDT had recently visited USA and studied the training methodology of the Federal Law Enforcement Training Center (FLETC), Brunswick GA. A multi-disciplinary institution for training in investigation of financial crimes may be established on the lines of FLETC of USA.

Oversight in the private sector is almost absent, except for some professionally managed companies. It mainly consists of self-regulation, and audit under the Company and Income Tax laws. That the system of professional audit may be quite ineffective even in professionally managed enterprises is aptly demonstrated by the Satyam case. We are of the view that the burden of dual audit should be reduced to single audit (for both

company and tax law) and the audit system be detached from the management and control of the business. We, therefore, recommend that the central government establish a regulator (under Company law / Income Tax law) to empanel auditors in different grades and randomly assign them to the private sector firms, based on category and payment capacity, with mandatory rotation and maximum tenure of two years.

The proposed national level GST regime should be expeditiously implemented, as the spin-off from its implementation would provide adequate resources to more than compensate the loss apprehended by certain state governments.

At present, no government agency has complete database of NPOs. CBDT has the largest database about this sector. There may be information with other agencies such as MHA, CEIB, etc. It is desirable that CBDT be assigned the role of a centralized agency with which every NPO would require to be registered and would be allotted a unique number. This would be in line with the decision taken by the Government in the light of possible misuse of the sector in undesirable activities. There are suggestions made by the NPO Sector Assessment Committee, an Inter-ministerial body, which should be accepted and the office of DGIT (Exemption) appropriately strengthened in terms of manpower, infrastructure and capacity building.

There should also be sharing of real-time data under Foreign Contribution Regulation Act (FCRA) and DGIT (Exemption) and coordination amongst various enforcement agencies. The registration under section 12AA and approvals under sections 10(23C) / 10(21) / 35 / 80G of the Income Tax Act for charitable organizations are required to be in accordance with

international best practices. For this purpose, the Income Tax Department should devise a mechanism to facilitate effective monitoring and better control over the tax administration of NPOs through modification in existing procedure of granting registrations or according approvals by allotting a PAN-linked system-generated specific number, making mandatory the quoting of this number in the tax returns and devising suitable changes in the existing tax return forms. This would filter out bogus claims and would also help in maintaining authentic data base of NPOs.

Accountability of both public and private offices needs to be enhanced. As we are mainly concerned here with public sector accountability, we recommend that apart from good practices being followed such as Fiscal Responsibility and Budget Management (FRBM) Act and outcome budget, performance-linked appraisal system of rewards and punishments, already under consideration, should be expeditiously implemented.

In the recent investigations by Income Tax department on the mining industry in Karnataka, it has come to light that state law allows unregistered dealers (URD) to trade in minerals, possibly as a measure to raise revenue. This is contrary to the central Mines and Minerals (Regulation and Development) Act, 1957 and encourages illegal mining and unregulated trade in minerals. This situation requires immediate remedy and all laws relating to licensing and regulation in mining need a thorough review. It also came to light that there was mismatch between exports and inward remittance, as also between information available with different authorities. The anomaly between the central and the state laws with regard to URDs should be immediately removed.

Discouraging use of black money

Government may consider amending existing laws (The Coinage Act 2011, The Reserve Bank of India Act 1934, FEMA, IPC, Cr PC, etc.), or enacting a new law, for regulating the possession and transportation of cash, particularly putting a limitation on cash holdings for private use, and including provisions for confiscation of cash held beyond prescribed limits. This would address the concerns expressed by various courts, and also the Election Commission of India for reducing the influence of money power during elections.

To reduce the element of black money in transactions relating to immovable properties, provision for NOC should be introduced in the Income Tax law with safeguards to reduce administrative complications and increased ease of compliance, so that an appropriate and uniform data-base is also set up, and a proper national-level regulation is put in place. The new system should be computer driven with minimal interface between the tax authorities and the tax-payer, and enforced by a dedicated unit within the investigative machinery of the Income Tax Department on the basis of pre-determined parameters and standard operating procedures. The electronically generated NOC, within a specified period, would also act as a tax clearance certificate.

The Accounting Standard No.7 should be modified by the ICAI to be made applicable to real estate developers also. AS-7 and AS-9 should be notified under the Income Tax Act, 1961. There is no uniformity in the matter of levy of agricultural income tax among states. Agriculture generates around 14 percent of the country's GDP. Giving credit to agricultural

income for income tax purposes without verification of claim allows an avenue for bringing black money into the financial system as agricultural income. State governments may consider levy of agricultural income tax with facility for computerized processing and selective verification. This will on the one hand enhance revenues of state governments, and on the other hand prevent laundering of black money in the garb of agricultural income.

Effective detection of black money

The regulation and enforcement of KYC norms in the co-operative sector may be strengthened by the State Governments as well as the Central Government. Responsibility may be fixed for any lapse in this regard, as well as for any subsequent failure to alert authorities as regards any suspicious transactions in such accounts.

The RBI could consider stricter implementation of KYC norms and limit number of accounts that can be introduced by a single person, the number of accounts that can be maintained in the same branch by any entity and alerts about same address being used for opening accounts in different names. Stricter adherence to, and enforcement of, KYC norms is needed for ensuring proper compliance by banks and financial institutions. The Government, as well as the RBI, also need to put a better regulatory framework in place and act promptly against errant persons / institutions.

The Ministry of Corporate Affairs, which already has a centralized data-base of all companies, may examine placing a cap on the number of companies operating from the same premises and number of companies in which a person can become director. The government may consider introducing

alternative financial instruments to reduce the attraction of gold as savings instrument. It may also consider revising customs duties, as also graded wealth tax, on gold and jewellery to discourage investments in unproductive assets. The taxation structure on bullion and jewellery, including VAT / Sales Tax should be harmonized.

Better reporting / monitoring systems are to be put in place to trace the dealings in bullion / jewellery through the Income Tax / Customs / Sales Tax Acts. While the Income Tax Department has made it mandatory to obtain PAN or Form-60 / Form-61 for purchase of bullion above Rs.5 lakh, similar rules should be framed for purchase / sale of bullion / jewellery, and collection of tax at source on purchases especially in cash.

Use of banking channels and credit / debit cards should be encouraged, while trade practices such as cheque discounting should be discouraged. The validity period of cheques / DDs has been reduced from 6 to 3 months w.e.f. 1st April 2012, which will discourage discounting of negotiable instruments. Payments by debit / credit cards through e-service intermediaries will simplify and encourage payments in these modes and reduce the cash economy. It is imperative that payment of wages and salaries in the private sector should also be through banking channels and become cash-less, in line with the government objective of financial inclusion.

Income Tax Department, which has a large data-base of financial transactions, should immediately set up the Directorate of Risk Management for proper data mining and risk analysis. The third-party reporting mechanism of the

Income Tax Department should be made computer-driven and cover most high-value transactions in the financial sector.

Foreign remittances using corporate structures and the formal financial sector instruments may be a popular method of transferring funds (even of illegal origin) to foreign jurisdictions or for routing back to India through Foreign Institutional Investors (FII). There is a need to create a robust database of such remittances and carry out an analysis of their backward and forward linkages in order to understand the nature and legitimacy of the transmitted funds. FIU-IND may be empowered by law to receive reports (similar to other reports submitted to FIU-IND) on all international fund-transfers through the Indian financial system. The FIUs of Australia and Canada are already mandated to receive such reports.

SEBI by a circular issued in January 2011 has introduced changes in the reporting formats that capture details of downstream issuances of PNs during the month. From March 2012, these detailed reports are to be filed on a monthly basis but have a lag of six months. Though such details would be useful in identifying suspicious transactions, the six month lag in the information available is likely to reduce the strength of corrective action that can be taken by SEBI. These regulations need to be modified to ensure that information on downstream issuances is collected for the most recent month. This would ensure active surveillance and timely intervention as and when required by SEBI. Further, the most critical feature of an effective monitoring mechanism lies in ensuring strict KYC norms. PN subscribers should be subject to KYC norms of either the home country or the host country whichever is

stricter. Though such provision implicitly exists in the extant provisions, these need to be built into SEBI regulations explicitly for better compliance.

The oversight mechanism for the financial markets must have trained manpower with proper domain knowledge of financial investigation. This will involve placing officials from the financial investigative agencies in the operations / vigilance machinery of the banks and financial institutions to keep proper vigil and ensure that rules and regulations are followed in the banks and other financial institutions.

Foreign entities banks, financial institutions, fund transfer entities, etc. have set up businesses in India. It has been found that Indian tax residents have been having substantial monetary transactions through these entities or with their branches abroad. Some countries have implemented laws to make it obligatory to furnish information of all transactions undertaken abroad. We recommend that India may also insist on entities operating in India to report all global transactions above a threshold limit. For this purpose, appropriate law, rules or contractual / licensing arrangement with these entities may be framed and implemented.

In India, there is no law to protect informants / whistle-blowers, nor does any department have effective witness protection program. As a result, credible information is not forthcoming and witnesses either do not turn up or turn hostile resulting in acquittals in prosecution cases. Apparently, the National Investigative Agency runs a program, and the recently created Directorate of Criminal Investigation (DCI) in the CBDT has been empowered to run such a program. Accordingly, we recommend that a witness protection law may be enacted

expeditiously and witness protection program should be implemented by all law enforcement agencies.

DRI maintains constant interaction with its Customs Overseas Intelligence Network (COIN) offices to share intelligence and information through Diplomatic channels on the suspected import / export transactions to establish cases of mis-declaration, which are intricately linked with tax evasion and money laundering. The scope and reach of COIN offices should be further expanded and strengthened. Customs officers should be stationed in major trading partner countries to liaise with customs authorities of those countries and cause verifications of suspicious trade transactions.

Institutions of the Lok Pal and Lokayukta may be put in place at the earliest, in the centre and states, respectively, to expedite investigations into cases of corruption and bring the guilty to justice.

Effective investigation & adjudication

Government must consider ways to mitigate the manpower shortage issues which are seriously hampering the functioning of various agencies particularly the CBDT and CBEC. Further, both Boards have submitted proposals for restructuring of their respective field formations. These need to be taken up and implemented on a fast track basis to show the Government's resolve to tackle the issue of black money.

Simultaneously, more administrative and financial autonomy must be expeditiously devolved on CBDT and CBEC for formulating tax policies in keeping with the overall government views on economic growth and development, for better tax administration and for providing tax-payer services as per best

international practices. This has consistently been recommended by many earlier Committees and Commissions on Tax Administration.

With the emergence of complex legal matrix, infraction of one law invariably leads to infraction of another. Inter-agency coordination is critical in the fight against black money. There is a need to evolve an effective coordination mechanism that identifies the laws violated, the law violators, and a permanent joint mechanism to investigate all such cases. Some developed countries have an approach of joint task force and de-confliction programs to deal with this issue. It is time we study how this approach and program functions, adapt it to Indian conditions and implement it.

The information and intelligence gathering mechanisms of various economic agencies need to be more broad-based so that the entire gamut of economic activity is captured in an electronic manner, mined and analyzed. All the agencies need to continuously get technologically upgraded in this area to effectively tackle the menace of black money. The skills of manpower resources available with the agencies also need to be upgraded continuously and exposed to the global best practices in their sphere of work.

Intelligence sharing is one of the most critical areas for effective law enforcement. For this purpose, there should be a platform for more effective sharing of intelligence / information between central and state agencies. Information exchange among various economic law enforcement / intelligence organizations should become technology driven, preferably through a common technology platform. At the same time data-

security should be ensured to prevent unauthorized access to information both technologically and through access control, and periodical security audit.

For curtailing TBML, there should be institutional arrangement for examining cases of mismatch between export and corresponding import data, as done by the Data Analysis & Research for Trade Transparency System (DARTTS) of US Customs. Indian Customs should set up a Trade Transparency Unit (TTU) on these lines for which appropriate legal framework may be introduced. Existing Customs Cooperation Agreements mostly provide for mutual administrative assistance in individual cases under investigation. These agreements should have institutional arrangement for exchange of Harmonized System of Nomenclature (HSN) chapter-wise data of export and import. Similar arrangements should be made for Preferential Trade Agreements (PTA) and Free Trade Agreements (FTA).

Effective battle against black money cannot be ensured unless the judicial machinery to deal with it is specialized and the trial of offences is expeditious and punishments exemplary. The legal support to various law enforcement agencies should be enhanced. All financial offences should be tried through fast track special courts. The Ministry of Law should take up this issue on priority and make arrangements for setting up fast-track courts all over the country in a time-bound manner. Judicial officers may be provided inputs as required in technical aspects of economic offences.

Diverse activities are covered by ‘primary’ enactments to regulate sale receipts, actual production, charging amount in excess of statutory amounts, etc. In some cases, investigation

by income tax authorities reveals infringement of state laws. In such cases, the courts admit evidence 'accepted' by state authorities. Provision may be considered for enactment in the law of evidence or the income-tax law to the effect that even if evidence is produced under the primary law, where no independent verification is made, it will not be conclusive proof for tax purposes.

Small 'entry operators' / 'bill masters' help launder large sums of money at miniscule commissions. The appellate tax bodies tend to tax their income at nominal rates. There is no effective deterrence except for taxing commission on such bogus receipts. Taxing the entry amounts in the hands of beneficiaries usually does not stand judicial scrutiny. The amendments proposed in the Finance Bill 2012 are expected to take care of the issue in the hands of the beneficiaries. Therefore, the offence of providing fake bills and entries should be dealt with firmly.

As taxation is a highly specialized subject, most reversals in court rulings are to be found in tax jurisprudence. Government may consider creating an all-India judicial service for specialized judiciary in different laws to achieve uniformity of application.

The National Tax Tribunal is yet to come into existence. Rapidly developing specialized institutions with requisite domain knowledge, to deal with complex problems confronting the country, is a priority. A professional National Tax Tribunal, with representation from the tax administration also, should be immediately formed to deal with all tax litigation.

Improvements in the matter of reporting, analysis and communication need to be achieved by further upgrading the computerization programme of the judicial system. It will enable the law enforcement agencies in taking well informed decisions.

We further recommend that for criminal trial of economic offences, the High Courts may consider setting up exclusive economic offences courts with special summary procedure. Judicial officers posted in these courts could take refresher courses in taxation laws to properly equip them in dealing with complex tax cases.

Under economic laws, different punishments are prescribed for different offences. Minimum punishments should also be prescribed for economic offences, to have greater deterrence. Different law enforcement agencies may consider lowering the punishment of 3 years to 2 years to facilitate speedier trial through summary procedure. Maximum punishments under the NDPS Act are 10 and 20 years. Under the NDPS Act, a second serious offence is punishable with death. Certainly, corruption cannot be treated as less diabolical than drug-related offences or money-laundering. Therefore, maximum punishment in serious cases of corruption should be enhanced to 10 years. Similarly, the minimum punishment for different offences of corruption should be enhanced from present 6 months, 1 year and 2 years to 1 year, 2 years and 3 years – at par with PMLA or Customs Act. Enhanced punishment, at par with other serious economic offences, is likely to provide more effective deterrence against corruption.

Other steps

Directorate of Currency (DoC) may be strengthened to introduce coins and currencies that would be machine readable,

to enable routing of cash transactions through banks easy, user-friendly and reduce the menace of FICN. This will go a long way in enabling the banks to not discourage cash deposits, thus reducing cash economy. The DoC needs to be strengthened to achieve these objectives.

To prevent misuse of 'off-market', and 'Dabba-trading' or trading outside the recognized stock exchanges, amendment to income tax law may be introduced to allow losses in off-market share transactions to be set off only against profits derived from such transactions.

As housing finance companies and the property buyers are provided fiscal incentives, it also leads to speculation and flipping transactions. To prevent this, Section 54 of the Income Tax Act should be amended to provide for availing this benefit only twice by a taxpayer in his lifetime.

The period of limitation for reopening income tax assessments should be enhanced from present six years to sixteen years for bringing to tax undisclosed assets held abroad.

One of the ways to get assets / money held abroad into the national mainstream is through a compliance scheme. The Committee is of the view that if the above recommendations are implemented properly, it would be possible to get information regarding assets held abroad as well as check the generation of black money within the country and its illicit transfer abroad. Already there are provisions in the Income Tax Act to waive prosecution and reduce penalties in genuine cases of inadvertent infraction of tax laws. Such taxpayers can always avail of the benefits under these provisions and declare any undisclosed income / assets in India or abroad.

2.9. A Global Deal on Climate Change: Possible Role for India

The layer of Greenhouse Gases (GHG), including carbon dioxide (CO2), methane, nitrous oxide and others, in their optimum concentration in Earth's atmosphere, acts like a protective blanket which maintains its temperature and the natural ecosystem. Lately, anthropogenic (human induced) activities, mainly burning of fossil fuels, have resulted in increasing the concentration of these gases which in turn trap extra heat and increase Earth's average temperature leading to climate change. This in turn leads to a wide ranging impact including sea level rise, melting of snow and glaciers, changes in weather patterns, increased frequency and intensity of extreme events and natural disasters etc.

The Ministry of Environment, Forest and Climate Change (MoEF&CC) is the nodal Ministry for climate change negotiations under UNFCCC. In order to create and strengthen the scientific and analytical capacity for assessment of climate change in the country, different studies has been initiated under the Climate Change Action Programme (CCAP), including National Carbonaceous Aerosols Programme (NCAP), Long Term Ecological Observatories (LTEO) Programme, and GHG Modelling Studies.

During the year 2017-18, many important bilateral and multilateral meetings and negotiations, including 23rd Conference of the Parties (COP-23) to the UNFCCC, were held in which Hon'ble Minister, EF&CC and senior officials of the Ministry participated.

National communication and Biennial Update Report submitted to the UNFCCC: India is a Party to the UNFCCC. The

Convention requires all the Parties to furnish information on implementation of the Convention in the form of periodic National Communications. India furnished its Initial National Communication in 2004 and Second National Communication in 2012 to UNFCCC. Conference of Parties to the UNFCCC in its sixteenth session (COP-16) decided that developing countries should also submit Biennial Update Report (BUR) as an update to the most recently submitted national communication. India furnished its first Biennial Update Report (BUR-1) on 22nd January, 2016. BUR-1 contains information on National Circumstances, National Greenhouse Gas Inventory, Mitigation Actions, Domestic Monitoring, Reporting and Verification (MRV) arrangements, Finance, Technology and Capacity Building Needs, and Support Received. India's first BUR highlighted that 12% of India's GHG emissions were offset by carbon sink action of forests and croplands. It also highlighted that India's per capita GHG emission in 2010 was 1.56 tCO2 equivalent which is less than one third of the world's per capita emissions and far below than many developed and developing countries. In BUR-1, 137 national level and 286 state level policies and measures relevant to climate change have been mapped on non-exhaustive basis. BUR-1 stated that a reduction of emission intensity of GDP by about 12% between 2005 and 2010 has been achieved.

As per the requirements of UNFCCC, all BURS undergo a process of International Consultation and Analysis (ICA) which is conducted through a two-step process, a technical analysis by team of technical experts and a facilitative sharing of views (FSV). The process for India's first BUR was concluded successfully in May 2017. A Facilitative Sharing of Views (FSV) workshop was held on 15th May, 2017 under the aegis

of 46th session of Subsidiary Body for Implementation (SBI) to UNFCCC. During the FSV workshop, India made presented its BUR. A number of questions were asked, which mainly focused on substantial increase in solar capacity achieved in 2016 over 2015 and domestic Measurement, Reporting and Verification (MRV) system. India's presentation was widely acknowledged and applauded by the participating countries.Currently the Ministry is preparing India's second Biennial Update Report and Third National Communication to be submitted to UNFCCC.

National Action Plan on Climate Change (NAPCC): Government of India is implementing the National Action Plan on Climate Change (NAPCC) with a focus on promoting understanding of climate change and establishing linkage between adaptation and mitigation consistent with the national priority for achieving sustainable development. It comprises of eight national missions representing multipronged, long term and integrated strategies for achieving key goals in the context of climate change. These missions focus on specific areas of Solar Energy, Enhanced Energy Efficiency, Sustainable Habitat, Water, Sustaining the Himalayan Ecosystem, Green India, Sustainable Agriculture and Strategic knowledge for Climate Change anchored by various Ministries.

All national missions were approved by the Prime Minister's Council on Climate Change (PMCCC) and are being implemented now. The Missions are under constant review by the Prime Minister's Council on Climate Change. An Executive Committee on Climate Change (ECCC) under the Chairmanship of Principal Secretary to Prime Minister has been

set up for assisting the Prime Minister's Council on Climate Change in evolving a coordinating response to issues relating to climate change with regular monitoring of the eight National missions along with other initiatives on Climate Change and coordinating with various agencies.

State Action Plan on Climate Change (SAPCC): With the formulation of the NAPCC, the need to achieve coherence between actions at national and sub-national level became apparent. Therefore, the Ministry motivated the State Governments to prepare their State Action Plans on Climate Change (SAPCC) in line with the strategies outlined in NAPCC. So far, 32 States/UTs namely Andaman and Nicobar Islands, Andhra Pradesh, Telangana, Arunachal Pradesh, Assam, Bihar, Chandigarh, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Kerala, Karnataka, Lakshadweep, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Puducherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal have prepared their SAPCCs.

MoEF&CC has also provided financial support to states for enhancing their capacities for undertaking climate change activities. A sum of Rs. 10 lakhs has been provided to 19 states for strengthening capacity of nodal agencies for implementation of SAPCCs. Projects on adaptation and mitigation measures are also funded as demonstration projects under CCAP. Till date, three demonstration projects in Punjab, Madhya Pradesh and Tamil Nadu have been sanctioned.

National Adaptation Fund on Climate Change (NAFCC): National Adaptation Fund on Climate Change (NAFCC) was launched in 2015 with an initial outlay of Rs. 350 crore to meet the cost of adaptation to climate change for

the State and Union Territories of India that are particularly vulnerable to the adverse effects of climate change. The overall aim of the fund is to support concrete adaptation activities which are not covered under on-going activities through the schemes of State and National Government that reduce the adverse effects of climate change facing community, sector and states. The Scheme will be continuing beyond 12th Five Year Plan till 31st March, 2020 with an additional outlay of Rs. 364 Crore. The Fund is meant to assist National and State level activities to meet the cost of adaptation measures in areas that are particularly vulnerable to the adverse impacts of climate Change. The Scheme has been taken as Central Sector Scheme with National Bank for Agriculture and Rural Development (NABARD) as the National Implementing Entity (NIE). Besides, enhancing adaptive capacity at national and state level, national conference / workshop, awareness/ information dissemination, Research and Development and establishing a coordination and monitoring unit have also been proposed.

Till date 23 projects have been approved at a total cost of Rs. 483.80 Crore and Rs. 263.31 Crore have been sanctioned. The projects approved under the scheme are in the initial stages of implementation.

Climate Change Action Programme (CCAP): Climate Change Action Programme (CCAP) is a central scheme which was approved by the Cabinet in January 2014 at a total cost of Rs. 290 crore for duration of five years. Its objective is to create and strengthen the scientific and analytical capacity for assessment of climate change in the country, putting in place appropriate institutional framework for scientific and policy initiatives and implementation of climate change related actions in the context of sustainable development. Some of the

components of the CCAP scheme include the National Carbonaceous Aerosols Programme (NCAP), Long Term Ecological Observatories (LTEO), and Coordinated Studies on Climate Change for North East Region (CSCCNER).

NCAP is a multi-institutional programme developed with a view to monitor and study carbonaceous aerosols including black carbon, and has three components viz., (i) Working Group I: Monitoring and assessing impacts of black carbon on snow undertaken by Ministry of Science and Technology (MoST) (ii) Working Group II: Observational activities relating to aerosol and black carbon by Ministry of Earth Sciences (MoES) and Indian Space Research Organization (ISRO) (iii) Working Group III: Inventory and modeling of carbonaceous aerosols including black carbon being undertaken by MoEFCC, which also coordinates overall activities under NCAP. NCAP Working Group III has been officially launched by Hon'ble Minister, EF&CC on 7th July 2017 at IIT Bombay, Powai, Mumbai and is being implemented by a consortium of 17 institutions led by IIT Bombay.

LTEO is another project under the CCAP scheme with a total budget allocation of Rs. 40 crore for duration of 5 years. It aims at creating a network of field sites at various ecological regions in the country viz. Western Himalayas, Eastern Himalayas, North-Western Arid Zone, Central Indian Forests, Western Ghats, Andaman & Nicobar Islands, Jammu & Kashmir, and Sundarbans, for undertaking long term observations of the effects of climate change. These field sites will be used by several institutions and scientists with expertise in various disciplines to identify patterns and drivers of change in the natural ecosystems. The project will focus on monitoring

climatic variables, carbon stock, hydrology, groundwater, forests dynamics, sensitivity of tree species, fire ecology etc. The Science Plan of LTEO was released by Hon'ble Minister, EF&CC on the sideline of the 21st Conference of the Parties (COP-21) to the United Nations Framework Convention on Climate Change (UNFCCC) at Paris, France in 2015. Under the project, it is proposed to establish 31 weather stations across all the LTEO field sites for recording bioclimatic variable etc. A Coordination Cell will be established at the Centre for Ecological Science, Indian Institute of Science, Bangalore for proper implementation of the LTEO project. 11 activities have been shortlisted for funding under this project during the year 2017.

India's post-2020 climate goals

For post-2020 period, in response to the decisions of the Conference to the Parties, India submitted its Nationally Determined Contribution (NDC) to the UNFCCC on 2nd October, 2015, outlining the climate actions intended to be taken under the Paris agreement. The eight goals put forth by India in its NDC are:

- To put forward and further propagate a healthy and sustainable way of living based on traditions and values of conservation and moderation.
- To adopt a climate friendly and a cleaner path than the one followed hitherto by others at corresponding level of economic development.
- To reduce the emissions intensity of its GDP by 33 to 35 percent by 2030 from 2005
- To achieve about 40 percent cumulative electric power installed capacity from non-fossil fuel based energy resources by 2030 with the help of transfer of

technology and low cost international finance including from Green Climate Fund (GCF).

- To create an additional carbon sink of 2.5 to 3 billion tonnes of CO2 equivalent through additional forest and tree cover by 2030.
- To better adapt to climate change by enhancing investments in development programmes in sectors vulnerable to climate change, particularly agriculture, water resources, Himalayan region, coastal regions, health and disaster management.
- To mobilize domestic and new & additional funds from developed countries to implement the above mitigation and adaptation actions in view of the resource required and the resource gap.
- To build capacities, create domestic framework and international architecture for quick diffusion of cutting edge climate technology in India and for joint collaborative R&D for such future

For preparing the of roadmap for implementation of India's NDC in post-2020 period, in the year 2016, the MoEF&CC constituted an NDC Implementation committee Chaired by Secretary, EF&CC, and six thematic Sub-committees, involving key Ministries and Departments of the Government of India. The committee and subcommittees are working on to identify specific policies and actions aimed at achieving the NDC goals. They are also working on to indicate the financial outlays and technology interventions needed from domestic and international sources at various stages to achieve these goals. The consultation meetings of the NDC Implementation committee and sub-committees were being held after their

constitution and continue to be held in the financial year 2017-18.

International Negotiations

The financial year 2017-18 witnessed a number of bilateral and multilateral meetings on climate change where Hon'ble Minister, Environment, Forest and Climate Change and senior officials of the Ministry participated. These meetings were crucial in run up to the 23rd Conference of Parties to UNFCCC held from 6th – 17th November, 2017 in Bonn, Germany.

Delegates participated in the Informal Meeting of Heads of Delegation in Rabat on 07-08 September 2017, Like Minded Developing Countries (LMDC) meeting held on 14-16 August 2017 at Penang, Malaysia, 24th BASIC Ministerial Meeting on Climate Change held on 11th April 2017 in Beijing, China, 25th BASIC Ministerial Meeting held on 13th November 2017 in Bonn, Germany, Ministerial meeting on Climate Action held on 15 – 16 September 2017 in Montreal, Canada, and Pre-COP Ministerial Meeting of the UNFCCC held on 16-18 October, 2017 in Nadi, Fiji.

The 23rd Conference of Parties (COP 23) to UNFCCC was held from 6th – 17th November 2017 in Bonn, Germany. Dr. Harsh Vardhan, Hon'ble Minister, EF&CC led an inter-ministerial delegation that participated in the COP 23. This was the second COP since the adoption of the Paris Agreement at COP 21 in 2015 and since the Agreement entered into force on 4 November 2016.

The key outcome of COP 23 was decision 1/CP.23, 'Fiji Momentum for Implementation'. The decision calls for enhanced Pre-2020 Implementation and Ambition, reiterates the overall Paris Agreement Work Programme, and the design of the Facilitative Dialogue, termed by COP 23 Presidency of

Fiji as the Talanoa Dialogue. Despite continuous resistance, Pre-2020 actions were brought back on the forefront with the persistent efforts of India. It now forms a major Part of final outcome with concrete steps to accelerate and enhance pre-2020 action and ambition. It includes high level focus from both UNFCCC secretariat and COP Presidency as well as request to UN Secretary General for his intervention in speeding up the ratification of Doha Amendment to Kyoto Protocol. A number of procedural decisions were taken regarding the evolution of rules/ guidelines/ modalities for the implementation of Paris Agreement including guidance for Nationally Determined Contributions, adaptation communication, modalities, procedures and guidelines for the transparency framework for action and support, global stocktake, compliance mechanism, technology framework, and cooperative (market and non-market) approaches under the Paris Agreement India participated in the Conference with a constructive and positive approach with the arm to protect India's long-term interests and its developmental priorities. India,s position was firmly rooted in the core principles of equity and Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC). lndia also underscored then. importance of fulfilling the commitment of developed countries to achieve the goal of mobilizing USD 100 billion annually by 2020 and further scaling up thereafter. As a result, developed countries have been requested to prepare their next round of updated biennial submissions on strategies and approaches for scaling up climate finance for 2018-2020, with a view to updating information available on a pathway towards the goal of jointly mobilizing US$100 billion per year by 2020. A high-level ministerial dialogue will also be organized in 2018

on access to climate finance. India was also able to incorporate equity and sustainable lifestyles in appropriate texts.

A number of Ministerial level bilateral meetings were also held during COP 23 including with Prime Minister of Fiji, Mr. Frank Bainimarama (COP 23 Presidency), United Arab Emirates, Australia, Norway, Finland, Turkey, Marshall Islands, European Union, Ecuador, UK, and Bangladesh.

Cooperation with bilateral and multilateral donors on climate change: The Ministry has been implementing several projects with the assistance of bilateral and multilateral funding agencies such as Deutsche GesellschaftfOrInter nationaleZusammenarbeit (GIZ) GmbH, The Department for International Development (DFID) and United Nations Development Programme (UNDP).

Since 2002, GIZ has been supporting the Climate Division of MoEFCC in strengthening the Designated National Authority (DNA), support in Clean Development Mechanism (CDM). MOEFCC and GIZ jointly organised a workshop on 27th June 2017 in New Delhi on 'Market mechanisms as a means to effectively implement India's climate mitigation objectives'. A project on Nationally Appropriate Mitigation Actions (NAMAs) is also operational to support the MoEF&CC. Further, Climate Change Adaptation in Rural Areas of India (CCA-RAI) project being implemented at national and state level for financing, planning, implementing and for the monitoring of climate adaptation measures.Two projects under Indo-EU Cooperation are also operational viz. 1. Indo-EU Technical Cooperation for Environment in India and 2. India-EU Cooperation on Clean technologies and Energy Efficiency for Eco-Cities.

Climate Change Innovation Programme, a partnership initiative between MoEF&CC and DFID has been supporting six states

namely, Assam, Bihar, Chhattisgarh, Kerala, Maharashtra and Odisha, in implementing the SAPCC. Through Climate Change Innovation Programme (CCIP), the state Governments are provided with technical assistance in preparing and refining SAPCCs. It also assists in preparing sectoral action plans and projects to address climate change adaptation in thematic areas such as water, urban flooding, agriculture, forestry, coastal vulnerability, health as well as securing finance for implementing the plans

Clean Development Mechanism (CDM): The Clean Development Mechanism (CDM) has been a flagship programme addressing climate change mitigation and simultaneously giving an opportunity to developing countries in meeting their sustainable development objectives. CDM allows emission reduction or removal projects in developing countries to generate carbon offset credit, each equivalent to one tonne of carbon dioxide. These certified emission reduction credits (CERs) could be traded, sold and used by industrialized countries to meet part of their emission reduction targets under Kyoto Protocol.

The Government of India has set up a National CDM Authority (NCDMA) in December 2003 with Secretary, Environment, Forest and Climate Change as the Chairman and it consists of various Secretaries, such as of External Affairs, Finance, Power, Industrial Policy and Promotion, New and Renewable Energy, Planning Commission, and Department of Science and Technology as Members to consider various projects for grant of Host Country Approval (HCA) from Sustainable Development point of view. Some of India's achievements in CDM are:

As on 26th November, 2017, 1653 out of total 7788 projects registered by the CDM Executive Board are from India, which so far is the second highest in the world.

As on date, Certified Emission Reductions (CERs) issued to Indian projects is 235 million (12.6%) of the total 1869 million CERs issued.

The National CDM Authority (NCDMA) in the Ministry has accorded Host Country Approval to 3028 projects. These projects are in the sectors of energy efficiency, fuel switching, industrial processes, municipal solid waste, renewable energy and forestry spread across the country (covering all states in India).

About 90% of the CDM projects are developed by private sectors which has facilitated huge private sector investments in the country.

World Bank Partnership for Market Readiness (PMR): India's proposal to develop a voluntary carbon market was approved by the World Bank under Partnership for Market Readiness (PMR). The PMR Project aims to support and incentivize a market and piloting new approaches that allow emission reductions in a cost effective manner, while also addressing other priorities such as incentivizing waste, energy security, growth and development in the country.

The 8 million US Dollar grant allotted to India under the PMR Project will be utilised to develop voluntary carbon market in waste management and Micro, Small and Medium Scale Enterprises (MSME) sectors with carbon credits. These sectors have been identified to have significant mitigation potential and the ability to contribute to India achieving its NDCs targets. Background work regarding the same has been initiated, and the Project is aimed to be completed in 2020.

Ozone Cell

Ozone Layer Protection: Ozone, a tri-atomic molecule of oxygen is formed from oxygen naturally in the upper levels of the Earth's atmosphere by high-energy Ultraviolet (UV) radiation from the Sun. The UV radiation breaks down oxygen molecules, releasing free atoms, some of which bond with other oxygen molecule to form ozone. About 90 per cent of ozone formed in this way lies between 10 and 50 kilometers above the Earth's surface, called the Stratosphere. The ozone found in this part of the atmosphere is called the ozone layer. The ozone layer absorbs all the harmful UV-B radiations emanating from the Sun. It protects plant and animal life from UV-B radiation. The UV-B radiation has the potential to cause skin cancer, eye cataract, suppress body's immune system, decrease crop yield etc., which led to the adoption of the Vienna Convention for the Protection of the Ozone Layer in 1985 and the Montreal Protocol on Substances that Deplete the Ozone Layer in 1987. The mandate of the Montreal Protocol is to phase out the production and consumption of the Ozone Depleting Substances (ODSs). India is a Party to the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer and it's all the amendments/adjustments.

India has been producing and using nine of the 96 ODSs controlled under the Montreal Protocol. These are Chlorofluorocarbons (CFCs) viz. CFC-11, CFC-12, CFC-113; Carbon Tetrachloride (CTC), HYdrochloro-fluorocarbons (HCFCs), Halon-1211, Halon1301, Methyl Chloroform and Methyl Bromide. Out of these, all ODSs except HCFCs, have been phased out. Currently HCFCs are being phased out as per the accelerated phase out schedule of the Montreal Protocol

The Ministry of Environment, Forest and Climate Change (MoEF&CC) handles the work relating to ozone layer

protection and implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer.

The MoEF&CC has set up the Ozone Cell as a National Ozone Unit (NOU) to render necessary services for effective and timely implementation of the Protocol and its ODS phase-out program in India. The Ministry has also constituted an Empowered Steering Committee (ESC) Chaired by the Secretary (EF&CC) which is supported by two Standing Committees viz. Technology and Finance Standing Committee (TFSC) and Standing Committee on Monitoring. The ESC is responsible for overall implementation of the Montreal Protocol provisions, review of various policy and implementation options, project approval and monitoring.

A detailed India Country Program for phase out of ODSs was prepared in 1993 to ensure the phase out of ODSs according to the National Industrial Development Strategy, without undue burden to both consumers and industry by accessing the Protocol's Financial Mechanism in accordance with the stipulated phase-out schedule of the Montreal Protocol. The Country Program was updated in 2006. The Project Management Unit (PMU) was set up in 2002 to implement the National ODS Phase-out Plans.

The Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol on Substances that Deplete the Ozone Layer

The Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol on Substances that Deplete the Ozone Layer are the international treaties specific for the protection of the Stratospheric Ozone (Ozone layer). The Montreal Protocol has been recognized as the most successful international environ-mental treaty in history. It has been universally ratified and all the 197 United Nations Member countries of the world

are the Parties to the Vienna Convention and its Montreal Protocol. In the 29 years of operation of the Montreal Protocol, extraordinary international cooperation under this agreement has led to phase-out of production and consumption of several major ODSs such as CFCs. CTC and halons globally from 1st January, 2010. The production and consumption of Methyl Chloroform has been phased out globally as on 1.1.2015, with possible essential use exemptions. The production and consumption of Methyl Bromide has been phased out globally as on 1.1.2015, except use in quarantine and pre-shipment applications. Global systematic observations have confirmed that atmospheric levels of key ODSs are declining and it is estimated that with continued, full implementation of the Montreal Protocol's provisions, the global ozone layer should return to pre-1980 levels by around the middle of this century. The Montreal Protocol has also delivered substantial climate benefits. The Protocol is currently addressing the phase-out of HCFCs with an accelerated phase-out schedule. The UN General Assembly on 19th December, 1994 adopted a resolution 49/114 which proclaims 16th September as the International Day for the Preservation of the Ozone Layer, to commemorate the signing of the Montreal Protocol on Substances that Deplete the Ozone Layer which was signed on 16th September, 1987.

Implementation of phase-out of ODSs

India successfully phased out CFC (except in MDI), CTC and Halons by 2010.

India has successfully implemented the National Strategy for transition to non-CFC Metered Dose Inhalers (MDIs) and plan for

phase-out of CFCs in the manufacture of pharmaceutical MDIs. The phase-out was achieved 11 months prior to the schedule

approved by the Executive Committee (ExCom) of the Multilateral Fund (MLF) for implementation of the Montreal Protocol.

Implementation of HCFC Phase-out Management Plan (HPMP)

HPMP Phase I

The phase-out of HCFCs was accelerated by 10 years with reduction schedule vide decision XIX/6 of the 19th MOP in 2007.

A Roadmap for phasing-out of HCFCs was launched in October 2009 which provides the long term vision and action plan including the policy instruments for phasing out of production and consumption of HCFCs in India.

The HPMP Stage-I was approved bythe ExCom of the MLF in its 66th Meeting held in April, 2012 to reduce 341.77 ODP tonne of HCFC from the starting point of 1691.25 ODP tonne with a total funding of US $ 23,011,537 including implementing agency support costs.

The India's HPMP Stage-I addressed the conversion of foam manufacturing facilities from HCFCs to non-ODS technologies and provided technical assistance to the Systems Houses for developing HCFC free pre-blended polyol system. Refrigeration and Air-conditioning (RAC) servicing sector was also addressed in HPMP I and enabling activities for policy development and awareness generation were carried out.

The HPMP Staged is being implemented in close cooperation with United Nations Development Programme (UNDP),the lead implementing agency, United Nations Environment Programme (UNEP) and Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ).

India has successfully achieved the freeze as on 1.1.2013 and 10% reduction of production and consumption of HCFCs as on 1.1.2015, in line with the accelerated phase-out schedule of the Montreal

HPMP Stage-II

The HPMP Stage-II proposal was submitted by UNDID on behalf of India for the consideration of the 77th Meeting of the Ex-Com of the MLF held from 28th November to 2nd December, 2016.

The 77th Meeting of the Ex-Com of the MLF held from 28th November to 2nd December, 2016 approved a total funding of US $48,315,261 for reduction of 769.49 ODP tonnes of HCFCs under HPMP Stage II.

Launch of HPMP Stage II

The then Hon'ble Minister of State (Independent Charge), Environment, Forest and Climate Change, Government of India, launched the implementation of HPMP stage II on 6th March 2017, in a stakeholder meeting where officers of the Ministries and Organizations of the Central Government, State Governments, representatives from industries, stakeholders including NGOs and implementing agencies associated with the implementation of the HPMP II viz. UNDP, GIZ and UNEP, were present.

More than 400 enterprises, including 300+ Micro, Small and Medium Enterprises (MSMEs) in the foam manufacturing sector and 6 large air-conditioning manufacturing enterprises will be supported under HPMPII for conversion from HCFCs to non-HCFC technologies.

The HPMP II also provides for promotion of energy efficiency, development building codes integrating HCFC phase out issues, cold chain development with non-HCFC alternatives and development of standards for new non-ODS and low GWP

alternatives, while transitioning away from HCFCs. It is expected that there would be a net direct CO2-equivalent emission reductions of about 8.5 million metric tonne annually from 2023.

HPMP Stage-II also specifically focusses on the MSME sector in foam manufacturing. Adequate attention has also been given to synergize the Refrigeration and Servicing (RAC) servicing sector trainings under HPMP II, with the Skill India Mission, in order to multiply the impact of skilling and According to estimates, nearly 16, 000 service technicians will be trained under HPMP-II.

The Stakeholders' meeting discussed the implementation of HPMP Stage II, the Kigali Amendment to the Montreal Protocol for phase down of Hydrofluorocarbons (HFCs) and the post-Kigali developments.

Kigali Amendment to the Montreal Protocol for phase-down of HFCs

The 28th Meeting of Parties to the Protocol held in Kigali adopted an amendment to the Protocol which is historic and aimed at phasing down the HFCs that contribute to global warming.

HFCs do not deplete the Ozone layer, however, they have high global warming

The negotiations for phasing down of HFCs underthe Montreal Protocol were initiated way back in 2009, but these negotiations gathered momentum only after India submitted an amendment proposal for phase down of HFCs under the Montreal Protocol in April, 2015.

India represents only around 2 % of the global production and consumption of HFCs but our manufacturing and consumption sector is expected to grow in

India has been a strong advocate of the principle of Common but Differentiated Responsibility and relevance of national circumstances in the matter of global actions to protect environment.

In the Kigali Amendment, it has been agreed that the developing countries will have two set of baselines – one for the early movers in which case it will be 20202021-2022 and the other for those whose national circumstances were different and the manufacturing of HFCs and consumption in whose case was still rising in the absence of clear alternative technologies. In case of such countries the agreed baseline years are 2024, 2025 and 2026.

The developed countries will have baseline years of 2011-2013 with separate reduction schedule starting 10% in 2019, 40% in 2024, 70% in 2029, 80% in 2034 and 85% in 2036. For Belarus, Russian Federation, Kazakhstan, Tajikistan, Uzbekistan initial two steps will be different as 5% reduction in 2020 and 35% reduction in 2025.

India piloted a realistic baseline of 20242026 for production and consumption of HFCs in developing countries for phase-down of HFCs. As per the agreement reached in Kigali, India will freeze its manufacturing and consumption of HFCs in 2028 with reference to the baseline years 2024, 2025 and 2026. The Freeze year is subject to technology review and could be further deferred to 2030. India will complete its phase down in 4 steps from 2032 onwards with cumulative reduction of 10% in 2032, 20% In 2037, 30% in 2042 and 85% in 2047.

This agreement facilitates adequate carbon Space for growth on domestic industry while minimizing the cost to the economy during the transition period The agreed baseline years, freeze year and reduction schedule as Kigali Amendment of the Montreal Protocol for phase-down of HFCs.

	A5 Group 1 (Developing)	A5 Group 2 (Developing)	A2 (Developed)_
Baseline	2020-2022	2024-2026	2011-2013
Formula	Average HFC consumption	Average HFC consumption	Average HFC consumption
HCFC	65% baseline	65% baseline	15% baseline*
Freeze	2024	2028	
1st step	2029-10%	2032-10%	2019-10%
2nd step	2035 — 30%	2037 — 20%	2024 — 40%
3rd step	2040 — 50%	2042 — 30%	2029 — 70%
4th step			2034 — 80%
Plateau	2045-80%	2047 — 85%	2036 — 85%

For Belarus, Russian Federation, Kazakhstan, Tajikistan, Uzbekistan 25% HCFC component of baseline and different initial two steps (1) 5% reduction in 2020 and (2) 35% reduction in 2025

Notes:

Group 1: Article 5 parties not part of Group

Group 2: GCC, India, Iran, Iraq, Pakistan

Technology review in 2022 and every 5 years

Technology review 4-5 years before 2028 to consider the compliance deferral of 2 years from the freeze of 2028 of Article5Group2 to address growth in relevant sectors above certain threshold.

On India's initiative, it was agreed in Kigali that the Multilateral Fund under the Montreal Protocol will provide funds for maintaining or increasing the energy efficiency with new technology. Funding for

R&D and servicing sector in developing countries has also been included in the agreed solutions on finance.

India has been able to secure an agreement that provides adequate space for growth of our economy, while providing adequate time for industry to shift to sustainable alternatives in the interest of environment. The agreed arrangements will

minimize the cost to consumers in transitioning away from HFCs and provide for domestic innovation to develop in the sector of new generation refrigerants and related

As there is a national focus on research, innovation and technology development reflected in Make in India Programme of the Government, and to have least cost to economy while transitioning away from HFCs, and maintain the position of exporter of refrigerants, the Ministry had decided to launch a collaborative research programme in development of low GWP non ODS cost effective alternative technologies to HFCs indigenously involving research and academia institutions, industry and civil society organization.

Kigali Amendment Energy Efficiency India introduced a Conference Room Paper (CRP) with other proponents in the 39th Open Ended Working Group (OEWG) held from 11th to 14th July, 2017 on the issues related to financial and technical support for energy efficiency in Article-5 Parties.

The CRP was considered and deliberated in the 29th Meeting of Parties to the Montreal Protocol (MOP) held from 20th to 24th November, 2017. India was able to pilot after sustained and intensive negotiations the adoption of the CRP on the issues related to financial and technical support for energy efficiency in Article-5 Parties submitted by India and other proponents. It is a significant first step in dovetailing energy efficiency and refrigerant transition under the Montreal Protocol.

The decision is a significant first step towards maintaining and/or enhancing energy efficiency of Refrigeration and Air-Conditioning (RAC) equipment with refrigerant transition under HFC phase down, which will enhance the overall climate

benefit. The decision is embodied in Decision XXIX/10 of the MOP.

Secretary, EF&CC made the statement during the high level segment of 29th MOP on behalf of India. Secretary, MoEFCC also participated in Ministerial Round-table in the High Level Segment of MOP on "Identifying future opportunities and priorities" wherein he underlined the past successes of the Montreal Protocol highlighting the key points which led to its success globally and in India which were wide and comprehensive stakeholder participation and technical and financial assistance mechanism under the He also set forth the future opportunities and priorities under the protocol including for effective implementation of the Kigali Amendment. Many of the ideas stated by Secretary EFCC were echoed by Mr. Erik Solheim, Executive Director, UN Environment.

Awareness Activities

Awareness activities at the national and state levels were organized to sensitize the stakeholders to phase-out the ODSs in various sectors.

30th anniversary of the Montreal Protocol and 23rd World Ozone Day

The International Day for the Preservation of the Ozone Layer is being organized every year in the country on 16th September, at national and state levels since 1995.

Booklet on "Montreal Protocol : India's Success Story", posters, stickers are published every year on the occasion of International Day for the Preservation of the Ozone Layer giving latest information on ODS phase-out in the country and technologies adopted for phasing-out of ODSs.

The 23rd World Ozone Day was organized on 16th September, 2017 at New Delhi

with the theme: ” Caring for all life under the Sun”. A large number of stakeholders and school children participated in the programme

A pan-India awareness campaign launched by the Environment Ministry on the This campaign was among the most widespread countrywide engagements of the Ministry for awareness generation, carried out with the active partnership of States through schools and academic/research institutions spread across the country. The awareness campaign saw participation of students from more than 13, 000 schools and reached out to 214 districts across 16 states of the country.

The awareness campaign was implemented with active collaboration from State Governments, Regional Offices of the Ministry, Subordinate organizations and Autonomous bodies of the Ministry, State Nodal Agencies under the National

Green Corp Scheme of the Ministry, and the ENVIS centers spread across the country. A special website was created for wider participation and engagement of stakeholders http://ozone30mp.nic.in.

Ten information posters for school students were developed on Montreal Protocol. These were disseminated across the

The following publications were launched by the Hon’ble Minister on the occasion:

Handbook on HCFC Phase-out and Energy Efficiency in Buildings; and

– The first edition of ‘newsTRAC; and a newsletter for service technicians in Refrigeration and Air-conditioning (RAC) sector.

These two publications were launched as part of the enabling component of India's HCFC Phase out Management Plan, for which United Nations Environment is the cooperating agency and Energy Efficiency Services Ltd. (EESL) and The Energy and Resources Institute (TERI) are the national implementing partners.

The following two videos were launched:

India's achievements in implementation of Montreal Protocol, and

HCFCs phase-out and Energy Efficiency in buildings.

On this occasion, the publication "Montreal Protocol: India's Success Story"

was released by the Chief Guest and distributed to the participants. In addition, poster design, painting, slogan writing competitions were organized among school children. Prizes for the winning entries in each category of the competitions were awarded by the Chief Guest.

Piquor–on line selfie stand and infographic relating to past achievements of Montreal Protocol were arranged for wider public engagement.

Achievements made

India has met the following compliance targets with respect to phaseout of ODSs either on or ahead of the control schedule of the Montreal Protocol:-

The Ex-Com of the MLF so far has approved a total of 305 projects involving MLF funding of US $ 327,657,464 to the Indian industry for phase-out of production and consumption of 59,749.49 ODID tonne of the ODSs in India.

Complete phase-out of production and consumption of CFCs, CTC and halons with effect from 1.1. 2010.

Successful implementation of the National Strategy for transition to non-CFC MDIs and plan for phase-out of CFCs in the manufacture of MDls in India.

The production and consumption of Methyl Chloroform has been phased out globally as on 1.1.2015, with possible essential use exemptions.

The production and consumption of Methyl Bromide has been phased out globally as on 1.1.2015, except use in quarantine and pre-shipment applications

India has successfully met the freeze as on 1.2013 and 10% reduction of production and consumption of HCFCs as on 1.1.2015 in line with the accelerated phase out schedule of the Montreal Protocol.

India has been elected as a Member of the Ex-Com of the MLF for the implementation of the Montreal Protocol for the year 2018.

The 77th Meeting of the Ex-Com of the MLF approved HPMP Stage-II with a total funding of US $48,315,261 for reduction of 49 ODP tonnes of HCFCs from the remaining HCFC consumption eligible for funding.

The Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer reached agreement at the 28th Meeting of the Parties on 15 October 2016 in Kigali, Rwanda to phase-down HFCs.

The MoEFCC, Government of India hosted the South Asia Ozone Officers Annual Network meeting at Agra, India from 23-26 May, 2017 in collaboration with the UN The meeting was attended by National Ozone Officers of South Asian

Region. Ms. Tina Birmpili, Executive Secretary, Ozone Secretariat, Mr. Eduardo Ganem, Chief Officer, Multilateral Fund for Implementation of the Montreal Protocol, Ms. Dechen Tsering, Regional Director, South Asia, Un Environment, Ms. Shamila Nair Beduolle, Head Ozon Action Branch, UN Environment along with many international experts participated in the event. The then Secretary (EFCC) inaugurated the event.

An "Ozone2Climate Technology Roadshow" was also organized for the first time as part of the annual network meeting to showcase technologies which are based on non-ODS with low GWP. The Roadshow was organized in association with RAMA, IPUA, EESL, GIZ and UNDP. The Roadshow had 13 exhibitors, who showcased current refrigeration and air conditioning equipment, designed to be more energy efficient that promoted ozone and climate-friendly alternative technologies to HCFCs and HFCs in the RAC sector. This was the first time the Ozone2Climate Technology Roadshow was organized as a part of the annual network meeting.

India has taken a lead and issued an order for incinerating the HFC-23, a by-product of HCFC22 refrigerant production, voluntarily by the producers of HCFC – 22. HFC-23 gas, a potent greenhouse gas, with GWP of 14800, is produced as a by-product of HCFC-22 manufacturing, and if vented out in environment, is a threat to the India announced this step voluntarily without a commitment of financial support from the MLF, which shows the determination and commitment of the country on climate issues.

Recognizing the cross cutting use of refrigeration and air conditioning technologies in various sectors and close linkage of energy efficiency with refrigerant transitions while phasing

down HFCs, it has been decided to develop a National Cooling Action Plan. This plan would inter-alia integrate the phase out of ODSs/phase down of HFCs while maximizing energy efficiency of air-conditioning equipment's. National Cooling Action Plan will lend a long term perspective to different sectors using refrigerants, foaming agents and cooling technologies etc.

India piloted Decision XXIX/10 in the 29th Meeting of Parties on Issues related to energy efficiency while phasing down hydrofluorocarbons Vide the Decision of the MOP the Technology and Economic Assessment Panel of the Montreal Protocol shall submit a focused report inter alia on technology and capacity building requirements, Related costs including capital and operating costs in relation to maintaining and/or enhancing energy efficiency in the refrigeration, air-conditioning and heat-pump sectors, including in high-ambient-temperature conditions, while phasing down hydrofluorocarbons under the Kigali Amendment to the Montreal Protocol. This is an important step for moving towards integration of Energy efficiency issues under Montreal Protocol.

India was one of the active member of the contact group on the replenishment of funds of the Multilateral Fund for period 2018 to 2020 during the 29th MOP and played a key role in the discussion on the The Parties agreed for replenishment of US $540 million to the MLF for the triennium 2018-2020. It may be mentioned here in the prevailing international regime a replenishment of 540 million USD for the 2018 to 2020 of the MLF is a very significant achievement. The decision to this effect was adopted by the high-level segment of the 29th MOP.

Awards & Appreciations received so far

The Ozone Cell of India has been conferred with several awards/appreciations/ recognitions for successful implementation of the Montreal Protocol and its ODS phase out activities.

On the 30th anniversary of the Montreal protocol, the Ozone Secretariat in cooperation with Government of Canada, hosted the Award distribution ceremony on 23rd November 2017.The Award were handed over by Ms Catherine Mckenna, Minister of Environment, Government of Canada, at the glittering Award Ceremony.

The awards recognized the achievements of individuals, groups and organizations that have demonstrated extraordinary contribution to the progress of protocol in last 10 years.
Late Shri Anil Madhav Dave, the then Hon'ble Minister of State (independent charge) environment, forest and climate change, Government of India was given the Ozone Award under the Political Leadership category for the Leadership provided by India during the Kigali Amendment Negotiations.

Module III
Economic Planning in India

Economic development has been closely linked with economic planning. Economic planning is the strategic instrument in the hands of the government/ policymakers to attain desired socio-economic objectives of the country. The idea of planning acquired a tremendous support after the end of world war II when advanced but disrupted economies had to be rehabilitated and the under developed economies were fired with the ambition of rapid economic development. Planning is really a gift of former Soviet Russia to the world, for, it was the first country to practice economic planning on a national scale in 1928. Since then it was adopted by number of countries in various forms. Planned economy is one in which the state owns (partly or wholly) and directs the economy.

Planning: Meaning and Definition

Planning is the systematic and scientific utilization of available resources to achieve national goals. Planning involves ex ante co-ordination and conscious direction of economic activity with a view to achieve certain social objectives.

According to H.D Dickinson, economic planning is "the making of major economic decisions-what and how much is to be produced and to whom it is to be allocated by the conscious decision of determinate authority, on the basis of a comprehensive survey of the economic system as a whole.''

According to Hayek, planning means, "the direction of productive activity by a central authority".

National Planning Commission of India, "planning under a democratic system may be defined as the technical co-

ordination, by disinterested experts, of consumption, production, investment, trade, and income distribution, in accordance with social objectives set by bodies representative of the nation. Such planning is not only to be considered from the point of view of economics and the raising of the standard of living but must include cultural and spiritual and the human side of life".

Types of Planning

The objective of economic planning may vary as between developed capitalist economies and developed ones. In advanced countries, the emphasis on stabilizing, elimination of cyclical fluctuations whereas in poor countries the main objective is accelerating the rate of development. In developed capitalist countries, planning is of corrective type and in poor countries is of the developmental type. Let us now see the different types of economic planning.

- **Corrective Planning**

The series of measures undertaken under the new deal in the United States under the Roosevelt regime in 1933 aimed at stabilizing the national economy through a planned programme of action covering all the important sectors of the economy. The United States employment Act of 1946 is a good example of the nature and scope of planning in a advanced capitalist economy. The idea underlying this scheme is to counteract, the forces of depression as well as inflation through directing and guiding private enterprise. What is significant to observe in all these measure of corrective planning is that government restrains itself from too much interference in the economic life of the community, but at the same time takes steps to guide and regulate private enterprise in such a manner that the forces of instability do not go out of control.

- **Development Planning**

The development planning involves five important stages. Surveying of national resources in order to estimate their cost and to envisage the alternative courses of action. Taking a general decision between these alternatives, Drawing up the programme of action, Executing the programme, and Adjusting into changed circumstances.

This type of planning will make it possible to bring about a proper balance between the financing and the real resources available and the investment requirement of the developing country. Another requisite for developmental planning is the fixing of priorities for the different projects for development. This is necessary in view of the scarcity of resources in relation to the development demands. The overall targets of output have to be predetermined with reference to the available resources in the economy. A rational use of resources helps to attain the target with less strain on the economy. Development planning also views an overall balance between different industries. These industries are interlinked each other through the demand and supply forces. The expansion of any particular industry call for the development of other industries. This inter-relationship between industries makes it significant that, the schemes of investment in particular projects are drawn up on the basis of the reflection of investments on other industries. In this development planning we are coordinating everything in one simultaneous piece of analysis and doing it on the optimum basis. A great deal of forecasting of trends in future demand and output is essential for developmental economic planning.

- **Physical Planning:**

Physical planning implies planning in terms of real resources such as labour, equipment, materials etc. Every development programme requires real resources. For example, the construction of a dam needs cement, bricks, steel and skilled

workers. To formulate the plan, planning agency has to assure itself about the availability of such real resources for the implementation of the plan. Thus, physical planning means planning in physical terms. In other words, physical plan is not framed in financial terms, but only in physical terms. In short, physical planning concerns itself with physical targets with regard to agricultural and industrial production and transportation services.

- **Financial Planning:**

Financial planning means arranging the necessary financial resources to meet the development expenditure. In a private enterprise economy, the physical resources are to be mobilized through price mechanism as the resources are owned by the private individuals. In a socialist economy, pricing for resources may not be done as all the means of production are owned by the state. However, even in a socialist economy, labour has to be paid wages to get the service. Therefore, a certain extent off financial planning is necessary in socialist countries too. The planning Commission hence both in socialist and private enterprise economies has to make arrangements to secure the necessarily supply off funds from various sources to meet financial requirements of planning.

In financial planning the allocation of resources and measurement of resources is made in terms of money. finance is the key to economic planning. If sufficient finances are not available, the physical targets of any plan may be difficult to achieve. The outlay is fixed in terms of money and the estimates are made regarding the growth of the national income arising out of this outlay in financial planning. The finances are raised through taxation, savings and borrowings. Based on different economic systems, planning can be classified into

Capitalist planning and Socialist planning

Totalitarian planning and Democratic planning and

Centralized planning and Decentralized planning

- **Capitalist Planning**

Capitalism is associated with some sort of planning. Under capitalist planning, though laissez-faire principle is abandoned, most of the fundamental features of capitalism such as institution of private property, profit motive competition, price mechanism etc. are maintained to a limited extent. under capitalism, the planning authority prepares a broad framework of the plan. The plan broadly indicated the objectives and targets of different sectors and the annual growth rate to be attained within the specified period. These targets and objectives are attained through price manipulations which is made possible through subsidies, tax concessions etc. The state offers various types of fiscal and monetary, positive and negative incentives to private enterprise units to induce them to take up some particular line of production and refrain from taking certain other lines. The idea is being introduced in production of those commodities which are conductive to the welfare of the society. Therefore, capitalist planning is the planning not by command or direction, but by inducements.

- **Socialist Planning**

Under socialism, all-factors of production are owned and all productive economic activities are carried on by the state. The government formulates and implements the plan. This implies that socialist planning is essentially planning by direction and not by inducement. Under socialist planning, the role of private sector is insignificant. Since all the factors of production are owned by the state, it helps planning authority to formulate and implement the plan. The absence of the institution of private

property, private profit motive competition and freely fluctuating price mechanism along with the public ownership of productive resources help the state to formulate successfully the plan and implement it easily. In spite of the effectiveness of the socialist planning, it is criticized that, it curtails the freedom of both the consumers and producers.

- **Totalitarian Planning**

Under totalitarian planning, all authority tend to be concentrated in the hands of one or a small group who takes all important or even minor economic decisions in respect of formulation and implementation of the country's economic plan. It is the fundamental feature of the totalitarian economic planning. For example, the totalitarian regime of the Fascist dictatorship of Hitler in Germany, Mussolini in Italy and in the case of dictatorship of Stalin in the U.S.S.R.

- **Democratic Planning**

Democratic planning may be defined as an economic plan formulated and implemented in a democratic way. In such a planning boards of different levels, which formulate plans for their respective areas. All important economic matters are put before elected representative bodies before taking decisions. At each stage the draft plan is debated in elected bodies where opposition parties are free to criticize the plan and suggest amendments or modification or even an alternative plan. The central planning authority will then try to co-ordinate all the tentative plans coming from lower levels and the final draft of the plans is thrown open for debate in the parliament where elected representatives of all parties of the country debate the plan and make necessary modifications. After the approval of the parliament, the final draft is put for implementation. There is no need of repressive measures in democratic plan. The

monetary and fiscal instruments are effectively used in the implementation of the plan.

- **Centralized Planning**

In centralized planning, one central authority, board, or commission is entrusted with all the powers of taking all the important decisions. The central planning authority further splits the targets and resources to regional planning authorities. But, all the final and vital decisions are taken by the central planning authority, and all the implementation will be done under its direct supervision. This type of planning is otherwise known as "planning from above". Though the communist countries are generally associated with centralized planning and capitalist countries and mixed economies with decentralized planning, there is no logical connection between the two. For example, Yugoslavia, a communist country has adopted decentralized planning, whereas India, with its mixed economy and democratic form of government adopted at least initially centralized planning.

- **Decentralized Planning**

In decentralized planning, there are several regional and lower level planning bodies. These bodies have the power to formulate plans for their own regions by considering the social and cultural background, priorities and local needs. But these regional planning bodies are required to formulate their regional plans with in the broad framework of the national plan previously discussed and agreed upon by all parties concerned, This sort of planning is known as "planning from below". Since there is no concentration of authority in the hands of a single person or small body of persons, there is little scope for domination over planning of such a person or body. Planning form below is highly representative type of planning as it covers people's needs, aspirations and priorities on

representative basis. Since people feet direct involvement in planning, decentralized planning is more likely to enlist voluntary co-operation of people.

Planning can also be classified on the basis of time element involved in it as Perspective planning, Medium term planning and Short term planning.

Perspective Planning

Perspective planning refers to long term planning covering a period of 20 to 25 years or even longer period. It aims at the broad objectives viewed by the economy over a long period of lime. In such plans, the objective can be drawn only in broad terms and not in detail. It also follows that, longer the span of time of a perspective plan, more broader and vague will be the direction and objectives and less detailed the programmes and projects. The perspective was in broad terms, but it was necessary as it showed the broad direction in which the country should move. To realize these long term objectives, the country has adopted medium term and short term plans.

Medium Term Plans

The perspective plan of 20 0r 25 years for operational purposes comes to be split into several medium term plans. The medium term plan generally covers a period of 5 years and is called a 5 years plan. Sometimes the duration may vary from 4 to 7 years The medium term plan enables the planning authority to lay down specific targets in specific sectors and formulate specific policies and projects to be followed or completed to attain the targets. There is more definiteness in medium term plans. Since planning is continuing process, each medium plan is succeeded by the next medium term plan again with specific targets and projects. The idea behind is that, these successive medium term plans should enable the country to more towards the broad

objectives and targets conceived in the perspective plan of the country.

Short Term Plan:

The medium term plan is further split into one year plans laying down targets in still more specific terms which the economy should achieve at the end of each year. The rationale behind the formulation of one year plan has been that experience in India which showed that in the case of a five year plan, very little was generally done during the first two or three years of a five year plan and the work expenditure is concentrated during the later part of the five year plan. In order to avoid this, it has been found desirable to break up the medium term plan into several short term plans. This would results in spreading up the work to be done in a proper way so that implementation of different projects had to be done at reasonable speed from the beginning of a five year plan to the end of it. The relation between short-term plan and medium term plan is more or less the same as the relation between several medium term plans and perspective plans.

Regional and National Planning:

A national plan is a plan for the country as a whole, whereas a regional plan comprehends a particular region. In a vast country like India with a diversity of climate and physical resources, regional planning, concerned primarily with the economic development of a region, becomes inevitable.

Functional Planning and Structural Planning

Planning may be attempted within the existing socioeconomic framework or it may seek to change the economic structure radically. The former is known as functional planning and the latter structural planning. Functional planning attempts to modify or improve the existing structure or repair or rehabilitate it, if it is damaged of disrupted, e.g. Indian

economy after the partition. Functional planning assumes that planning is possible even in a capitalistic economy whereas advocates of structural planning think that planning and capitalism are incompatible.

Planning in India so far is functional. Even though the avowed object of Indian planning is to establish a socialistic pattern of society but no drastic or revolutionary steps have been taken to change radically the existing economic order. In the U.S.S.R. (Russia) and China, on the other hand, planning has been structural because the very structural changes have been made in those economies.

Planning in India

The necessity of economic planning in India was realized not only in the post-independence era but a number of efforts were made in this direction even during the pre-independence period. The basic aim of the economic planning in India is to bring about rapid economic growth through development of agriculture, Industry, power, transport, communications and all other sectors of the economy. The concept of planning in India is based on the Russian Model initiated by the Joseph Stalin. The best way to describe the overall aim of Indian planning is "growth with Justice". Let us consider the major events in the evolution of economic planning in India.

- M.Visweswarayya is regarded as the father of Indian Planning who published his book 'Planned Economy for India' in 1934. He formulated a 10 year development plan. However, it remained merely of academic interest and did not directly influence any social action.
- In 1938 the Indian National Congress, under the presidentship of Subhash Chandra Bose and the

leadership of Pandit Jawaharlal Nehru, made a National Planning Committee. The committee, however, could not implement this due to the outbreak of second world war.

- In 1944, 8 industrialists of Bombay presented a well organized plan called "The Bombay Plan." But, the industrialists failed to implement the plan strategy.
- In 1944, inspired by the economic views of Gandhiji, Shri Sriman Narayan Agarwal constructed a plan called 'Gandhian Plan'.
- M.N.Roy introduced a plan called People's Plan in April 1945.
- In 1946 October, set up a planning Advisory Board by the Interim Government for a review of the projects prepared by the various governments and report to them. The board submitted its report in 1946.
- In November 1947, The All India Congress Committee appointed the Economic Progress Committee under the Chairmanship of Pt.Jawaharlal Nehru. The committee submitted its report in January 1948 and recommended the institution of a permanent planning commission.
- In January 1950, shri Jaiprakash Narayan published a plan called 'Sarvodaya Plan'. However, all these plans failed to launch in the country.
- The planning Commission was constituted on 15th March, 1950 with a view to prepare a blueprint of development taking into consideration the needs and resources of the country.
- the National Development Council (NDC) was framed on 6th August 1952 by the government of India. NDC is the highest economic policy making body in India.

The Chairman of both planning commission and NDC is the Prime Minister of India.

- Recently, the government of India established NITI Aayog by replacing planning commission on 1st January 2015.

Objectives of Planning

The basic objectives of Indian planning are growth, modernisation, self-reliance, and social justice. These objectives are, in fact, the guiding principles of Indian planning. Within this basic framework of objectives, each development plan lists some priorities in the light of immediate requirements and constraints. These have, however, to be subservient to the four basic objectives indicated above.

Economic Growth: The first and the foremost objective of Indian planning is the growth of the economy as rapidly as possible within a democratic framework. In a country with low per capita income and poor standard of living of the majority of the people, raising national income has naturally been the basic objective of development planning. It has often been assured that the gain of economic growth would percolate downwards and thus property, inequalities would be decline and poverty problem would automatically be solved. The growth of employment was also taken for granted. High priority to economic growth in Indian plans looks justified from beginning.

Modernization: The second basic objective has been to modernize the economy. This amounts to structural and institutional changes in economic activities leading to a progressive and modern economy. This needs modernization in all the three sectors of the economy, viz. agriculture, industry and services. One important pursuit is the shift in the sector-wise contribution to national income from agriculture to

industry and the services. Agriculture has been the largest sector among all the three sectors in terms of production and employment as a matter of the colonial legacy. Another important aspect of modernization is development of a diversified economy that produces a large variety of goods, including capital goods. This envisages establishing new industries in the fields of engineering, chemicals, petroleum, etc. A fundamental aspect of modernization of the economy consists in advancement of technology and innovation for making the economy efficient by upgrading the quality of products and/or reducing costs; increasing the productivity of labour and other resources. Certain institutional changes become necessary for the modernization and development of the economy.

Self-reliance: The third major objective of Indian economic planning was at least till 1980s to make the economy self-reliant. This implies progressively reduction and ultimately elimination of dependence on foreign aid and imports for certain critical commodities. This requires import substitution, i.e. producing the same commodities at home instead of importing them. This necessitates expansion and diversification of exports so that we are in a position to pay from our own earnings of foreign exchange. The emphasis in the case of agriculture is, however, on self-sufficiency in production of food grains and the raw materials for industrialization. However, after July 1991, with the globalization and opening of Indian economy, the shift has taken place towards outward orientation.

Social Justice: Another important objective is to render social justice to all, more particularly to the deprived strata of the society. This implies improving the living standards of the weaker sections of the population, namely, landless agricultural

labourers, artisans, members of scheduled castes and scheduled tribes, women and children etc. This also implies the reduction of inequalities in income and asset distribution, more particularly in the rural areas where land, the principal source of living, is unequally distributed. This also includes a variety of welfare schemes, namely, special employment programmes of the poor, land reforms in favour of the small farmers, supply of concessional or subsidised items for production as well as consumption Purposes.

Removal of unemployment: Generally unemployment means people able and willing to work in a prevailing wage rate but not get adequate work. Number of underdeveloped countries facing the problem of unemployment. India is facing the problem of unemployment. So our planner given more attention to the removal of unemployment in the country. In each and every plan in India the main objective was removal of poverty. For the purpose of this objectives, Government of India adopted different programmes for increase employment opportunities i.e. S.F.D.A., M.F.A.L., E.G.S. IRDP, Swarnjaynti Gram Rojgar Yojana, Jawahar and Nehru Yojana, Priminister employment assurance scheme etc.

Reduction of Income Inequalities: According to experts, Indian plans have never made any serious attempt to redistribute income and wealth. From fourth plan Government of India given a priority to this objectives. In its opinion, fiscal measures at best can reduce disposable income at the top and thus their importance for eliminating income inequalities is limited. For this purpose number of programmes started for poor people for improving their economic conditions. From rapid growing big business houses like Tata, Birla, Dalmiya, Jain, Chougule etc, it is obvious that income inequalities have been increasing in urban areas as well. Monopoly measures

can reduce inequalities in income and wealth, but from this point of view, Government passed the act like M.R.T.P. and adopted progressive tax system policy etc.

Elimination of Poverty: Poverty means people doesn't fulfils their minimum needs i.e. food clothing, shelter, safe drinking water, education, health etc. Poverty can be two types one is absolute poverty and second is relative poverty. In our country both types are prevailing. So our planners and government has given a priority for elimination of poverty in some plans. From first to Eleven five year plan, Government has given more attention to the cottage and small scale industries, agricultural development, social security programmes, welfare programmes for labour farmers etc. under fifth five year plan. 'Garibi Hatao' programmes has been introduced under these programmes numbers of sub programmes were started.

Thus, the fundamental objectives of our development planning have been to secure rapid economic growth, modernisation, self-reliance, reduction in disparities of income and wealth, prevention of concentration of economic power, and creation of values and attitudes of a free and equal society. The promoting one objective could facilitate another but there could be contradictions too inherent in simultaneously achieving all these objectives.

Planning Commission of India

The Planning Commission was set up by a Resolution of the Government of India on 15th March 1950. It was set up in pursuance of declared objectives of the Government to promote a rapid rise in the standard of living of the people by efficient exploitation of the resources of the country, increasing production and offering opportunities to all for employment in the service of the community. The Planning Commission was charged with the responsibility of making assessment of all

resources of the country, augmenting deficient resources, formulating plans for the most effective and balanced utilization of resources and determining priorities. Jawaharlal Nehru was the first Chairman of the Planning Commission. The Prime Minister is the Chairman of the Planning Commission, which works under the overall guidance of the National Development Council. The Deputy Chairman and the full time Members of the Commission, as a composite body, provide advice and guidance to the subject Divisions for the formulation of Five Year Plans, Annual Plans, State Plans, Monitoring Plan Programmes, Projects and Schemes.

The first Five-year Plan was launched in 1951 and two subsequent five-year plans were formulated till 1965, when there was a break because of the Indo-Pakistan Conflict. Two successive years of drought, devaluation of the currency, a general rise in prices and erosion of resources disrupted the planning process and after three Annual Plans between 1966 and 1969, the fourth Five-year plan was started in 1969. The Eighth Plan could not take off in 1990 due to the fast changing political situation at the Centre and the years 1990-91 and 1991-92 were treated as Annual Plans. The Eighth Plan was finally launched in 1992 after the initiation of structural adjustment policies. For the first eight Plans, the emphasis was on a growing public sector with massive investments in basic and heavy industries. But since the launch of the Ninth Plan in 1997, the emphasis on the public sector has become less pronounced and the current thinking on planning in the country, in general, is that it should increasingly be of an indicative nature.

Functions of Planning Commissions:

The 1950 resolution setting up the Planning Commission outlined its functions as to:

- Make an assessment of the material, capital and human resources of the country, including technical personnel, and investigate the possibilities of augmenting such of these resources as are found to be deficient in relation to the nation's requirement;
- Formulate a Plan for the most effective and balanced utilization of country's resources;
- On a determination of priorities, define the stages in which the Plan should be carried out and propose the allocation of resources for the due completion of each stage;
- Indicate the factors which are tending to retard economic development, and determine the conditions which, in view of the current social and political situation, should be established for the successful execution of the Plan;
- Determine the nature of the machinery which will be necessary for securing the successful implementation of each stage of the Plan in all its aspects;
- Appraise from time to time the progress achieved in the execution of each stage of the Plan and recommend the adjustments of policy and measures that such appraisal may show to be necessary; and
- Make such interim or ancillary recommendations as appear to it to be appropriate either for facilitating the discharge of the duties assigned to it, or on a consideration of prevailing economic conditions, current policies, measures and development programmes or on an examination of such specific problems as may be referred to it for advice by Central or State Governments.

Evolving Functions

- From a highly centralized planning system, the Indian economy is gradually moving towards indicative planning where Planning Commission concerns itself with the building of a long term strategic vision of the future and decide on priorities of nation. It works out sectoral targets and provides promotional stimulus to the economy to grow in the desired direction.
- Planning Commission plays an integrative role in the development of a holistic approach to the policy formulation in critical areas of human and economic development. In the social sector, schemes, which require coordination and synthesis like rural health, drinking water, rural energy needs, literacy and environment protection, have yet to be subjected to coordinated policy formulation. It has led to multiplicity of agencies. An integrated approach can lead to better results at much lower costs.
- The emphasis of the Commission is on maximizing the output by using our limited resources optimally. Instead of looking for mere increase in the plan outlays, the effort is to look for increases in the efficiency of utilization of the allocations being made.
- With the emergence of severe constraints on available budgetary resources, the resource allocation system between the States and Ministries of the Central Government is under strain. This requires the Planning Commission to play a mediatory and facilitating role, keeping in view the best interest of all concerned. It has to ensure smooth management of the change and help in creating a culture of high productivity and efficiency in the Government.

- The key to efficient utilization of resources lies in the creation of appropriate self-managed organizations at all levels. In this area, Planning Commission attempts to play a systems change role and provide consultancy within the Government for developing better systems. In order to spread the gains of experience more widely, Planning Commission also plays an information dissemination role.

National Development Council

National Development Council (NDC) or the Rashtriya Vikas Parishad is the apex body for decision making and deliberations on development matters in India presided over by the Prime Minister. National Development Council was set up on August 6, 1952 to strengthen and mobilize the effort and resources of the nation in support of the Plan, to promote common economic policies in all vital spheres, and to ensure the balanced and rapid development of all parts of the country. The National Development Council is one of the key organizations of the planning system in India. It symbolizes the federal approach to planning and is the instrument for ensuring that the planning system adopts a truly national perspective. Prime minister is the ex-officio chairman of the NDC. National Development Council is composed of the members such as Prime Minister of India (Chairman of NDC), Chief Ministers of all states, Administrators of all Union Territories, All cabinet ministers, Members of the Planning Commission. The secretary of the Planning Commission is also the secretary of the NDC. The administrative assistance is also provided by the Planning Commission.

As NDC is an advisory body to the Planning Commission. The major objectives of NDC are as follows, To strengthen and mobilize the effort and resources of the nation in support of the

Plan, To promote common economic policies in all vital spheres and To ensure the balanced and rapid development of all parts of the country. In addition to this, NDC provides a platform to all the states to discuss their problems and issues related to development. Thus, it secures the cooperation of the states in the execution of developmental plans.

To meet its objectives, the NDC has been assigned following functions: (1)To prescribe guidelines for the formulation of the National Plan, including the assessment of resources for the Plan, (2) To consider the National Plan as formulated by the Planning Commission, (3) To make an assessment of the resources required to implement the plan and the way to augment the resources, (4) To consider important questions of social and economic policy affecting national development, (5) To review the working of the Plan from time to time, and (6) To recommend such measures that are necessary for achieving the aims and targets set out in the National Plan.

Methodology of Planning

The planner is gone through the following steps in economic planning:

Collecting information: The most important aspect of economic planning is the collection of economic data. The data are not only comprised of economical data, but they also cover the demographical, geographical, and political data. The planner also considers non-quantitative data for economic planning. The planner or the team of planners must have an enough knowledge regarding the fields like sociology, religion, politics and ethics in addition to economics.

Deciding nature and duration of the plan: Once the planning authority gets the knowledge in respect of the economy on the basis of necessary statistics, the next step is to determine the nature and size of the plan. In this connection, the planner has

to decide between the planning on micro-basis and planning on macro-basis, functional or structural, centralised or decentralised, etc. Again it is to be decided that whether the planning will be on short-term basis, medium term, or long term. In most of the countries, the medium term plans are advocated. The medium term plan which mostly lasts for the period of 5 years is neither too short nor too long. In the period of five years the ruling party is in a position to implement upon its programmes, policies and manifesto.

Setting the objectives: After the nature and the duration of plan, the next issue is of setting the objectives. In other worlds, it is an important task before the planner to decide regarding the social and economic objectives which will have to be attained in the specified period of the plan. Most of the objectives or goals of the plan are concerned with the attainment of higher growth rate of GNP, reduction of unemployment, removal of regional disparities, removal of illiteracy, development of agriculture and industrial sectors, etc. After identifying such objectives, planner arranges these objectives in order of their importance to the society and the economy as a whole.

Determination of growth rate: This is the most important decision which the planner has to make while formulating the plan. It is about to determine the growth rate during the plan period, i.e., at what rate the economy will grow during this period. The economists agree that the growth rate of the economy should be one which could at least maintain the per capita income of the country. This would be possible if the growth rate of the economy or growth rate of GNP and growth rate of the population are equal. But this growth rate is least recommended. Rather, the planner will opt for that growth rate which is greater than the population rate.

Financial resources of the plan: The economic planner is aimed at utilising the resources of the country in such a way that the pre-determined objectives are attained. The real resources of a country consist of manpower, natural resources, technological advancement, infra-structure, good governance, entrepreneurial skills, etc. The planner also has to consider the various optional external resources in case the internal resources are short to fulfil the planning requirements. Such external resources consist of foreign aid and assistance, foreign grants, foreign direct investment, and foreign borrowings from various IFIs and rich countries.

Sectoral allocation or determination of priorities: The resources at the disposal of a country are always short of the requirements. Therefore, a plan is aimed at utilising the resources in such a way that the maximum social benefit could be attained. Accordingly, the planner has to decide which project be taken-up and which project be postponed. In this way, the planner has to prepare a schedule on the basis of relative importance of projects. Then a choice has to be made regarding allocation of resources amongst different uses. Normally the planner has to decide between industrial sector development or agricultural sector development, private sector or public sector, labour-intensive technology or capital-intensive technology, etc. To settle the issue of 'choice of priorities' amongst different alternatives, the planners have given the concept of 'investment criteria'.

Role of the government: In most of the countries, the purpose of planning authority is to prepare the draft of the plan consisting of lot of proposals, schemes and projects. When once the plan is chalked out the proposals are sent to operating agencies, ministries and other government departments which

are to implement the plan. The government agencies are inquired of their recommendations regarding the economic feasibility of different schemes and projects of the plan keeping in view the sectoral allocation and size of the plan. The operating agency, i.e. the government has to consider the role to be played by private sector and public sector. The government has to inform the planning agency regarding the prospective bottlenecks in the way of effective planning. These recommendations will be helpful in finalising the draft of the plan.

Formulation of economic policies: The role of planners in planning methodology is not just confined to preparation of schemes and projects, they also have to devise economic policies which could provide a favourable atmosphere for the operation of the plan. Accordingly, economic policies play an important role in economic planning, they provide fuel to the engine of economic development.

Plan execution: The last step is plan execution. For effective implementation of plan, following conditions are the pre-requisites: (i) the government should be stable, honest, sincere and constructive, (ii) the administrative system must be efficient, i.e. free of favouritism, corruption, bribery, redtapism, etc., (iii) maintenance of law and order situation, (iv) equal participation of private and public sectors in economic development, (v) readily availability and computerised maintenance of government records, financial statements and cost statements and (vi) vigilant and constructive opposition, etc.

Planning Techniques:

There are several planning techniques used in different stages of planning. Some of them are discussed below:

- Capital-Output Ratio (COR):

In development planning process, capital investment plays crucial role in capturing particular development as well as growth rate in the developed and developing economies. Such capital investment is made by public and private sectors in an economy. Especially planning authority is interested in understanding the volume of capital investment, being required to attend a particular determined rate of economic development and growth. The planners in developing countries, having scarcity of capital are engaged in performing efforts for having maximum production returns from investment of available limited capital sources. In such circumstances, while designing and also selecting development planning programmes, planners insists on understanding the concept of 'capital-output ratio' in different sectors of the economy.

The capital-output ratio is the concept which is used to measure sector wise output being occurring due to investment of a particular volume and size of capital in a economy. Capital-output ratio is one of the important issue in development planning and study of it help in making decisions pertaining to augmentation as well as allocation of capital for different programmes being undertaken in planning process. The concept of capital-output ratio is also called as 'Capital-output proportion' or 'Capital-output coefficient.' It was first introduced by prof. Harrod and prof. Domar for analyzing business cycles and growth model developed by themselves. Further colin clerk. The Capital-Output Ratio (COR) is used during the planning stage of determination of growth rate. COR defines the relationship between capital and output. This concept shows that how much of capital is required for how much of output. Broadly speaking, it tells us that how much of investment is required to produce a certain level of consumption goods. In development planning, the

concept is being used to take decisions of capital investment in various sectors. In development planning, it is considered essential to understand the required capital investment in various sectors and projects being run the sectors, to attend the settled objective of rise in output in the economy. The capital-output ratio help in searching phenomenal relationship between capital investment and output occurring due to it. The different sectors in the economy may have different capital-output ratio. Generally two type of capital-output ratio are used to measure the COR in various sectors and projects undertaken in these sectors.

Average capital-output Ratio

The average capital output ratio refers to everything that indicates the relationship between the existing stock of capital investment and the resultant flow of current output. Prof Gerald Meier has defined it as, the relationship between the value of the total stock of capital invested in a particular given period divided by the total value of annual production income being generated due to it. The following equation is used to calculate the average capital-output ratio in the any particular sector or project. Average capital-output Ratio = Total value of capital stock invested in a economy/Total value of output or income in a economy. For example, in a given period, i.e. for one year, if total stock of capital invested in a economy is worth of value of Rs. 100 crores and production or income generated due to is of value of Rs. 20 crores, then the average capital-output ratio in such economy is said to be 100/20=5, i.e. it said to be 5:1. Average capital-output ratio is static concept. It is represented as follows:

$$ACOR = \frac{K}{Y}$$

Where, K = existing capital stock;

Y = existing level of output.

Marginal Capital-output Ratio

Marginal capital-output ratio is also called as the incremental capital-output ratio. In planning, the planners is concerned with additional amount of capital required for additional output, then the concept of marginal capital-output ratio (MCOR) or incremental capital-output ratio (ICOR) is usedAccording to Gerald Meier, it expresses the relationship between the amount of increase in output i.e. income, resulting from a given increase in stock of capital. Marginal capital-output ratio refers to all that has been added in a recent period to the capital or income. The marginal capital-output ratio is a dynamic concept. The marginal capital-output ratio is generally used for setting the objective of particular rate of rise in national income in a economy. Thus, the marginal capital-output ratio help in determining the rate of rise in the national income or output in various sectors.

Its equation is shown as below:

$$MCOR = ICOR = \frac{\Delta K}{\Delta Y} = \frac{\Delta I}{\Delta Y} = w$$

Where, w = marginal capital-output ratio (MCOR) or incremental capital-output ratio (ICOR)

ΔK = change in capital stock

ΔY = change in output

ΔI = change in investment

For example, if the ratio is 3:1, then it shows that to produce the goods worth Rs. 1 will require to make the net investment worth Rs. 3. In other words, if the economy wants to increase the output by Rs. 1 billion with the COR 3, then the required addition to the capital stock to be provided by new investment will be Rs. 3 billion.

The size of the capital-output ratio is being considered as an important determinant in development planning, while utilizing and also augmenting the capital resources for different projects, undertaken in planned economic development. The size of the capital-output ratio in the economy depends upon number of factors. Such as level and nature of technological progress, efficiency in utilization of new types of capital equipments, managerial and organizational quality human resource, pattern of demand, factor prices speed of industrialization and other factors in the economy some of the important Factors, that plays crucial role in determining size of capital output ratio. A country with abundant natural resources and having higher size and growth rate of population have low capital-output ratio. Whereas, the countries having high quality of managerial and organizational skilled labour supply and technologically advances capital intensive may experience high level capital-output ratio.

- **Input-Output Analysis:**

Input-output analysis technique developed by Wassily W. Leontief in his famous books "The structure of American Economy" in 1951. Input –output analysis is also known as 'inter-industry analysis' or input-output table. It is a basic tool of analytical technique, which provides a descriptive set of social accounts for the whole dynamic economy and thereby reflects the interdependence of sectors and sub-sectors. It provides analysis of sectoral interdependence of sectors and subsectors and general equilibrium of the economy as a whole. The technique of input-output analysis is being considered important for planning authority in decision-making process regarding resource allocation in a economy. According to William J. Baumol, "Input-output analysis is the name given to the attempt to take account of general equilibrium phenomena

in the empirical analysis of production". Thus, input-output analysis belongs to the phenomena of productive activities of enterprising units in utilizing certain resources as inputs and with the help of it, transforming them into as a production or output. It reveals the demand for and supply of resources by each productive sector and interdependence of sectors regarding resource utilization, ultimately leading towards creating general equilibrium in an economy. The input-output analysis tells us that there are industrial inter-relationships and inter-dependencies in the economic system as a whole. The inputs of one industry are the outputs of another industry and vice versa. Their mutual relationships, ultimately lead towards creating equilibrium between supply and demand in the economy as a whole. Coal is an input for steel industry and steel is an input for coal industry. Though both are the outputs of their respective industries. Thus, input-output analysis implies that, in equilibrium, the money value of aggregate output of the whole economy must equal the sum of the money values of inter-industry inputs and the sum of the money values of inter-industry output.

Input-Output Table: Wassily W. Leontief has explained input-output analysis with the help of input-output table. Input-output table contains or includes the demand for inputs of each sector and output of the sector further used by other sectors as inputs, Which lead towards creating general equilibrium in the economy as whole. It also contains the demand of household sector for final consumption purpose in the economy. It ultimately explains the inter-dependencies of various sectors. That can be explained by with the help of example of input-output table as prepared by Leontief. Table is prepared on the assumption that there are only three sectors in an economy functioning at equilibrium level. These three sectors are entitled

as two inter-industry sectors, i.e. agriculture and industry, and one final demand sector. Thus, three sector input-output table is shown in table below to provide simple picture of such economy.

Input-Output Table

	Inputs Purchasing Sector (Price in Rs. Crores)				
	Sectors	Inputs to Agriculture	Inputs to Industry	Final demand (Inputs to Household)	Total Output or Total Revenue
Output Generating sector or Selling Sectors	Agriculture	50	150	100	300
	Industry	100	250	150	500
	Value added (Payment to factors)	150	100	00	250
	Total Inputs Or Total Cost	300	500	250	1050

In this table, the total output of the industrial, agricultural and household sectors is set in rows, which may be read horizontally. The total output of these three sectors has been divided into the agricultural, industrial and final demand sectors. The inputs of these sectors are set in columns, which may be read vertically. The table assumes one-year activities of these sectors. The first row (horizontal) total shows that altogether the agriculture output is of value of Rs. 300 crores per year of this total output of agricultural sector; Rs. 100 crores directly goes to final consumption by household sector. The remaining output from agriculture goes as inputs; 50 to

itself and 150 to industry. Similarly the second row shows the total output of the industrial sector as Rs. 500 crores per year out of it Rs. 100 crores are used by agricultural sector as inputs Rs. 250 crores are used in industry itself as inputs and Rs. 150 crores goes to household sector as its final demand.

The first column explain that the input i.e. cost structure of the agriculture and industry sector. Agricultural output valued of Rs. 300 crores is produced with the use of agricultural inputs worth of Rs. 50 crores, industrial inputs (good) worth of Rs. 100 crores and factors and production of value of Rs. 150 crores. It means agricultural sector generates production i.e. output of Rs. 300 crores, by using the inputs of Rs. 300 crores. It is the cost of agricultural sector. It also means that this is equilibrium in demand for inputs and supply of output in agricultural sector. Similarly, the second column explains the input structure of industrial sector. Which itself explains the cost incurred by household and government sector for utilizing goods and services for final consumption purpose. Thus, input-output table reveals that, there is trend of having equilibrium pertaining to inputs demanded and output supplied by each sector. Hence appears a general equilibrium phenomenon for economy as a whole. Input-output table reflects two types of relationship and pattern of flows of resources in the economy. In the first instance, it describes functional behaviour of the economy along with sectoral flow of resources. Secondly, it describes sectoral internal stability and sectoral relationships in generating external stability in the economy.

Input-output analysis is based on the following assumptions:

- The whole economy is divided into two sectors i.e. inter-industry sectors and final-demand sectors;

- The output of each sector is homogeneous and one in nature;
- No two products are jointly produced by sectors;
- Output of one sector can be used as inputs by other sector;
- Technique of production is given and there is constant returns to scale;
- There does not appear external economies and diseconomies in production activities performed by sectors.

Uses of input output analysis in development planning as below.

- Input-output table provides for individual sectors in the economy about estimates of production and required inflows of foreign capital in the economy.
- Input-output analysis helps in the allocation of the investment required to achieve the production levels in the development planning programmes. It provide more accurate estimates of available resources and their utilization requirements sectors.
- The estimates of requirement of skilled labour are accurately prepared with the help of input-output technique.
- Regional input-output table can also be constructed for planning purpose particularly in micro level planning in the economy.
- **Plan Consistency and Tabulation**

A good plan must be having the elements of realism and consistency in numbers. It means that it should not only represent true picture of the economy, but it should have a

balance in context with different sectors of the economy regarding numbers. Therefore, to attain such arithmetic target it becomes necessary the resources be analysed arithmetically. For this purpose 'ex-ante' (expected) tabulation of balances between demands and supplies is made. All the estimations and projections are entered in interlocking tables in such a way that they are linked with one another. The interlocking tables show different items along with their statistics and importance. Following are the specimen of interlocking tables:

1. Projected Sector Growth

Sectors	Growth in Zero Period	Growth during 5 years
Agriculture		
Industry		
Services		
GDP		

2. Resources and their Uses

Resources	In zero period	In 5 years	Uses	In zero period	In 5 years
GDP			Capital		
Surplus of FT sector			Govt. expenditure		
			Private consumption		
Total			Total		

3. Capital Account

	In zero period	In 5 years		In zero period	In 5 years
Fixed investment			Capital		
Stocks			Corporate saving		
			Private saving		
			Govt. saving		
			Foreign saving		
Total			Total		

4. Government Current Account

Revenues	In zero period	In 5 years	Expenditures	In zero period	In 5 years
Taxes			Govt. expenditures		

Other revenues Total			Transfer payments Saving Total		

- **Linear Programming:**

In economic planning, the planners wish to include in plans those methods, techniques and programmes which would ensure the optimal use of resources. Thus the programming that is used for the best or optimum use of resources is known as 'linear programming'. It is programming because it has been formulated in mathematical mould and its results are shown in terms of linear relationship. It is also known as 'activity analysis'. It helps the planner to allocate resources optimally among alternative uses within the specific constraints. It also helps to tackle the problems of investment planning. Linear programming can be applied in case of number of economic problems concerning with maximisation or minimisation subject to constraints. Through linear programming the profit function can be formulated. For e.g., for a firm producing bicycles and motor cycles, the profit maximisation function is construction as below:

$\pi = 45x1 + 55x2$

Where π = maximum profit

x1 = bicycles (profit of $45 per bicycle)

x2 = motor cycles (profit of $55 per motor cycle)

Following are the given constraints:

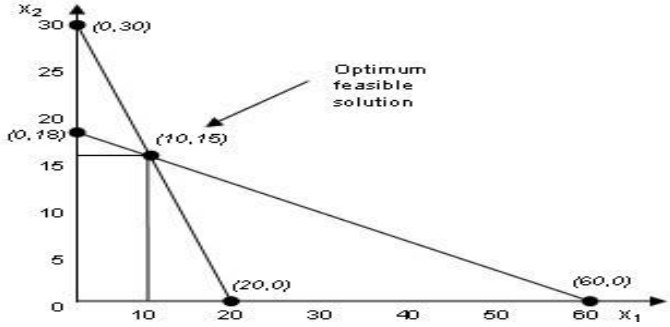
$$6x1 + 4x2 \leq 120$$

$$3x1 + 10x2 \leq 180$$

While x1, x2 $\geq$ 0 (non-negativity condition)

If x1=0, then x2=30; and if x2=0, then x1=20

This linear relationship can be built into a graph:



Project Appraisal:

Project appraisal is widely used both in the developed as well as in under-developed countries both independently as well as an integrated scheme of national planning. The government formulate and evaluate investment projects in such a way as to be able to compare and evaluate alternative projects in terms of their contribution to the objectives of the nation. The team preparing project report consists of engineers and economists specialised in investment analysis and the relevant fields. The sociologists and natural environmentalists must also be included. There are different techniques of project evaluation, such as cost-benefit analysis, LM method, and UNIDO guideline:

Cost-Benefit Analysis:

This technique is also known as 'social cost benefit analysis'. In this technique, the costs of projects are evaluated. For the purpose of analysis the cost is disintegrated into various categories, viz., project costs, associated costs, real and nominal costs, primary or direct costs, secondary or indirect costs, etc. The benefits are also classified as real benefits, direct and indirect benefits, etc. The next step is to find the present value of costs and benefits applying a certain rate of interest. Then a comparison is made between the discounted benefits with the costs of projects to get the ratio of

costs and benefits. If this ratio is one or more than one, the project is acceptable, otherwise rejected. This technique is known as 'net present value (NPV) method'. For this, we need to calculate the present value (PV), which can be calculated as below:

$$PV = \frac{C}{(1+i)} + \frac{C_2}{(1+i)^2} + \frac{C_3}{(1+i)^3} + \ldots\ldots + \frac{C_n}{(1+i)^n}$$

$$PV = C\left[\sum_{i=1}^{n} \frac{1}{(1+i)^t}\right]$$

Where, C = annuity amount
i = interest rate or discount rate

The decision rule for a project under NPV method is to accept the project if the NPV is positive and reject if it is negative. Zero NPV implies that the government is indifferent between accepting or rejecting the project. This method can also be used to make a choice between two or more than two mutually exclusive projects. Based on NPV method, the various proposals would be ranked in order of NPV. The project with highest NPV would be preferable to the project with lowest NPV.

Suppose the government has two proposed projects, i.e. project A and project B.'

	Project A	Project B
Initial investment	60,000	59,000
Cash inflow / profit:		
2005	14,000	11,000
2006	15,000	14,000
2007	16,000	17,000

2008	18,000	18,000
2009	19,000	20,500
PV Factor	10%	10%

The NPV of both projects is calculated as below:

Net Present Value

Years	Project A			Project B		
	Cash Inflow	PV factor @ 10%	PV	Cash Inflow	PV factor @ 10%	PV
2005	14,000	0.909	12,726	11,000	0.909	9,999
2006	15,000	0.826	12,390	14,000	0.826	11,564
2007	16,000	0.751	12,016	17,000	0.751	12,767
2008	18,000	0.683	12,294	18,000	0.683	12,294
2009	19,000	0.621	11,799	20,500	0.621	12,731
PV of Cash inflows			61,225			59,355
Less: Initial investment			60,000			59,000
Net Present Value			1225			355

In the above case, the planners will opt for project A, because the NPV of the project is positive and is greater than the NPV of project B. The economy will benefit more from project A than from project B.

The Little-Mirrlees (LM) Method:

There are two main features of LM method: Foreign exchange used as a 'measuring rod'. Rather domestic prices, foreign exchange measures the true costs and benefits of commodities produced. Therefore, the net value of all the goods produced should be converted into its foreign exchange equivalents. The amount of savings in LDCs is less than the socially optimal level. Hence, one additional unit of investment is more valuable than an extra unit of consumption at the margin.

UNIDO Guideline:

LM method tries to convert all the benefits and costs to an index of government income UNIDO translates such all

benefits and costs to an index of present consumption. Thus, the UNIDO method tries to find out the NPV of all consumption flows because of an additional unit of investment.

Investment Criteria for Allocation of Resources:

The 'investment criteria' is a useful planning technique used in sectoral allocation. Investment criteria refers to pattern of investment, choice of investment, choice of projects in various sectors, and choice of technique for a particular project.

Capital Turn-Over Criterion:

The Harrod-Domar model hints out the values of different variables which would guarantee the Under Developed Countries to maximise their growth. According to it, the growth rate is represented as follows:

$$g = \frac{S}{C}$$

Where, g = growth rate of output
S = saving income ratio
C = capital-output ratio (COR)

This equation states that to raise the growth, we are required to raise S or to lower the value of C. Professor Polak and Buchnan argued that given the scarcity of capital in LDCs the C should be minimised. This is called ‘capital turn-over criterion’. According to Polak and Buchnan those investment projects should be chosen which have low C, i.e. high rate of capital turn over.

Social Marginal Productivity (SMP) Criterion:

This criterion has been presented by Kahn and Chenery. They are of the view that it is necessary to consider the total net contribution of marginal unit of investment to national output,

and not merely that portion of contribution which is gotten by private investors. Efficient allocation consists of maximisation of national product and the principle to obtain this objective is to equate SMP of capital in different uses. SMP criterion is represented as:

$$SMP = \frac{V}{K} - \frac{C}{K} \vee SMP = \frac{V}{K} - \frac{C}{K} + \frac{VB}{K}$$

Where, V = annual value of total output
C = total annual cost of amortisation
K = total investment
VB = variations in income because of changes in 1 unit of BOP.

Maximisation of the Rate of Creation of Investible Surplus (MRIS) Principle:

The objective of MRIS criterion is to maximise per capita real income at a future point of time. Thus to achieve a higher rate of growth, it is stressed upon role of capital accumulation. According to MRIS criterion, those projects should be selected which involve higher capital intensity. In other words, those projects should be select which have higher COR (capital-output ratio).

Re-investible Surplus (RS) Criterion:
This criterion was suggested by Dobb and Sen. In Sen's model the economy is divided into two sectors, i.e. backward and modern. The modern sector is again sub-divided into two, i.e. (A) producing machinery with labour only, and (B) producing corn with labour and machines. In the backward economy the corn is produced by labour alone. Sen assumes that wages in the modern sector are determined by corn output by sector B. But since it takes some time to set-up the modern sector,

wages in the modern sector would have to be paid off with the surplus in backward sector. Sen describes how a conflict can arise between current output maximisation principle and criterion to maximise the rate of growth of output.

Top Down (Step Down) and Bottom Up Approaches in Economic Planning

The top down approach is logical mainly in new endeavours since it provides early and high level planning. It is system centric. In this approach, the each and every stage of policies and programmes planned accordingly it is implemented. The objectives of the policies and programmes in the top down approach may not allow changes in the programmes and policies in the mid way. The government of India and the state governments adopted top down approach in its five year plans. The top down approach is formulating the policies at the national and regional level and implementing through various agencies of government and other semi and nongovernmental organizations. At the same time, the government will bring an enabling environment to make the communities to plan and execute the programmes in which government and other establishments act as facilitators. One such programme is formation of self help groups.

The bottom up approach has a base at local level which needs to be developed and made stronger with the help of some participation from the concerned stakeholders. In the bottom up approach, necessary resources will be provided by the governments. The bottom up approach in planning may be traced back in 60's and started getting popularity among planners through decades. Although "bottom up", "participatory", "local democracy", "concerted management" and other such approaches are not exact equivalents, they are

all variants of a local concentration approach and of a collective process whereby a local community can take charge of the future of its own area. Potential beneficiaries participate in defining the criteria. It is an approach that allows the local community and local players to express their views and to help define the development course for their area in line with their own views, expectations and plans.

However, the bottom-up approach cannot be applied (nor is it applicable) systematically to all places in all circumstances. Depending on the specific cultural context of each Member State and in line with the principle of subsidiarity, the participatory process is often more of a trend or a desirable working approach than a day-to-day reality. However, there is no doubt that efforts are being made to put local communities and local development players back at the heart of the rural development process. The ultimate goal of bottom-up approaches is strengthening the livelihood strategies of both households and local communities. This approach is used to reduce local and/or social imbalances, to foster participation and ensure the quality of selected projects, to encourage greater openness to new ideas, to include more disadvantaged groups, to engage support and to encourage consensus, common references and social cohesion. Some drawbacks of this approach are as follows: Projects not so attractive in terms of short-term economic effects, slower preparation process, more difficult to select and follow up applications, risk of dispersing funding over a large number of beneficiaries and risk of insufficient transparency for non-beneficiaries.

First Five-Year Plan (1951 - 56)

The 1st five year plan was presented by Jawaharlal Nehru, who was the then Prime Minister. Influx of refugees, severe food shortage & mounting inflation confronted the country at the

onset of the first five year Plan. It was based on Harrod-Domar Model. The primary aim of the 1st five year plan was to improve living standards of the people of India. The Plan focused on agriculture, price stability, power and transport. This could be done by making judicious use of India's natural resources. The total outlay of the plan was Rs.2,069 crore. Target set for the growth in the gross domestic product was 2.1 per cent every year. In reality, the actual achieved with regard to gross domestic product was 3.6 percent per annum. It was a successful plan primarily because of good harvests in the last two years of the plan. Objectives of rehabilitation of refugees, food self sufficiency & control of prices were more or less achieved. The First Plan was basically an Agricultural Plan as this sector had got the largest outlay. The following Irrigation projects were started during that period: Mettur Dam, Hirakud Dam and Bhakra Dam.

Second Five-Year Plan (1956 - 61)

Simple aggregative Harrod-Domar Growth Model was again used for overall projections and the strategy of resource allocation to broad sectors as agriculture & Industry was based on two & four sector Model prepared by Prof. P C Mahalanobis (Plan is also called Mahalanobis Plan). Second plan was conceived in an atmosphere of economic stability. It was felt agriculture could be accorded lower priority. The Plan focused on rapid industrialization- heavy & basic industries. Advocated huge imports through foreign loans. The Industrial Policy 1956 was passed based on establishment of a socialistic pattern of society as the goal of economic policy. As many as five steel plants including the ones in Durgapur, Jamshedpur as well as Bhilai were set up during the plan. During the term of the 2nd five year plan, Atomic Energy Commission came into being. The Commission was established in the year 1957. During the

same period, Tata Institute of Fundamental Research was born. Target set for the growth in the gross domestic product was 4.5 per cent every year. In reality, the actual achieved with regard to gross domestic product was 4.3 percent per annum. Acute shortage of forex led to pruning of development targets , price rise was also seen (about 30%) vis a vis decline in the earlier Plan & the 2nd FYP was only moderately successful.

Third Five Year Plan (1961 - 66)

|At its conception, it was felt that Indian economy has entered a "take off stage". Therefore, its aim was to make India a 'self reliant' and 'self generating' economy. Based on the experience of first two plans (agricultural production was seen as limiting factor in India's economic development) , agriculture was given top priority to support the exports and industry. Due to conflicts the approach during the later phase was shifted from development to defence & Development. The Planning Commission aimed at increasing the national income by 5 percent per annum, making India self sufficient by increasing agricultural production, minimizing rate of unemployment and ensuring that people enjoy equal rights in the country. But actually achieved only 2.8 percent growth so the Plan was thorough failure in reaching the targets due to unforeseen events - Chinese aggression (1962), Indo-Pak war (1965), severe drought 1965-66.

Three Annual Plans (1966-69)

Failure of Third Plan that of the devaluation of rupee(to boost exports) along with inflationary recession led to postponement of Fourth Five Year Plan. Three Annual Plans were introduced instead. Prevailing crisis in agriculture and serious food shortage necessitated the emphasis on agriculture during the Annual Plans. During these plans a whole new agricultural

strategy was implemented. It involving wide-spread distribution of high-yielding varieties of seeds, extensive use of fertilizers, exploitation of irrigation potential and soil conservation. During the Annual Plans, the economy absorbed the shocks generated during the Third Plan. It paved the path for the planned growth ahead.

Fourth Five Year Plan (1969 - 74)

Refusal of supply of essential equipments and raw materials from the allies during Indo- Pak war resulted in twin objectives of "growth with stability" and "progressive achievement of self reliance" for the Fourth Plan. Main emphasis was on growth rate of agriculture to enable other sectors to move forward. First two years of the plan saw record production. The last three years did not measure up due to poor monsoon. Implementation of Family Planning Programmes were amongst major targets of the Plan. Target Growth was 5.7 percent and we achieved the Actual Growth of 3.3 percent only. Influx of Bangladeshi refugees before and after 1971, Indo-Pak war was an important issue along with deteriorating price situation makes the plan as big failure.

Fifth Five Year Plan (1974-79)

The final Draft of fifth plan was prepared and launched by D.P. Dhar in the backdrop of economic crisis arising out of run-away inflation fuelled by hike in oil prices and failure of the government takeover of the wholesale trade in wheat. It proposed to achieve two main objectives: 'removal of poverty' (Garibi Hatao) and 'attainment of self reliance'. Promotion of high rate of growth, better distribution of income and significant growth in the domestic rate of savings were seen as key instruments. Due to high inflation, cost calculations for the Plan proved to be completely wrong and the original public sector outlay had to be revised upwards. Targeted Growth was

4.4 percent and the Actual Growth rate achieved was 4.8 percent. After promulgation of emergency in 1975, the emphasis shifted to the implementation of Prime Ministers 20 Point Programme. FYP was relegated to the background and when Janata Party came to power in 1978, the Plan was terminated.

Rolling Plan (1978 - 80)

There were 2 Sixth Plans. Janata government put forward a plan for 1978- 1983 emphasising on employment, in contrast to Nehru Model which the government criticised for concentration of power, widening inequality & for mounting poverty. However, the government lasted for only 2 years. Congress government returned to power in 1980 and launched a different plan aimed at directly attacking on the problem of poverty by creating conditions of an expanding economy.

Sixth Five Year Plan (1980 - 85)

The Plan focused on increase in national income, modernization of technology, ensuring continuous decrease in poverty and unemployment through schemes for transferring skills(TRYSEM) and IRDP and providing slack season employment (NREP), controlling population explosion etc. The target growth rate of the plan was 5.2 per cent and the actual growth was 5.7 per cent. Broadly, the sixth Plan could be taken as a success as most of the target were realized even though during the last year (1984-85) many parts of the country faced severe famine conditions and agricultural output was less than the record output of previous year.

Seventh Five Year Plan (1985 - 90)

The Plan aimed at accelerating food grain production, increasing employment opportunities & raising productivity with focus on ‘food, work & productivity’. As an outcome of

the sixth five year plan, there had been steady growth in agriculture, control on rate of Inflation, and favourable balance of payments which had provided a strong base for the seventh five Year plan to build on the need for further economic growth. The plan was very successful as the economy recorded 6% growth rate against the targeted 5% with the decade of 80's struggling out of the' Hindu Rate of Growth'.

Eighth Five Year Plan (1992 - 97)

The eighth plan was postponed by two years because of political uncertainty at the Centre, Worsening Balance of Payment position, rising debt burden, widening budget deficits, recession in industry and inflation were the key issues during the launch of the plan. The plan undertook drastic policy measures to combat the bad economic situation and to undertake an annual average growth of 5.6% through introduction of fiscal & economic reforms including liberalisation under the Prime Minister ship of Shri P V Narasimha Rao. Some of the main economic outcomes during eighth plan period were rapid economic growth (highest annual growth rate so far – 6.8 %), high growth of agriculture and allied sector, and manufacturing sector, growth in exports and imports, improvement in trade and current account deficit. High growth rate was achieved even though the share of public sector in total investment had declined considerably to about 34 %.

Ninth Five Year Plan (1997- 2002)

The Plan prepared under United Front Government focused on "Growth With Social Justice & Equality". Ninth Plan aimed to depend predominantly on the private sector – Indian as well as foreign (FDI) & State was envisaged to increasingly play the role of facilitator & increasingly involve itself with social sector viz education, health etc and infrastructure where private

sector participation was likely to be limited. It assigned priority to agriculture & rural development with a view to generate adequate productive employment and eradicate poverty. During the Ninth Plan period, the growth rate was 5.35 per cent, a percentage point lower than the target GDP growth of 6.5 per cent.

Tenth Five Year Plan(2002 – 2007)

Recognising that economic growth can't be the only objective of national plan, Tenth Plan had set 'monitorable targets' for few key indicators (11) of development besides 8 percent growth target. The targets included reduction in gender gaps in literacy and wage rate, reduction in Infant & maternal mortality rates, improvement in literacy, access to potable drinking water cleaning of major polluted rivers, etc. Governance was considered as factor of development & agriculture was declared as prime moving force of the economy. States role in planning was to be increased with greater involvement of Panchayati Raj Institutions. State wise break up of targets for growth and social development sought to achieve balanced development of all states. The achievement of the 10th plan was 7.7 per cent compared with the target growth of 8.0 per cent.

Eleventh Five Year Plan (2007 - 2012)

Eleventh Plan was aimed "Towards Faster & More Inclusive Growth"after UPA rode back to power on the plank of helping Aam Aadmi (common man). India had emerged as one of the fastest growing economy by the end of the Tenth Plan. The savings and investment rates had increased , industrial sector had responded well to face competition in the global economy and foreign investors were keen to invest in India. But the growth was not perceived as sufficiently inclusive for many groups, specially SCs, STs & minorities as borne out by data on

several dimensions like poverty, malnutrition, mortality, current daily employment etc. The broad vision for 11th Plan included several inter related components like rapid growth reducing poverty & creating employment opportunities, access to essential services in health & education, specially for the poor, extension if employment opportunities using National Rural Employment Guarantee Programme, environmental sustainability, reduction of gender inequality etc. Accordingly various targets were laid down like reduction in unemployment (to less than 5 % among educated youth) & headcount ratio of poverty (by 10 %), reduction in dropout rates, gender gap in literacy, infant mortality, total fertility, malnutrition in age group of 0-3 (to half its present level), improvement in sex ratio, forest & tree cover, air quality in major cities, ensuring electricity connection to all villages & BPL households (by 2009) & reliable power by end of 11th Plan, all weather road connection to habitations with population 1000& above (500 in hilly areas) by 2009 and connecting every village by telephone & providing broad band connectivity to all villages by 2012.

The Eleventh Plan started well with the first year achieving a growth rate of 9.3 per cent, however the growth decelerated to 6.7 per cent rate in 2008-09 following the global financial crisis. The economy recovered substantially to register growth rates of 8.6 per cent and 9.3 per cent in 2009-10 and 2010-11 respectively. However, the second bout of global slowdown in 2011 due to the sovereign debt crisis in Europe coupled with domestic factors such as tight monetary policy and supply side bottlenecks, resulted in deceleration of growth to 6.2 per cent in 2011-12. Consequently, the average annual growth rate of Gross Domestic Product (GDP) achieved during the Eleventh Plan was 8 per cent, which was lower than the target but better than the Tenth Plan achievement. Since the period saw two

global crises - one in 2008 and another in 2011 – the 8 per cent growth may be termed as satisfactory.

Twelfth Five Year Plan (2012-17)

The Twelfth Plan commenced at a time when the global economy was going through a second financial crisis, precipitated by the sovereign debt problems of the Eurozone which erupted in the last year of the Eleventh Plan. The crisis affected all countries including India. Our growth slowed down to 6.2 percent in 2011-12 and the deceleration continued into the first year of the Twelfth Plan, when the economy is estimated to have grown by only 5 percent. The Twelfth Plan therefore emphasizes that our first priority must be to bring the economy back to rapid growth while ensuring that the growth is both inclusive and sustainable. The broad vision and aspirations that the Twelfth Plan seeks to fulfill are reflected in the subtitle: 'Faster, Sustainable, and More Inclusive Growth'. Inclusiveness is to be achieved through poverty reduction, promoting group equality and regional balance, reducing inequality, empowering people etc whereas sustainability includes ensuring environmental sustainability, development of human capital through improved health, education, skill development, nutrition, information technology etc and development of institutional capabilities, infrastructure like power telecommunication, roads, transport etc.

Achievements of Five Year Plan are Impressive industrialization in capital goods sector through public sector. Development of economic infrastructure like energy, irrigation, roads, transport and communication. Diversification of export and import substitution. Rise in life expectancy and rise in literacy level. Development of science & technology and the nuclear power for peaceful purposes. Increasing national income and improving average standard of Living of the

people. Achieving self reliance so as to minimize dependence on foreign aid. Increasing pace of industrialization of both basic and heavy industries. Narrowing down both vertical and horizontal inequalities. Increasing employment potential of various sectors. Failures of Five Year Plans are like social inequality, failure of land reforms, unbalanced regional growth, corruption, black money, and many social problems.

In 2014 government decided to wind down the Planning Commission. It was replaced by the newly formed NITI Ayog. Planning in India was carried by the Planning Commission (1950 - 2014) and the NITI (National Institution for Transforming India) Aayog (2014 onwards). With the Prime Minister as the ex-officio Chairman, the commission has a nominated Deputy Chairman, who holds the rank of a Cabinet Minister. Montek Singh Ahluwalia was the last Deputy Chairman of the Commission, resigned on 26 May 2014. The Eleventh Plan completed its term in March 2012 and the Twelfth Plan is currently underway. The new government led by Narendra 12 Modi, elected in 2014, has announced the dissolution of the Planning Commission, and its replacement by a think tank called the NITI Aayog.

NITI Aayog

Planning commission served as the planning vehicle for close to six decades with a focus on control and command approach. Planning Commission was replaced by a new institution – National Institution for Transforming India, also called NITI Aayog on January 1, 2015 with emphasis on 'Bottom –Up' approach to envisage the vision of Maximum Governance, Minimum Government, echoing the spirit of 'Cooperative Federalism'. NITI Aayog is the premier policy 'Think Tank' of the Government of India, providing both directional and policy inputs.

Administrative Composition

- Chairperson: Prime Minister
- Vice-Chairperson: To be appointed by Prime-Minister
- Governing Council: Chief Ministers of all states and Lt. Governors of Union Territories.
- Regional Council: To address specific regional issues, Comprising Chief Ministers and Lt. Governors Chaired by Prime Minister or his nominee.
- Adhoc Membership: 2 member in ex-officio capacity from leading Research institutions on rotational basis.
- Ex-Officio membership: Maximum four from Union council of ministers to be nominated by Prime minister.
- Chief Executive Officer: Appointed by Prime-minister for a fixed tenure, in rank of Secretary to Government of India.
- Special Invitees: Experts, Specialists with domain knowledge nominated by Prime-minister.

The NITI Aayog's creation has two hubs called "Team India Hub" and "Knowledge and Innovation Hub".

The Team India Hub: It leads the participation of Indian states with the central government.

The Knowledge and Innovation Hub: It builds institution's think tank capabilities.

NITI Aayog is additionally creating itself as a State of the Art Resource Center, with the essential resources, knowledge, and skills that will empower it to act with speed, advance research and innovation, bestow crucial policy vision to the government and manage unforeseen issues. The reason for setting up the NITI Aayog is that people had expectations for growth and

development in the administration through their participation. This required institutional changes in administration and active strategy shifts that could seed and foster substantial scale change.

The NITI Aayog is based on the 7 pillars of effective Governance. They are:

- Pro-people: it fulfills the aspirations of society as well as individuals
- Pro-activity: in anticipation of and response to citizen needs
- Participation: involvement of citizenry
- Empowering: Empowering, especially women in all aspects
- Inclusion of all: inclusion of all people irrespective of caste, creed, and gender
- Equality: Providing equal opportunity to all especially for youth
- Transparency: Making the government visible and responsive

Objectives of NITI Aayog

- To evolve a shared vision of national development priorities, sectors and strategies with the active involvement of States.
- To foster cooperative federalism through structured support initiatives and mechanisms with the States on a continuous basis, recognizing that strong States make a strong nation.
- To develop mechanisms to formulate credible plans at the village level and aggregate these progressively at higher levels of government.

- To ensure, on areas that are specifically referred to it, that the interests of national security are incorporated in economic strategy and policy.
- To pay special attention to the sections of our society that may be at risk of not benefiting adequately from economic progress.
- To design strategic and long-term policy and programme frameworks and initiatives, and monitor their progress and their efficiency. The lessons learnt through monitoring and feedback will be used for making innovative improvements, including necessary mid-course corrections.
- To provide advice and encourage partnerships between key stakeholders and national and international like-minded Think tanks, as well as educational and policy research institutions.
- To create a knowledge, innovation and entrepreneurial support system through a collaborative community of national and international experts, practitioners and other partners.
- To offer a platform for resolution of inter-sectoral and inter-departmental issues in order to accelerate the implementation of the development agenda.
- To maintain a state-of-the-art Resource Centre, be a repository of research on good governance and best practices in sustainable and equitable development as well as help their dissemination to stakeholders.
- To actively monitor and evaluate the implementation of programmes and initiatives, including the identification of the needed resources to strengthen the probability of success and scope of delivery.

- To focus on technology upgradation and capacity building for implementation of programmes and initiatives.
- To undertake other activities as may be necessary in order to further the execution of the national development agenda, and the objectives mentioned above.

NITI Aayog's entire gamut of activities can be divided into four main heads:

- Design Policy & Programme Framework
- Foster Cooperative Federalism
- Monitoring & Evaluation
- Think Tank and Knowledge & Innovation Hub

NITI Aayog – Vision Document: Strategy for New India @ 75

The NITI Aayog recently unveiled its comprehensive National Strategy for New India @ 75, which defines clear objectives for 2022-23. It is a detailed exposition across forty-one crucial areas that recognize the progress already made, identifies binding constraints, and suggest way forward.

- About Mission 2022-23 Vision document

The Strategy for New India @75 put together by NITI Aayog is an attempt to bring innovation, technology, enterprise and efficient management together, at the core of policy formulation and implementation. It will encourage discussion and debate, and invite feedback for further refining country's policy approach.

The government believe that economic transformation cannot happen without public participation. Development must become a Jan Andolan.

The forty-one chapters in the document have been merged under four sections - Drivers, Infrastructure, Inclusion and Governance.

Over 800 stakeholders from within the government – central, state and district levels – and about 550 external experts were consulted during the preparation of the document.

- Objective

The Strategy document aims to further improve the policy environment in which private investors and other stakeholders can contribute their fullest towards achieving the goals set out for New India 2022 and propels India towards a USD 5 trillion economy by 2030.

- Highlights of the Vision document
- The development strategy includes doubling of farmers' income, boosting 'Make in India', upgrading the science, technology and innovation ecosystem, and promoting sectors like fin-tech and tourism.
- It prescribes reducing upper age limit to join the civil services to 27 years from the present 30 years for General Category candidates by 2022-23 in a phased manner and also to have one integrated exam for all civil services.
- It calls for successfully implementing the Ayushman Bharat programme including the establishment of 150000 health and wellness centres and rolling out Pradhan Mantri Jan Arogya Yojana.
- The document outlines the need for creating agripreneurs, which implies creation of agro-processing industry at a much faster pace to enhance farmer participation though agro processing.

- It calls for participation of Private Sector in Indian Railways. From ownership of locomotives and rolling stocks to modernising stations, improvement of the railways hinges on private participation.
- It boasts of expanding the scope of Swachh Bharat Mission to cover initiatives for landfills, plastic waste and municipal waste and generating wealth from waste.
- The government will have to ease the tax compliance burden and eliminate direct interface between taxpayers and tax officials using technology.
- It suggests better compensation to banking correspondents, facilitating paperless banking and introducing financial literacy chapters in school curriculam to spur financial inclusion.
- It recommends identification of the poorest among the minority communities through the socio-economic caste census data for proper targeting of various schemes.

Significant recommendations under different sections

- Drivers: It focuses on the engines of economic performance with chapters on growth and employment, doubling of farmers' incomes; upgrading the science, technology and innovation eco-system; and promoting sunrise sectors like fin-tech and tourism.
- Steadily accelerate the economy to achieve a GDP growth rate of about 8% on average during 2018-23. This will raise the economy's size in real terms from USD 2.7trillion in 2017-18 to nearly USD 4 trillion by 2022-23. Increase the investment rate as measured by gross fixed capital formation (GFCF) from the present 29% to 36% of GDP by 2022.

- In agriculture, shift the emphasis to converting farmers to 'Agripreneurs' by further expanding e-National Agriculture Markets and replacing the Agricultural Produce Marketing Committee Act with the Agricultural Produce and Livestock Marketing Act.
- Give a strong push to 'Zero Budget Natural Farming' techniques that reduce costs, improve land quality and increase farmers' incomes. This has emerged as a tested method for putting environment carbon back into the land.
- To ensure maximum employment creation, complete codification of labour laws and a massive effort must be made to upscale and expand apprenticeships.
- Launch a mission "Explore in India" by revamping minerals exploration and licensing policy.
- Infrastructure: It deals with the physical foundations of growth which are crucial to enhancing the competitiveness of Indian business as also ensuring the citizens' ease of living.
- Expedite the establishment of the Rail Development Authority (RDA), which is already approved. RDA will advise or make informed decisions on an integrated, transparent and dynamic pricing mechanism for the railways.
- Double the share of freight transported by coastal shipping and inland waterways. Initially, viability gap funding will be provided until the infrastructure is fully developed. Develop an IT-enabled platform for integrating different modes of transport and promoting multi-modal and digitized mobility.
- With the completion of the Bharat Net programme in 2019, all 2.5 lakh gram panchayats will be digitally

connected. Aim to deliver all government services at the state, district, and gram panchayat level digitally by2022-23.

- Inclusion: It deals with the urgent task of investing in the capabilities of all of India's citizens. The three themes in this section revolve around the dimensions of health, education and mainstreaming of traditionally marginalized sections of the population.
- Successfully implementing the Ayushman Bharat programme including the establishment of 150,000 health and wellness centres across the country, and rolling out the Pradhan Mantri Jan Arogya Abhiyaan (PM-JAY).
- Create a focal point for public health at the central level with state counterparts. Promote integrative medicine curriculum.
- Upgrade the quality of the school education system and skills, including the creation of a new innovation ecosystem at the ground level by establishing at least 10,000 Atal Tinkering Labs by 2020.
- Conceptualize an electronic national educational registry for tracking each child's learning outcomes.
- As already done in rural areas, give a huge push to affordable housing in urban areas to improve workers' living conditions and ensure equity while providing a strong impetus to economic growth.
- Governance: It delves deep into how the governance structures can be streamlined and processes optimized to achieve better developmental outcomes.
- Implement the recommendations of the Second Administrative Reforms Commission as a prelude to

appointing a successor for designing reforms in the changing context of emerging technologies and growing complexity of the economy.

- Set up a new autonomous body, viz., the Arbitration Council of India to grade arbitral institutions and accredit arbitrators to make the arbitration process cost effective and speedy, and to pre-empt the need for court intervention.
- Address the backlog of pending cases - shift part of workload out of regular court system.
- Expand the scope of Swachh Bharat Mission to cover initiatives for landfills, plastic waste and municipal waste and generating wealth from waste.
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Difference Between Planning Commission and NITI Aayog

Bottom of Form

Parameter	Planning Commission	NITI Aayog
Members	Full-time: 8 full-time members	Full-time: Fewer full-time members
	Part-time: No provision as such for part-time members	Part-time: Depends on the need
Financial Clout	Could allocate funds to ministries and state governments	Is a think tank and advisory body
Role of the States	Role limited to the NDC and the annual interaction during the Plan meetings	State governments play a more significant role
Secretaries	Secretaries or member secretaries were appointment through the usual process	Secretaries will be called CEO and be appointed by the Prime Minister

Policy formation	Policies were formed by the Commission after which states were consulted about fund allocation	Consulting would be done while policy is being formulated
Power to allocate funds	Had the power to allocate funds	No power to allocate funds
Policy imposition	Imposed policies on states	No power to impose policies

Welfare Programmes Announced in the Last Two Union Budgets

2019-20 Budgets

Rural Development/ Grameen Bharat

- Ujjwala Yojana and Saubhagya Yojana have transformed the lives of every rural family, dramatically improving ease of their living. Electricity and clean cooking facility to all willing rural families by 2022.
- Pradhan Mantri Awas Yojana – Gramin (PMAY-G) aims to achieve "Housing for All" by 2022: Eligible beneficiaries to be provided 1.95 crore houses with amenities like toilets, electricity and LPG connections during its second phase (2019-20 to 2021-22).
- Pradhan Mantri Matsya Sampada Yojana (PMMSY)
- A robust fisheries management framework through PMMSY to be established by the Department of Fisheries. To address critical gaps in the value chain including infrastructure, modernization, traceability, production, productivity, post-harvest management, and quality control.
- Pradhan Mantri Gram Sadak Yojana (PMGSY)

- Target of connecting the eligible and feasible habitations advanced from 2022 to 2019 with 97% of such habitations already being provided with all weather connectivity. 30,000 kilometers of PMGSY roads have been built using Green Technology, Waste Plastic and Cold Mix Technology, thereby reducing carbon footprint. 1,25,000 kilometers of road length to be upgraded over the next five years under PMGSY III with an estimated cost of Rs. 80,250 crore.
- Scheme of Fund for Upgradation and Regeneration of Traditional Industries' (SFURTI)
- Common Facility Centres (CFCs) to be setup to facilitate cluster based development for making traditional industries more productive, profitable and capable for generating sustained employment opportunities. 100 new clusters to be setup during 2019-20 with special focus on Bamboo, Honey and Khadi, enabling 50,000 artisans to join the economic value chain.
- Scheme for Promotion of Innovation, Rural Industry and Entrepreneurship' (ASPIRE) consolidated. 80 Livelihood Business Incubators (LBIs) and 20 Technology Business Incubators (TBIs) to be setup in 2019- 20. 75,000 entrepreneurs to be skilled in agro-rural industry sectors. Private entrepreneurships to be supported in driving value-addition to farmers' produce from the field and for those from allied activities. Dairying through cooperatives to be encouraged by creating infrastructure for cattle feed manufacturing, milk procurement, processing & marketing. 10,000 new Farmer Producer Organizations to be formed, to ensure economies of scale for farmers. Government to

work with State Governments to allow farmers to benefit from e-NAM.

- Zero Budget Farming in which few states' farmers are already being trained to be replicated in other states.
- India's water security:New Jal Shakti Mantralaya to look at the management of our water resources and water supply in an integrated and holistic manner Jal Jeevan Mission to achieve Har Ghar Jal (piped water supply) to all rural households by 2024. To focus on integrated demand and supply side management of water at the local level. Convergence with other Central and State Government Schemes to achieve its objectives. 1592 critical and over exploited Blocks spread across 256 District being identified for the Jal Shakti Abhiyan. Compensatory Afforestation Fund Management and Planning Authority (CAMPA) fund can be used for this purpose.
- Swachh Bharat Abhiyan 9.6 crore toilets constructed since Oct 2, 2014. More than 5.6 lakh villages have become Open Defecation Free (ODF). Swachh Bharat Mission to be expanded to undertake sustainable solid waste management in every village.
- Pradhan Mantri Gramin Digital Saksharta Abhiyan Over two crore rural Indians made digitally literate. Internet connectivity in local bodies in every Panchayat under Bharat-Net to bridge rural-urban divide. Universal Obligation Fund under a PPP arrangement to be utilized for speeding up Bharat-Net.
- Shahree Bharat/Urban India
- Pradhan Mantri Awas Yojana – Urban (PMAY-Urban)- Over 81 lakh houses with an investment of about Rs. 4.83 lakh crore sanctioned of which

construction started in about 47 lakh houses. Over 26 lakh houses completed of which nearly 24 lakh houses delivered to the beneficiaries. Over 13 lakh houses so far constructed using new technologies.

- More than 95% of cities also declared Open Defecation Free (ODF). Almost 1 crore citizens have downloaded Swachhata App. Target of achieving Gandhiji's resolve of Swachh Bharat to make India ODF by 2nd October 2019. To mark this occasion, the Rashtriya Swachhta Kendra to be inaugurated at Gandhi Darshan, Rajghat on 2nd October, 2019. Gandhipedia being developed by National Council for Science Museums to sensitize youth and society about positive Gandhian values.
- Railways to be encouraged to invest more in suburban railways through SPV structures like Rapid Regional Transport System (RRTS) proposed on the Delhi-Meerut route. Proposal to enhance the metro-railway initiatives by:Encouraging more PPP initiatives. Ensuring completion of sanctioned works. Supporting transit oriented development (TOD) to ensure commercial activity around transit hubs.

Education

- The new National Education Policy will be introduced which proposes major changes in both school and higher education. A Study in India programme will be launched to encourage foreign students in higher education. Greater focus on research and innovation.
- National Research Foundation (NRF) proposed to fund, coordinate and promote research in the country, to assimilate independent research grants given by various Ministries, to strengthen overall research eco-system in the country. This would be adequately supplemented

with additional funds. Rs. 400 crore provided for "World Class Institutions", for FY 2019-20, more than three times the revised estimates for the previous year. 'Study in India' proposed to bring foreign students to study in Indian higher educational institutions. Regulatory systems of higher education to be reformed comprehensively: To promote greater autonomy. To focus on better academic outcomes. Draft legislation to set up Higher Education Commission of India (HECI), to be presented. Khelo India Scheme to be expanded with all necessary financial support. National Sports Education Board for development of sportspersons to be set up under Khelo India, to popularize sports at all levels To prepare youth for overseas jobs, focus to be increased on globally valued skill-sets including language training, AI, IoT, Big Data, 3D Printing, Virtual Reality and Robotics. Set of four labour codes proposed, to streamline multiple labour laws to standardize and streamline registration and filing of returns. A television program proposed exclusively for and by start-ups, within the DD bouquet of channels.

- Ease of Living
- About 30 lakh workers joined the Pradhan Mantri Shram Yogi Maandhan Scheme that provides Rs. 3,000 per month as pension on attaining the age of 60 to workers in unorganized and informal sectors.
- A new pension benefit scheme, namely Pradhan Mantri Karam Yogi Maandhan Scheme, has been announced for traders and small shopkeepers with annual turnover of less than Rs 1.5 crore.

- Approximately 35 crore LED bulbs distributed under UJALA Yojana leading to cost saving of Rs. 18,341 crore annually.
- Solar stoves and battery chargers to be promoted using the approach of LED bulbs mission. A massive program of railway station modernization to be launched.
- Cross subsidy surcharges, undesirable duties on open access sales or captive generation for industrial and other bulk power consumers to be removed under Ujjwal DISCOM Assurance Yojana (UDAY).

- Naari Tu Narayani/Women
- Approach shift from women-centric-policy making to women-led initiatives and movements. A Committee proposed with Government and private stakeholders for moving forward on Gender budgeting.
- SHG: Women SHG interest subvention program proposed to be expanded to all districts. Overdraft of Rs. 5,000 to be allowed for every verified women SHG member having a Jan Dhan Bank Account. One woman per SHG to be eligible for a loan up to Rs. 1 lakh under MUDRA Scheme.
- Stand-Up India Scheme to be continued for the period of 2020-25. The Banks to provide financial assistance for demand based businesses.

2020-21 Union Budget

The Union Budget has been structured on the overall theme of "Ease of Living." The budget is woven around three prominent themes:

Aspirational India in which all sections of the society seek better standards of living, with access to health, education and better jobs.

Economic development for all, indicated in the Prime Minister's exhortation of "SabkaSaath, SabkaVikas, SabkaVishwas".

Caring Society that is both humane and compassionate, where Antyodaya is an article of faith.

The three components of Aspirational India are- a) Agriculture, Irrigation and Rural Development , b) Wellness, Water and Sanitation and c) Education and Skills

- **Agriculture, Irrigation and Rural Development**

More than Rs 2.83 lakh crore would be spent on Agriculture, Rural Development, Irrigation and allied activities as farmers and rural poor continue to remain the key focus of the Government. Reiterating the commitment of doubling farmers' income by 2022, Government has already provided resilience for 6.11 crore farmers insured under PM Fasal Bima Yojana. Agriculture credit target for the year 2020-21 has been set at Rs 15 lakh crore. All eligible beneficiaries of PM-KISAN will be covered under the KCC scheme. One hundred water stressed districts. Proposal to expand PM-KUSUM to provide 20 lakh farmers for setting up stand-alone solar pumps and for another 15 lakh farmers to solarise their grid-connected pump sets. Setting up of efficient warehouses at the block/taluk level. In Horticulture sector with focus on "one product one district" for better marketing and export are some of the steps in that direction. Foot and Mouth disease, brucellosis in cattle and also peste des petits ruminants(PPR) in sheep and goat to be eliminated by 2025. Coverage of artificial insemination to be increased from the present 30% to 70%, MNREGS to be dovetailed to develop fodder farms, doubling of milk

processing capacity from 53.5 million MT to 108 million MT by 2025 to be facilitated. Similarly on the Blue Economy, raising of fish production to 200 lakh tonnes is proposed by 2022-23. Youth to be involved in fishery extension through 3477 Sagar Mitras and 500 Fish Farmer Producer Organisations. Fishery exports hoped to beraised to Rs 1 lakh crore by 2024-25. Deen Dayal Antyodaya Yojana- for alleviation of poverty, half a crore households are mobilized with 58 lakh SHGs and it will be further expanded.

Wellness, Water and Sanitation

Dwelling on the Wellness, Water and Sanitation theme, Rs 69,000 crore is being provided for Health care including Rs 6400 crores for Prime Minister Jan Arogya Yojana (PMJAY). Under PM Jan ArogyaYojana (PMJAY), there are more than 20,000 empanelled hospitals more in Tier-2 and Tier-3 cities for poorer people. Setting up hospitals in the PPP mode mainly in Aspirational Districts, using machine learning. In the Ayushman Bharat scheme, "TB Harega Desh Jeetega" campaign to end Tuberculosis by 2025. Expansion of Jan Aushadhi Kendra Scheme to all districts offering 2000 medicines and 300 surgicals by 2024.

On sanitation front, Government is committed to ODF Plus in order to sustain ODF behaviour and the total allocation for Swachh Bharat Mission is Rs.12,300 crore in 2020-21. Similarly, Rs 3.60 lakh crore approved for Jal Jeevan Mission and Rs 11,500 crore in 2020-21.

- **Education and Skills**

On Education and Skill front, Rs 99,300 crore is being allocated in 2020-21 and Rs 3000 crores for skill development. New Education Policy will be announced soon. About 150 higher educational institutions will start apprenticeship embedded degree/diploma courses by March

2021. Degree level full-fledged online education programme to be started. Under its "Study in India" programme, an Ind-SAT is proposed to be held in Asian and African countries. A National Police University and a National Forensic Science University are being proposed in the domain of policing science, forensic science, cyber-forensics etc. It is proposed that special bridge courses be designed by the Ministries of Health, Skill Development.

- **Women and Child, Social Welfare :**

Harping on the theme of Caring Society, Rs 35,600 crore proposed for nutrition-related programmes for the financial year 2020-21. Rs 28,600 crore proposed for programs that are specific to women. Moreover, Rs 85000 crore would be allocated towards the welfare of Scheduled Castes and Other Backward classes for 2020-21. Similarly, for furthering development and welfare of Scheduled tribes, Rs 53,700 crore is proposed for 2020-21. The government is mindful of the concerns of senior citizens and Divyang. Accordingly, an enhanced allocation of Rs 9,500 crore is being provided for 2020-21. More than 6 lakh anganwadi workers equipped with smart phones to upload the nutritional status of more than 10 crore households. Proposed a task force to be appointed to recommend regarding lowering MMR and improving nutrition.

Module IV:
Economic Reforms Since 1991

Background of Economic Reforms in India

Economic reforms denote the process in which a government prescribes declining role for the state and expanding role for the private sector in an economy. It is safer to see economic reform as a policy shift in an economy from one to another or 'alternative development strategies'. The strategy of reforms introduced in India on July 23, 1991 by the Congress government led by P.V. Narasimha Rao and Dr. Manmohan Singh as Finance Minister, presented a mixture of macroeconomic stabilization and structural adjustment. It was guided by short-term and long-term objectives. Stabilization was necessary in the short run to restore balance of payments equilibrium and to control inflation. At the same time, changing the structure of institutions themselves through reforms was equally important from long-term point of view. The new government moved urgently to implement a programme of macroeconomic stabilization through fiscal correction. Besides this, structural reforms were initiated in the field of trade, industry and the public sector. The reforms and the related programmes are still going on with changing emphasis and dimensions.

Back in the mid-1980s, the governments had taken its first steps to economic reforms. While the reforms of the 1980s witnessed rather limited deregulation and 'partial liberalization of only a few aspects of the existing control regime, the reforms started in early 1990s in the fields of industries, trade, investment and later to include agriculture, were much 'wider and deeper'. Though liberal policies were announced by the governments

during the reforms of the 1980s itself, with the slogan of 'economic reforms', it was only launched with full conviction in the early 1990s. But the reforms of the 1980s, which were under the influence of the famous 'Washington Consensus' ideology had a crippling impact on the economy. The whole Seventh Plan (1985–90) promoted further relaxation of market regulations with heavy external borrowings to increase exports (as the thrust of the policy reform). By now as the benefits of the reforms have accrued to many, the criticism has somewhat calmed down, but still the reform process is considered as 'anti-poor' and 'pro-rich'. The need of the hour is to go for 'distributive growth', though the reform has led the economy to a higher growth path.

As per the Discussion Paper on Economic Reforms brought out by the Ministry of Finance in July 1993, the objectives of the reforms were "…to bring about rapid and sustained improvement in the quality of the people of India. Central to this goal is the rapid growth in incomes and productive employment… The only durable solution to the curse of poverty is sustained growth of incomes and employment… Such growth requires investment: in farms, in roads, in irrigation, in industry, in power and, above all, in people. And this investment must be productive. Successful and sustained development depends on continuing increases in the productivity of our capital, our land and our labour". After pursuing an inward looking development strategy with the state assuming an important role for more than four decades, India decided to take historic step of changing tracks in 1991. It embarked on a comprehensive reform of the economy to widen and deepen its integration with the world economy. Some factors including both internal and external, which have

motivated or forced our policy makers or economy to adopt new economic policy in the year 1991, are discussed below:

Macroeconomic Indicators and Balance of Payments Situation in 1990-1991:

Towards the end of 1980s, India was facing a Balance of Payments (BoP) crisis, due to unsustainable borrowing and high expenditure. The Current Account Deficit (3.5 percent) in 1990-91 massively weakened the ability to finance deficit. The trade deficit increased from Rs. 12,400 crore in 1989-90 to Rs. 16,900 crore in 1990-91. The current account deficit increased from Rs. 11,350 crore in 1989-90 to Rs. 17,350 crore in 1990-91. The CAD/GDP ratio increased from 2.3 in 1989-90 to 3.1 percent in 1990-91. Besides this, the fiscal deficit to GDP ratio was more than 7 percent during the two years 1989-90 and 1990-91. The foreign exchange reserves, meant to cover import costs for two years (1989-1991),were just sufficient to cover close to two and half months of imports. The average rate of inflation was 7.5 percent in 1989-90, which went up to 10 percent in the year 1990-91. In 1991-92, it crossed 13 percent. The GDP growth rate which was 6.5 percent in 1989-90, went down to 5.5 percent in 1990-91. The Balance of Payments crisis also affected the performance of industrial sector. The average industrial growth rate was 8 percent in the second half of 1980s. In 1989-90, it was 8.6 percent and in 1990-91 it was 8.2 percent. India's foreign exchange reserves stood at Rs. 5,277 crore on 31 December 1989, which declined to Rs. 2,152 crore by the end of December 1990. Between May and July 1991, these reserves ranged between Rs. 2,500 crore to 3,300 crore.

The main causes behind the Balance of Payments crisis of 1990-91 were as follows:

Break-up of the Soviet Bloc: Rupee trade (payment for trade was made in rupees) with the Soviet Bloc was an important element of India's total trade up to the 1980s. However, the introduction of Glasnost and Perestroika and the break-up of the Eastern European countries led to termination of several rupee payment agreements in 1990-91. Therefore, the flow of new rupee trade credits declined abruptly in 1990-91. Further, there was also a decline in our exports to Eastern Europe—these exports constituted 22 .1 percent of total exports in 1980 and 19.3 percent in 1989; but they declined to 17.9 percent in 1990-91 and further to 10.9 percent in 1991-92.

Iraq-Kuwait War: The Gulf crisis began with the invasion of Kuwait by Iraq at the beginning of August 1990. Crude oil prices rose rapidly thereafter–from USD 15 per barrel in July 1990 to USD 35 per barrel in October 1990. Iraq and Kuwait were the major sources of India's oil imports and the war made it necessary to buy oil from the spot market. Short-term purchases from the spot market had to be followed up by new long term contracts at higher prices. As a result, the oil import bill increased by about 60 percent in 1990-91 and remained 40 percent above the 1989-90 level the next year.

As noted in Economic Survey (1991-92): "The immediate cause of the loss of reserves beginning in September 1990 was a sharp rise in the imports of oil and petroleum products (from an average of $ 287 million in June-August 1990, petroleum products imports rose sharply to $ 671 million in 6 months). This accounted for rise in trade deficit from an average of $ 356 million per month in June-August 1990 to $ 677 million per month in the following 6 months."

Slow Growth of Important Trading Partners: The deterioration of the current account was also induced by slow growth in economies of important trading partners. Export markets were weak in the period leading up to India's crisis, as the world growth declined steadily from 4.5 percent in 1988 to 2.25 percent in 1991. The decline was even greater for the U.S., India's single largest export destination. In the United States, growth fell from 3.9 percent in 1988 to 0.8 percent in 1990 and to -1 percent in 1991.

Political Uncertainty and Instability: The period from November 1989 to May 1991 was marked with political uncertainty and instability in India. In fact, within a span of one and half years there were three coalition governments and three Prime Ministers. This led to delay in tackling the ongoing balance of payment crisis, and led to a loss of investor confidence.

Loss of Investors' Confidence: The widening current account deficits and reserve losses contributed to low investor confidence, which was further weakened by political uncertainty. This was aggravated by the downgrade of India's credit rating by credit rating agencies. By March 1991, the International Credit Rating agencies Standard & Poor's, and Moody's, had downgraded India's long term foreign debt rating to the bottom of investment grade. Due to the loss of investors' confidence, commercial bank financing became hard to obtain, and outflows began to take place on short-term external debt, as creditors became reluctant to roll over maturing loans.

Fiscal Indiscipline: The Economic Survey (1991-92) had categorically remarked that:

"Throughout the eighties, all the important indicators of fiscal imbalances were on the rise. These were the conventional budgetary deficit, the revenue deficit, the monetized deficit and

gross fiscal deficit. Moreover, the concept of fiscal deficit is a more complete measure of macroeconomic imbalance as it reflects the indebtedness of the Government. This gross fiscal deficit of the Central Government has been more than 8 percent of GDP since 1985 – 86, as compared with 6 percent in the beginning of 1980s and 4 percent in the mid – 1970s."

Increase in Non-oil Imports: The trends in imports and exports show that imports rose much faster than exports during the eighties. Imports increased by 2.3 percent of GDP, while exports increased by only 0.3 percent of GDP. As a consequence, trade deficit increased from an average of 1.2 percent of GDP in the seventies, to 3.2 percent of GDP in eighties.

Oil and Non- Oil Imports (In Rs. Crores)

Period	Oil Imports	Non – Oil Imports	Total Imports
1981- 82 to 1985 - 86	26041.61 (32.00)	54491.03 (68.00)	80532.64 (100.00)
1986 – 87 to 1990 - 91	28299.75 (19.00)	120796.18 (81.00)	149095.93 (100.00)

Note: Figures in brackets are percent to total .

Source: Reserve Bank of India – *Handbook of Statistics on Indian Economy, 2005 – 06*

Rise in External Debt: In the second half of the 1980s, the current account deficit was showing a rising trend and was becoming unsustainable. An important issue was the way in which this deficit was being financed. The current account deficit was mainly financed with costly sources of external finance such as external commercial borrowings, NRI deposits, etc.

In the context of external debt, the following observations are worth considering: The period of eighties was marked by a

reduction in flows of concessional assistance to India, principally from the World Bank Group. In 1980, disbursements on concessional terms constituted more than 89 percent of assistance to India from multilateral sources; in 1990, this proportion declined to about 35 percent. Due to a decline in concessional assistance, there was a rise in average interest cost of external borrowing. There was a change in the composition of debt as it shifted from official (like bilateral sources) to private sources like external commercial borrowings (ECBs) and NRI deposits. These private sources were costlier. The external debt was funneled into financing the government's deficit. India's external debt increased from Rs. 194.70 crores (USD 23.50 billion) in 1980-81 to Rs. 459.61 crores (USD 37.50 billion) in 1985 – 86. It went up to Rs. 1003.76 crores (USD 58.63 billion) in 1989-90. In 1990-91, it was Rs. 1,229.50 crore (USD 63.40 billion).

Thus, the balance of payments situation came to the verge of collapse in 1991, mainly because the current account deficits were mainly financed by borrowing from abroad. The economic situation of India was critical; the government was close to default. With India's foreign exchange reserves at USD 1.2 billion in January 1991 and depleted by half by June, an amount barely enough to cover roughly three weeks of essential imports, India was only weeks way from defaulting on its external balance of payment obligations.

Government of India's immediate response was to secure an emergency loan of USD 2.2 billion for that India approached the International Bank for Reconstruction and Development (IBRD), popularly known as World Bank and the International Monetary Fund (IMF) by pledging 67 tons of India's gold reserves as collateral. The Reserve Bank of India had to airlift 47 tons of gold to the Bank of England and 20 tons of gold to

the Union Bank of Switzerland to raise USD 600 million. For availing the loan, these international agencies expected India to liberalize and open up the economy by removing restrictions on the private sector, reduce the role of the government in many areas and remove trade restrictions between India and other countries. These moves helped tide over the balance of payment crisis temporarily and kick-started P V Narasimha Rao's economic reform process. India agreed to the conditionalities of World Bank and IMF and announced the New Economic Policy (NEP). The NEP consisted of wide ranging economic reforms.

The thrust of the policies was towards creating a more competitive environment in the economy and removing the barriers to entry and growth of firms. This set of policies can broadly be classified into two groups: the stabilization measures and the structural reform measures. Stabilization measures are short-term measures, intended to correct some of the weaknesses that have developed in the balance of payments and to bring inflation under control. In simple words, this means that there was a need to maintain sufficient foreign exchange reserves and keep the rising prices under control. On the other hand, structural reform policies are long-term measures, aimed at improving the efficiency of the economy and increasing its international competitiveness by removing the rigidities in various segments of the Indian economy. The government initiated a variety of policies which fall under three heads viz., liberalization, privatization and globalization.

Reform implemented as a part of new economic policy. These are in the form of two types:

1. Macroeconomic Reforms or Stabilization Programme SP), and

2. Microeconomic reforms or the Structural Adjustment Programme (SAP)

Stabilization Programme (SP)

Stabilization Programme aims at the stabilization of the economic activity. This programme focused stabilization by controlling all the macroeconomic disturbances in the economy faced at that time like inflation, current account deficit, fiscal deficit, etc. This programme was also known as 'macroeconomic reforms' as it aimed at achieving macroeconomic stability. The increased public expenditure and the resultant increase in demand and inflation were the root causes of the crisis. Hence, our government practiced demand management programme to achieve macroeconomic stability. Therefore, this programme was also known as 'demand management programme' or 'demand driven programme'. Fiscal reform was the major component of stabilization programme.

- **Structural Adjustment Programme (SAP)**

Structural Adjustment Programme was implemented as a continuation of stabilization programme. It will very difficult for an economy to achieve growth with stability by suppressing demand as demand is one of the determining factors of economic growth. Hence, after pursuing demand management programme for some years the government implemented supply promotion programmes. As part of this programme, government implemented policy reform in almost all sectors of the economy. Structural Adjustment Programme aims at increasing production and productivity in all sectors of the economy. Therefore, this programme is also known as 'Microeconomic reforms' or 'supply driven programme'. Some

of the examples of structural adjustment programme are listed below: industrial sector reforms, Trade sector reforms, Financial sector reforms, Fiscal policy reforms, Public sector reforms, Market reforms, Tax reforms, Reform programmes in foreign investment, etc.

New Economic Policy (NEP): Major Pillars

Liberalization

The ideology was the product of the breakdown of feudalism and the growth of a market or capitalist society in its place, which became popular in economics via the writings of Adam Smith and got identified as a principle of laissez-faire. Pro-market or pro-capitalistic inclination in the economic policies of an economy is the process of liberalization. The most suitable example of this process could be China of the mid-1980s when it announced its 'open door policy'. The process of decreasing traits of a state economy and increasing traits of a market economy is liberalization. In the Indian case the term liberalisation is used to show the direction of the economic reforms—with decreasing influence of the state or the planned or the command economy and increasing influence of free market or the capitalistic economy. It is a move towards capitalism. India is attempting to strike its own balance of the 'state-market mix'. It means, even if the economic reforms have the direction towards market economy it can never be branded a blind run to capitalism.

Liberalization of the economy means to free it from direct or physical controls imposed by the government. It means to unshackle the economy from bureaucratic cobweb to make it more competitive. During the planning period, in order to influence development and operation of the economy in accordance with the accepted social priorities' and make

planning more effective the economy was subjected to various controls and regulations. industrial licensing, foreign exchange control, control of capital issues by companies, direct control of credit, restriction on investment by large business houses etc were adopted in the country to regulate the functioning of the economy. The present government has removed most of the controls and restrictions. The development and operation of the economy is increasingly left to be guided by freely operating market forces. That is by prices and competition. The new government felt that controls resulted in undesirable 'distortion in the economy. These controls have unduly restricted the initiative and enterprises of the people and led to widespread corruption, delays and inefficiency. This has slowed down economic progress and created a high cost and in competitive economy in the country. Therefore, all sort of controls are being increasingly withdrawn or greatly relaxed. Instead of direct controls indirect controls through budgetary and monetary measures will be used to influence market forces. Following are its features:

- Eliminate or at least minimize the need of license raj system
- Freedom in determining the scale of business activities.
- Removing restrictions for the movement of goods and services
- Freedom to fix the price of goods and services
- Reduction in the rate of taxes
- Freedom from unnecessary control over economy
- Simplifying import-export procedure
- Simplifying the process of attracting foreign capital and technology.

Privatization

The policies through which the 'roll back' of the state was done included deregulation, privatization and introduction of market reforms in public services. Privatization was used as a process under which the state assets were transferred to the private sector.

Privatization means such an economic process through which some public sector undertaking is brought either partially or completely under private ownership. Establishing in private sector instead of a public sector is also privatization. An industry earlier reserved for public sector or transferring its production, without depriving it, to the private sector referred as privatization. Its features are as follows:

- Reducing the role of public sector and enhanced the role of private sector
- Reducing fiscal burden of the government
- Accelerated the process of disinvestment of public sector enterprises
- Reducing the size of the government machinery
- Speeding up economic development
- Improving management of enterprises
- Increase in government treasury
- Increasing competition by opening industries reserved for the public sector to the private sector

Globalization

Globalization means integrating the economy with the rest of the world. It meant making the Indian economy an integral part of the world economy by breaking down to the minimum feasible barriers to the movement of goods, services, capital and technology between India and the rest of the world economy. The official meaning of globalisation for the WTO is movement of the economies of the world towards "unrestricted

cross border movements of goods and services, capital and the labour force". According to Jagdish Bhagwati, "Economic globalization constitutes integration of national economies into the international economy through trade, direct foreign investment (by corporations and multinationals), short-term capital flows, international flows of workers and humanity generally, and flows of technology". Following are its chief features:

- Free flow of goods and services in all the countries
- Free flow of capital in all the countries
- Free flow of information and technology in all the countries
- Free movement of people in all the countries
- The same conflict solving technique in all the countries.

Washington Consensus

The Washington Consensus is a set of 10 economic policy prescriptions by Washington, D.C.-based institutions such as the International Monetary Fund (IMF), World Bank and United States Department of the Treasury. It constitutes the "standard" reform package promoted for crisis-stricken developing countries. It recommended structural reforms that increased the role of market forces in exchange for immediate financial help. British economist John Williamson coined the term 'washington consensus' in 1989. Some economist said that it was used to impose harsh conditions that were unhelpful for economic recovery and others have argued that although not perfect, it was favourable to long –term economic growth in developing economies. The prescriptions encompassed policies in such areas as macroeconomic stabilization, economic

opening with respect to both trade and investment, and expansion of market forces within the domestic economy.

The 10 policy prescriptions are:

- Fiscal policy discipline, with avoidance of large fiscal deficits relative to GDP.
- Redirection of public spending from subsidies (especially indiscriminate subsidies) toward broad-based provision of key pro-growth, pro-poor services like primary education, primary health care and infrastructure investment.
- Tax reform, broadening the tax base and adopting moderate marginal tax rates.
- Interest rates that are market determined and positive (but moderate) in real terms.
- Competitive exchange rates.
- Trade liberalization: Liberalization of imports, with particular emphasis on elimination of quantitative restrictions (licensing, etc.); any trade protection to be provided by low and relatively uniform tariffs.
- Liberalization of inward foreign direct investment.
- Privatization of state enterprises.
- Deregulation: Abolition of regulations that impede market entry or restrict competition, except for those justified on safety, environmental and consumer protection grounds, and prudential oversight of financial institutions.
- Legal security for property rights.

- Criticism

Most criticism for Washington Consensus has been focused on trade liberalization and the elimination of subsidies, especially in the agriculture sector.
In nations with substantial natural resources, the focus of criticism is on privatization of industries exploiting these resources.

Is the Washington consensus still relevant?

- Changing IMF stance: It has been argued that IMF might be moving away from the Washington Consensus world view of freely floating exchange rates and opposition to capital controls that dominated its thinking for decades.
- China factor: When Renminbi was just included in the basket of currencies that make up the Special Drawing Rights (SDR), economic concerns led to a massive capital flight that saw China's foreign exchange reserves go down by a trillion.
- China imposed drastic capital controls to avoid currency crash so soon after its SDR inclusion. And it worked, unlike Washington consensus prescription.
- Rethinking on the 'capital account fundamentalism': The term denotes a belief that free flow of capital provides the greatest possible equity and prosperity, and that any interference with the market process decreases social well-being.
- Free capital flow destabilized emerging economies after the crisis of 2009. Easy monetary policies in the developed world encouraged "carry trade"—cross-border investment in search of higher yields. Capital flooded into emerging economies with higher domestic interest rates. But when Federal Reserve Bank (Fed)

tapering started, capital flows reversed, leaving emerging economies very unstable.

- A possible repetition of 2009: If the US economy stumbles into a recession, which presently seems like a possibility, Fed would be left with no choice but to further expand its quantitative easing. And this could once again have consequences on emerging economies.
- A similar distress can be caused by the actions of European Central Bank which is easy on printing currency and buying bonds that carry negative interest rates.

Major Steps in the 1991 Reforms

The major policy initiatives taken by the Government to fundamentally address the balance of payments problem and the structural rigidities were as follows:

Industrial Policy Reforms

In order to consolidate the gains already achieved during the 1980s, and to provide greater competitive stimulus to the domestic industry, a series of reforms were introduced in the Industrial Policy. The government announced a New Industrial Policy on 24 July 1991. The New Industrial Policy established in 1991 sought substantially to deregulate industry so as to promote growth of a more efficient and competitive industrial economy. The central elements of industrial policy reforms were as follows:

- Industrial licensing was abolished for all projects except in 18 industries. With this, 80 percent of the industry was taken out of the licensing framework.

- The Monopolies & Restrictive Trade Practices (MRTP) Act was repealed to eliminate the need for prior approval by large companies for capacity expansion or diversification.
- Areas reserved for the public sector were narrowed down and greater participation by private sector was permitted in core and basic industries. The new policy reduced the number of areas reserved from 17 to 8. These eight are mainly those involving strategic and security concerns. (Example, railways, atomic energy etc.)
- The policy encouraged disinvestment of government holdings of equity share capital of public sector enterprises.
- The public sector units were provided greater autonomy and professional management that could be helpful for generating reasonable profits, through an MOU(Memorandum of Understanding) between the enterprise and the concerned Ministry, through which targets that the enterprise had to achieve were set up.
- Industrial licensing was abolished for almost all but product categories — alcohol, cigarettes, hazardous chemicals, industrial explosives, electronics, aerospace and drugs and pharmaceuticals. Many goods produced by small scale industries have now been dereserved. In many industries, the market has been allowed to determine the prices.

Trade Policy Reforms

Liberalisation of trade and investment regime was initiated to increase international competitiveness of industrial production and also foreign investments and technology into the economy.

The aim was also to promote the efficiency of the local industries and the adoption of modern technologies. In order to protect domestic industries, India was following a regime of quantitative restrictions on imports. This was encouraged through tight control over imports and by keeping the tariffs very high. These policies reduced efficiency and competitiveness which led to slow growth of the manufacturing sector. Under trade policy reforms, the main focus was on greater openness. Hence, the policy package was essentially an outward-oriented one. New initiatives were taken in trade policy to create an environment which would provide a stimulus to export while at the same time reducing the degree of regulation and licensing control on foreign trade. The trade policy reforms aimed at (i) dismantling of quantitative restrictions on imports and exports (ii) reduction of tariff rates and (iii) removal of licensing procedures for imports. The main feature of the new trade policy as it has evolved over the years since 1991 are as follows:

- Import licensing was abolished except in case of hazardous and environmentally sensitive industries.
- Quantitative restrictions on imports of manufactured consumer goods and agricultural products were also fully removed from April 2001.
- Export duties have been removed to increase the competitive position of Indian goods in the international markets.
- Freer imports and exports: Prior to 1991, in India imports were regulated by means of a positive list of freely importable items. From 1992, imports were regulated by a limited negative list. For instance, the trade policy of 1 April 1992, freed imports of almost all

intermediate and capital goods. Only 71 items remained restricted.

- Rationalization of tariff structure and removal of quantitative restrictions: The Chelliah Committee's Report had suggested drastic reduction in import duties. It had suggested a peak rate of 50 percent. As a first step towards a gradual reduction in the tariffs, the 1991-92 budget had reduced the peak rate of import duty from more than 300 percent to 150 percent. The process of lowering the customs tariffs was carried further in successive budgets.
- Trading Houses: The 1991 policy allowed export houses and trading houses to import a wide range of items. The Government also permitted the setting up of trading houses with 51 percent foreign equity for the purpose of promoting exports. For instance, under the 1992-97 trade policy, export houses and trading houses were provided the benefit of self-certification under the advance license system, which permits duty free imports for exports.

Fiscal Reforms:

A key element in the stabilization effort was to restore fiscal discipline. The data reveals that fiscal deficit during 1990-91 was as large as 8.4 percent of GDP. The budget for 1991-92 took a bold step in the direction of correcting fiscal imbalance. It envisaged a reduction in fiscal deficit by nearly two percentage points of GDP from 8.4 percent in 1990-91 to 6.5 percent in 1991-92.

The budget aimed at containing government expenditure and augmenting revenues; reversing the downtrend in the share of direct taxes to total tax revenues and curbing conspicuous

consumption. Some of the important policy initiatives introduced in the budget for the year 1991-92 for correcting the fiscal imbalance were: reduction in fertilizer subsidy, abolition of subsidy on sugar, disinvestment of a part of the government's equity holdings in select public sector undertakings, and acceptance of major recommendations of the Tax Reforms Committee headed by Raja Chelliah. These recommendations aimed to raise revenue through better compliance in case of income tax and excise and customs duties, and make the tax structure stable and transparent.

Tax reforms are concerned with the reforms in government's taxation and public expenditure policies which are collectively known as its fiscal policy. There are two types of taxes: direct and indirect. Direct taxes consist of taxes on incomes of individuals as well as profits of business enterprises. Since 1991, there has been a continuous reduction in the taxes on individual incomes as it was felt that high rates of income tax were an important reason for tax evasion. It is now widely accepted that moderate rates of income tax encourage savings and voluntary disclosure of income. The rate of corporation tax, which was very high earlier, has been gradually reduced. Efforts have also been made to reform the indirect taxes, taxes levied on commodities, in order to facilitate the establishment of a common national market for goods and commodities. Another component of reforms in this area is simplification. In order to encourage better compliance on the part of taxpayers many procedures have been simplified and the rates also substantially lowered.

Monetary and Financial Sector Reforms

Financial sector includes financial institutions such as commercial banks, investment banks, stock exchange

operations and foreign exchange market. The financial sector in India is regulated by the Reserve Bank of India (RBI). All the banks and other financial institutions in India are regulated through various norms and regulations of the RBI. The RBI decides the amount of money that the banks can keep with themselves fixes interest rates, nature of lending to various sectors etc. One of the major aims of financial sector reforms is to reduce the role of RBI from regulator to facilitator of financial sector. This means that the financial sector may be allowed to take decisions on many matters without consulting the RBI. Monetary reforms aimed at doing away with interest rate distortions and rationalizing the structure of lending rates. The new policy tried in many ways to make the banking system more efficient. Some of the measures undertaken were:

Reserve Requirements: reduction in statutory liquidity ratio (SLR) and the cash reserve ratio (CRR) in line with the recommendations of the Narasimham Committee Report, 1991. In mid-1991, SLR and CRR were very high. It was proposed to cut down the SLR from 38.5 percent to 25 percent within a time span of three years. Similarly, it was proposed that the CRR brought down to 10 percent (from the earlier 25 percent) over a period of four years

Interest Rate Liberalization: Earlier, RBI controlled the rates payable on deposits of different maturities and also the rates which could be charged for bank loans which varied according to the sector of use and also the size of the loan. Interest rates on time deposits were decontrolled in a sequence of steps beginning with longer term deposits, and liberalization was progressively extended to deposits of shorter maturity

The reform policies led to the establishment of private sector banks, Indian as well as foreign. Foreign investment limit in banks was raised to around 50 per cent. Those banks which fulfill certain conditions have been given freedom to set up new branches without the approval of the RBI and rationalize their existing branch networks. Though banks have been given permission to generate resources from India and abroad, certain managerial aspects have been retained with the RBI to safeguard the interests of the accountholders and the nation.

Foreign Institutional Investors (FII) such as merchant bankers, mutual funds and pension funds are now allowed to invest in Indian financial markets.

Guidelines for opening new private sector banks

New accounting norms regarding classification of assets and provisions of bad debt were introduced in tune with the Narasimham Committee Report

Reforms in Capital Markets

Recommendations of the Narasimham Committee were initiated in order to reform capital markets, aimed at removing direct government control and replacing it with a regulatory framework based on transparency and disclosure supervised by an independent regulator. The Securities & Exchange Board of India (SEBI) which was set up in 1988 was given statutory recognition in 1992 on the basis of recommendations of the Narasimham Committee. SEBI has been mandated to create an environment which would facilitate mobilization of adequate resources through the securities market and its efficient allocation.

Foreign Investment Policy Reform

The government took several measures to promote foreign investment in India in the post-reform period. Some of the important measures are:

- In 1991, the government announced a specified list of high technology and high-investment priority industries wherein automatic permission was granted for foreign direct investment (FDI) up to 51 percent foreign equity. The limit was raised to 74 percent and subsequently to 100 percent for many of these industries. Moreover, many new industries have been added to the list over the years.
- Foreign Investment Promotion Board (FIPB) has been set up to negotiate with international firms and approve direct foreign investment in select areas.
- Steps were also taken from time to time to promote foreign institutional investment (FII) in India.

Rationalization of Exchange Rate Policy

The first important reform in the external sector was made in the foreign exchange market. In 1991, as an immediate measure to resolve the balance of payments crisis, the rupee was devalued against foreign currencies. In the very first week of July 1991, the rupee was devalued by around 20 percent. The purpose was to bridge the gap between the real and the nominal exchange rates that had emerged on account of rising inflation and thereby to make the exports competitive. This led to an increase in the inflow of foreign exchange. It also set the tone to free the determination of rupee value in the foreign exchange market from government control. Now, more often than not, markets determine exchange rates based on the demand and supply of foreign exchange. The 1991 economic reforms were focused primarily on the formal sector, and as a result, we have

seen significant boom in those areas that were liberalized. Sectors such as telecom and civil aviation have benefited greatly from deregulation and subsequent reforms. However, liberalisation and economic reforms still have a long way to go, especially for the informal sector—including the urban poor who hold jobs as street vendors or rickshaw pullers, the agricultural sector, Micro, Small and Medium Enterprises (MSMEs) and tribals. The slow growth and stagnation in these sectors which have not seen any reform further highlights the significant role of the 1991 reforms in helping India's economy become what it is today.

Generations of Economic Reforms

Though there were no such announcements or proposals while India launched its reforms in 1991, in the coming times, many 'generations' of reforms were announced by the governments.A total of three generations of reforms have been announced till date, while experts have gone to suggest the fourth generation, too.

- First Generation reforms (1991–2000)

The reforms initiated during 1991 to 2000 were termed as First Generation Reforms. The broad coordinates of the First Generation of reforms may be seen as under:

Promotion to Private Sector: This included various important and liberalising policy decisions, i.e., 'de-reservation' and 'delicencing' of the industries, abolition of the MRTP limit, abolition of the compulsion of the phased-production and conversion of loans into shares, simplifying environmental laws for the establishment of industries, etc.

Public Sector Reforms: The steps taken to make the public sector undertakings profitable and efficient, their disinvestment (token), their corporatization, etc., were the major parts of it.

External Sector Reforms: They consisted of policies like, abolishing quantitative restrictions on import, switching to the floating exchange rate, full current account convertibility, reforms in the capital account, permission to foreign investment (direct as well as indirect), promulgation of a liberal Foreign Exchange Management Act (the FEMA replacing the FERA), etc.

Financial Sector Reforms: Several reform initiatives were taken up in areas such as banking, capital market, insurance, mutual funds, etc.

Tax Reforms: This consisted of all the policy initiatives directed towards simplifying, broadbasing, modernising, checking evasion,etc.

A major re-direction was ensued by this generation of reforms in the economy—the 'command' type of the economy moved strongly towards a market-driven economy, private sector (domestic as well as foreign) to have greater participation in the future.

- Second Generation Reforms (2000–01 onwards)

The government launched the second generation of reforms in 2000-01. Basically, the reforms India launched in the early 1990s were not taking place as desired and a need for another set of reforms was felt by the governments, which were initiated with the title of the Second Generation of economic reforms. These reforms were not only deeper and delicate, but required a higher political will power from the governments. The major components of the reform are as given below:

Factor Market Reforms:

Considered as the 'backbone' for the success of the reform process in India, it consists of dismantling of the Administered

Price Mechanism (APM). There were many products in the economy whose prices were fixed /regulated by the government, viz., petroleum, sugar, fertilizers, drugs, etc. Though a major section of the products under the APM were produced by the private sector, they were not sold on market principles which hindered the profitability of the manufacturers as well as the sellers and ultimately the expansion of the concerned industries leading to a demand supply gap. Under market reforms these products were to be brought into the market fold. But we cannot say that the Factor Market Reforms (FMRs) are complete in India. It is still going on. Cutting down subsidies on essential goods is a socio-political question in India. Till market-based purchasing power is not delivered to all the consumers, it would not be possible to complete the FMRs.

Public Sector Reforms: The second generation of reforms in the public sector especially emphasizes on areas like greater functional autonomy, freer leverage to the capital market, international tie-ups and Greenfield ventures, disinvestment.

Reforms in Government and Public Institutions: This involves all those moves which really go to convert the role of the government from the 'controller' to the 'facilitator' or the administrative reform, as it may be called.

Legal Sector Reforms: Though reforms in the legal sector were started in the first generation itself, now it was to be deepened and newer areas were to be included, such as, abolishing outdated and contradictory laws, reforms in the Indian Penal Code (IPC) and Code of Criminal Procedure (CrPC), Labour Laws, Company Laws and enacting suitable legal provisions for new areas like Cyber Law, etc.

Reforms in Critical Areas: The second generation reforms also commit to suitable reforms in the infrastructure sector (i.e., power, roads, especially as the telecom sector has been encouraging), agriculture, agricultural extension, education and healthcare, etc. These areas have been called by the government as 'critical areas'.

- Third Generation reforms

Announcement of the third generation of reforms were made on the margins of the launching of the Tenth Plan (2002–07). This generation of reforms commits to the cause of a fully functional Panchayati Raj Institution (PRIs), so that the benefits of economic reforms, in general, can reach to the grassroots. Though the constitutional arrangements for a decentralized developmental process were already effected in the early 1990s, it was in the early 2000s that the government gets convinced of the need of 'inclusive growth and development'. Till the masses are not involved in the process of development, the development will lack the 'inclusion' factor; it was concluded by the government of the time.

- Fourth Generation reforms

This is not an official 'generation' of reform in India. Basically, in early 2002, some experts coined this generation of reforms which entail a fully 'information technology-enabled'. They hypothesized a 'two-way' connection between the economic reforms and the information technology (IT), with each one reinforcing the other.

India's reform process which commenced in 1991 has been termed by experts as gradualist in nature with traits of occasional reversals, and without any big ideological U-turns. It reflects the compulsions of India's highly pluralist and

participative democratic policy-making process. Though such an approach helped the country to avoid sociopolitical upheavals/instability, it did not allow the desired economic outcome could have accrue from the reforms. The first generation of economic reforms could not bring the expected results due to lack of some other set of reforms for which India goes after almost over a decade—the second generation of economic reforms. Similarly, the economic benefits (whatever accrued) remained non-inclusive, in absence of an active public policy aimed at inclusion (commencing via the third generation of economic reforms). This created a kind of disillusionment about the prospects of reforms and failed the governments to muster enough public support in favour of reforms.

Indian Economy During Reforms: An Assessment

The reform process has completed one and a half decades since its introduction. Let us now look at the performance of the Indian economy during this period. In economics, growth of an economy is measured by the Gross Domestic Product. The growth of GDP increased from 5.6 per cent during 1980-91 to 8.2 per cent during 2007-2012. During the reform period, the growth of agriculture has declined. While the industrial sectors reported fluctuation, the growth of service sector has gone up. This indicates that the growth is mainly driven by the growth in the service sector. The Twelfth Plan (2012-2017) envisages the GDP growth rate at 9 or 9.5 per cent. In order to achieve such a high growth rate, the agriculture, industrial and service sectors have to grow at the rates of 4 to 4.2, 9.6 to 10.9 and 10 percentage points, respectively. The opening up of the economy has led to rapid increase in foreign direct investment and foreign exchange reserves. The foreign investment, which includes foreign direct investment (FDI) and foreign

institutional investment (FII), has increased from about US $ 100 million in 1990-91 to US $ 467 billion in 2012-13. There has been an increase in the foreign exchange reserves from about US $ 6 billion in 1990-91 to about US $ 304 billion in 2013-14. India is one of the largest foreign exchange reserve holders in the world. India is seen as a successful exporter of auto parts, engineering goods, IT software and textiles in the reform period. Rising prices have also been kept under control.

The economic reforms, have led to considerable liberalization and freeing of international trade, and to some replacement of what used to be called the 'Licence Raj' (with pervasive bureaucratic control over private economic initiatives). This has greatly added to business opportunities in India and has also helped to consolidate India's faster economic growth. „ Liberalization has helped to free Indian entrepreneurs to seek global trade, and the success has been especially large in specific sectors such as information technology. „ The telecom sector is a success story of India's economic reforms. The telecom sector underwent a revolution in the Indian-growth story. 'The rate of growth of GDP from telecom accelerated from an average of 6.3% per annum (during 1980–81 to 1991–92) to 18% per annum during 1992–93 to 2002–03. „ In the case of ports, private operators have been introduced and then the Tariff Authority of Major Ports was formed; in the civil-aviation sectors, new private airlines, new private airports and the beginning of an open skies policy are evident. „ Relaxed entry of foreign firms in the services sector was also directly attributable to the growth in the services sector as the share of services in foreign direct investment increased. Due to economic reforms, the tertiary sector has been the main gainer of the shift in employment. Yet the increase in its employment

share has not been in accordance with the increase in its share of GDP. „ The share of secondary sector in employment has increased at a relatively faster rate while its share in GDP has remained constant at around 25%. The economic reforms were more radical as far as industries were concerned. Changes in the policy framework gave a big boost to industries. The major reforms were the abolition of licenses for a wide range of industries. Licenses are now only required for some industries. „ The economic reforms have also contributed to the rise in competition among states to attract private investment. This has promoted the feeling of cooperative federalism.

On the other hand, the reform process has been widely criticised for not being able to address some of the basic problems facing our economy especially in the areas of employment, agriculture, industry, infrastructure development and fiscal management.

Growth and Employment: Though the GDP growth rate has increased in the reform period, the reform-led growth has not generated sufficient employment opportunities in the country.

Reforms in Agriculture: Reforms have not been able to benefit agriculture, where the growth rate has been decelerating. Public investment in agriculture sector especially in infrastructure, which includes irrigation, power, roads, market linkages and research and extension (which played a crucial role in the Green Revolution), has fallen in the reform period. Further, the removal of fertiliser subsidy has led to increase in the cost of production, which has severely affected the small and marginal farmers. This sector has been experiencing a number of policy changes such as reduction in import duties on agricultural products, removal of minimum support price and lifting of quantitative restrictions on

agricultural products; these have adversely affected Indian farmers as they now have to face increased international competition. Moreover, because of export oriented policy strategies in agriculture, there has been a shift from production for the domestic market towards production for the export market focusing on cash crops in lieu of production of food grains. This puts pressure on prices of food grains.

Reforms in Industry: Industrial growth has also recorded a slowdown. This is because of decreasing demand of industrial products due to various reasons such as cheaper imports, inadequate investment in infrastructure etc. In a globalised world, developing countries are compelled to open up their economies to greater flow of goods and capital from developed countries and rendering their industries vulnerable to imported goods. Cheaper imports have, thus, replaced the demand for domestic goods. Domestic manufacturers are facing competition from imports. The infrastructure facilities, including power supply, have remained inadequate due to lack of investment. Globalisation is, thus, often seen as creating conditions for the free movement of goods and services from foreign countries that adversely affect the local industries and employment opportunities in developing countries. Moreover, a developing country like India still does not have the access to developed countries' markets because of high non-tariff barriers. For example, although all quota restrictions on exports of textiles and clothing have been removed in India, U.S.A. has not removed their quota restriction on import of textiles from India and China.

Disinvestment: Every year, the government fixes a target for disinvestment of PSEs. For instance, in 1991-92, it was targeted

to mobilize Rs 2,500 crore through disinvestment. The government was able to mobilize Rs 3,040 crore more than the target. In 2013-14, the target was about Rs 56,000 crore whereas the achievement was about Rs 26,000 crore. Critics point out that the assets of PSEs have been undervalued and sold to the private sector. This means that there has been a substantial loss to the government. Moreover, the proceeds from disinvestment were used to offset the shortage of government revenues rather than using it for the development of PSEs and building social infrastructure in the country.

Reforms and Fiscal Policies: Economic reforms have placed limits on the growth of public expenditure especially in social sectors. The tax reductions in the reform period, aimed at yielding larger revenue and to curb tax evasion, have not resulted in increase in tax revenue for the government. Also, the reform policies involving tariff reduction have curtailed the scope for raising revenue through customs duties. In order to attract foreign investment, tax incentives were provided to foreign investors which further reduced the scope for raising tax revenues. This has a negative impact on developmental and welfare expenditures.

Impact of Reforms

Positives

- Reform has stressed the approach of delicencing, decontrol, deregulation and debureaucratisation in Indian economy. It will spur the economic growth and economic liberalization will make Indian economy more efficient and competitive internally as well as internationally. License Permit Raj would be reduced

to the minimum, and delays, inefficiency and corruption would be minimized in future.

- Through reform, India overcame its worst economic crisis in the remarkably short period of two years.
- Thanks to prudent macroeconomic stabilization policies including devaluation of rupee and other structural reforms, the BoP crisis was over by the end of March 1994 and foreign exchange reserves rose to USD 15.7 billion.
- Reforms boost foreign private investment in Indian economy led to inflows of both FDI and FII into India have increased massively. Because some areas of economic activity like power generation, would now be opened for the private sector, which were earlier confined to the public sector only.
- India also increasingly integrated its economy with the global economy. The ratio of total exports of goods and services to GDP in India approximately doubled from 7.3 percent in 1990 to 14 percent in 2000. This rise was less dramatic on the import side but was significant, from 9.9 percent in 1990 to 16.6 percent in 2000. Within 10 years, the ratio of total goods and services trade to GDP rose from 17.2 percent to 30.6 percent.
- Reforms led to increased competition in the sectors like banking, leading to more customer choice and increased efficiency. It has also led to increased investment and growth of private players in these sectors.
- There was a fall in inflation rates as reforms pushed up production of goods and services resulting in either prices falling or remaining constant. Competition also helped to keep inflation in check.

- There was a significant Improvement in GDP
- It will help in globalizing Indian economy and make it competitive internationally
- Impact of Reforms Post-1992
- Poverty reduced from 36 percent in 1993-94 to 26.1 percent in 1999-00. The poverty ratio in rural areas and in urban areas declined.
- There was an increase in air travel and expansion in the civil aviation sector due to reforms. In order to promote competition, the government adopted the Open Skies Policy (through which private players were allowed into aviation sector) in 1991. The results of this policy are visible today with private players in the domestic aviation market as well as the international markets.
- As a result of the reforms that opened the borders to foreign goods, there was easier access to foreign technology. A good example of this is cell phone technology.
- The post 1991 era also saw an expansion of the automobile sector, easy availability of motor vehicles, increased competition in the sector and reduction in prices of motor vehicles.
- Once India developed a name in the global markets, there was also an increase in the number of foreign tourists.
- Reforms led to the achievement of recognizable increases in international competitiveness in a number of sectors including auto components, telecommunications, software, pharmaceuticals, biotechnology, research and development, and professional services provided by scientists,

technologists, doctors, nurses, teachers, management professionals and similar professions.

- There was a vast expansion of the telecommunication sector. In fact, this sector has been one of the biggest beneficiaries of economic reforms. Once heavily shackled by regulation and government monopoly, the sector now has several competing service providers. The telecom policy evolved from the National Telecom Policy in 1994 to open up all the sectors to private players.

Negative Aspects

- The reforms were largely in the formal sector of the economy, the agriculture, urban informal sector and forest dependent communities did not see any reforms. This led to uneven growth and unequal distribution of economic freedom among people.
- Economic liberalization in the organized manufacturing sector (subjected to rigid labor laws) has led to growth with very little additional employment.
- Market-based economic reforms also often lead to increasing disparities between the rich and the poor and between infrastructurally backward and more developed states.
- Social sectors like health and education have been neglected. These areas, though very important, were not focused upon and the result can be seen in the dismally low levels of education and health indicators today.
- Economic reforms have accelerated growth but failed to generate adequate employment. For example, the rural unemployment rate, after declining to 5.61

percent in 1993-94, rose to 7.21 percent in 1999-2000 as did the All-India (urban plus rural) rate of unemployment.

Post Reform Infrastructure Investment Models – PPP (Public Private Partnership)

Public Private Partnership

The PPP is defined as "the transfer to the private sector of investment projects that traditionally have been executed or financed by the public sector" (IMF, 2004). Public-private partnerships involve collaboration between a government agency and private-sector companies that can be used to finance, build, and operate projects, such as public transportation networks, parks, and convention centers. Financing a project through a public-private partnership can allow a project to be completed sooner or make it a possibility in the first place. the PPP combines the development of private sector capital and sometimes, public sector capital to improve public services or the management of public sector assets. The PPP has two important characteristics. First, there is an emphasis on service provision as well as investment by the private sector. Second, significant risk is transferred from the Government to the private sector.

Types of Investment Models

Public Investment Model: In this model Government requires revenue for investment that mainly comes through taxes. As the world is facing the prospect of an extended period of weak economic growth, by enhancing public-sector investment large pools of savings can be channelized into productivity. Properly targeted public investment can do much to boost economic performance, generating aggregate demand quickly, fueling productivity growth by improving human capital, encouraging

technological innovation, and spurring private-sector investment by increasing returns. Though public investment cannot fix a large demand shortfall overnight, it can accelerate the recovery and establish more sustainable growth patterns.
Private Investment Model: For a country to grow and increase its production, investment is required. Presently tax revenue of India is not adequate to meet this demand so government requires private investment. Private investment can be source from domestic or international market. From abroad private investment comes in the form of FDI or FPI. Private investment can generate more efficiency by creating more competition, realization of economies of scale and greater flexibility than is available to the public sector.

Public-Private Partnership Model: PPP is an arrangement between government and private sector for the provision of public assets and/or public services. Public-private partnerships allow large-scale government projects, such as roads, bridges, or hospitals, to be completed with private funding. In this type of partnership, investments are undertaken by the private sector entity, for a specified period. These partnerships work well when private sector technology and innovation combine with public sector incentives to complete work on time and within budget. As PPP involves full retention of responsibility by the government for providing the services, it does not amount to privatization. There is a well-defined allocation of risk between the private sector and the public entity. Private entity is chosen on the basis of open competitive bidding and receives performance linked payments. PPP route can be alternative in developing countries where governments face various constraints on borrowing money for important projects. It can

also give required expertise in planning or executing large projects.

Models of Public Private Partnership (PPP)

Commonly adopted model of PPPs include Build-Operate-Transfer (BOT), Build-Own- Operate (BOO), Build-Operate-Lease-Transfer (BOLT), Design-Build-Operate-Transfer (DBFOT), Lease-Develop-Operate (LDO), Operate-Maintain-Transfer (OMT), etc. These models are different on level of investment, ownership control, risk sharing, technical collaboration, duration, financing etc. The PPP model is very flexible and discernible in variety of forms. The various models/ schemes and modalities to implement the PPP are set out in Table 1.

Table 1: Schemes and Modalities of PPP

Schemes	Modalities
Build-own-operate (BOO) Build-develop-operate (BDO) Design-construct-manage-finance (DCMF)	The private sector designs, builds, owns, develops, operates and manages an asset with no obligation to transfer ownership to the government. These are variants of design-build-finance-operate (DBFO) schemes.
Buy-build-operate (BBO) Lease-develop-operate (LDO) Wrap-around addition (WAA)	The private sector buys or leases an existing asset from the Government, renovates, modernises, and/ or expands it, and then operates the asset, again with no obligation to transfer ownership back to the Government.

Build-operate-transfer (BOT) Build-own-operate-transfer (BOOT) Build-rent-own-transfer (BROT) Build-lease-operate-transfer (BLOT) Build-transfer-operate (BTO)	The private sector designs and builds an asset, operates it, and then transfers it to the Government when the operating contract ends, or at some other pre-specified time. The private partner may subsequently rent or lease the asset from the Government.

Source: Public Private Partnership, Fiscal Affairs Department of the IMF.

Public Private Partnership in India

To develop the Indian infrastructure to a world class and to remove the infrastructure deficiency in the country, the investment requirements are mammoth, which could not be met by the public sector alone due to fiscal constraints and mounting liabilities of the Government. This would call for participation of private sector in coordination with the public sector to develop the public infrastructure facilities. In this direction, the economic reforms initiated in the country provide forth the policy environment towards public-private partnership (PPP) in the infrastructure development. Sector-specific policies have also been initiated from time to time to enhance the PPP in infrastructure building. While the PPP is spreading to develop basic infrastructure worldwide, in India, the participation of private sector in the infrastructure building has not been much encouraging, despite several rounds of policy reforms.

In India, there is no exact date and year, which could speak of the beginning of Public-Private Partnership (PPP). However, it

is said that the PPP story began with private sterling investments in Indian railroads in the latter half of the 1800s. Then again, we could follow it to the mid-1900s when private makers and merchants developed in power sector in Kolkata (Calcutta Electric Supply Corporation) and in Mumbai with the Tata playing a prominent role in starting the "Tata Hydroelectric Power Supply Company" in 1911.

A new wave in Public-Private Partnership (PPP) was felt when the Central government made a policy in 1991 and it was decided to allow private participation in the Power sector, which opened up the doors for independent power producers. The National Highways Act, 1956 was altered in 1995 to empower private support. In 1994, through a focused offering process, licenses were conceded to eight-cell cellular telephone utility administrators in 4 metro urban areas and 14 administrators in 18 state circles.

Need for PPP in India

- Better infrastructure: It is a fact that most governments face the problem that public financing is not enough to bridge the gap between infrastructure need and available funds. In this respect, infrastructure development has to rely increasingly on private markets to leverage and mobilize capital.
- Risk sharing: The private sector is considered to be more proficient in resource acquisition and utilities deliverance than the government, and, therefore, it is further bolstering government's good fortune to impart the related risks to the private segment.
- Optimum allocation of resources: PPPs can help in the optimum allocation of public resources for the development of infrastructure. Though conventional

models of public acquirement concentrate on accomplishing the most reduced forthright expenses in conveying infrastructural ventures infrastructural projects, PPPs concentrate on delivering cost-effectiveness over the duration.

- Innovations: Development is another imperative idea that the private segment can convey to public utilities. As a rule, people in the public sector may not be as inventive similar to the private area. The private division is constantly hunting down new items and utilities to expand its aggressive edge and to save costs.
- Aid in growth of other sectors: To the government, PPP frees up fiscal funds for other areas of public service and improves cash flow management as high upfront capital expenditure is replaced by periodic service payments and provides cost certainty in place of uncertain calls for asset maintenance and replacement.
- The catalyst for the economy: To the private sector participants, PPP provides access to public sector markets. If priced accurately and costs managed effectively, the projects can provide reasonable profits and investment returns on a long-term basis.
- More employment generation: Development of infrastructure will need manpower at various levels and hence it will generate more employment opportunities for the people.
- Improves the image of the country: There will be more development of better physical infrastructure and services through PPP and it will create a good impact on tourism and other enthusiast investors.
- Attract FDI: Scope for investment by the private sector in infrastructure will also provide the opportunities to

foreign investors to participate and the financial crunch can be meted out easily. The better infrastructure is also a major boost to foreign direct investment (FDI).

- India presents the case of largest number of Public and Private Partnerships (PPPs) both at the central and state government levels in providing infrastructure and public goods. According to the reports of Department of Economic Affairs, the Government of India, the four major sectors where PPP projects are allocated are Energy, Social and Commercial Infrastructure, Transport and Water Sanitation. The sector-wise distribution of number of total PPP projects in India as of 2015 is reveals that majority of the projects (69%) are in the transport sector comprising of airports, inland waterways, railways and roads. Rest of the sectors has nearly equal distribution of total projects.
- According to the year-wise distribution of PPP projects in India as highlighted in Figure 1, there are spikes of increase in the number of projects (and investment) mainly due to institutional changes such as change of government at the centre or state. Although the investment in PPP projects by the Government of India is constantly increasing, we need to know the status-wise distribution of these projects to have a better understanding of the PPP model.

In the Indian context, the term PPP is used very loosely while at the international arena, the PPP is adopted for developing public assets in various forms. According to Ministry of Finance Government of India the PPP project means a project based on a contract or concession agreement, between Government or statutory entity on the one side and a private

sector company on the other side, for delivering infrastructure service on payment of user charges. This is a narrower definition as compared to world best practices where the private sector participation in any form of concession agreement, divestiture of the public sector, greenfield projects and management and lease contract are considered as PPP. The Planning Commission of India has defined the PPP in a generic term as "the PPP is a mode of implementing government programmes/schemes in partnership with the private sector. It provides an opportunity for private sector participation in financing, designing, construction, operation and maintenance of public sector programme and projects". In addition, greenfield investment in the infrastructure development has also been given more encouragement in India.

The private sector participation in the infrastructure building have broadly been taken place through corporatisation of existing PSUs (e.g. GAIL, ONGC, IOC, etc), greenfield investment for development of new projects, PPP in the form of BOT or BOOT model in the road sector and concession agreements with the private sector such as rehabilitate, operate, and transfer; or rehabilitate, lease or rent and transfer; or build, rehabilitate, operate, and transfer basis. Recently established joint venture structure of institutions to develop and modernise the Delhi and Mumbai airports is an apt form of PPP. Some of the most commonly adopted forms of PPP in Indi include management contracts, build-operate-transfer (BOT) and its variants — design-build-finance-operate-transfer (DBFOT) and operate-maintain-transfer (OMT)

The objectives of Public-Private Partnership according to National PPP Policy of India:

1. Harnessing private sector efficiencies in maintenance and service delivery.
2. Creating opportunities to attract innovation and technological improvements.
3. Facilitating affordable and improved services to the users in a responsible and sustainable manner.
Indian Infrastructural Projects under Public Private Partnership (Sector wise)

A. Electricity/Energy:
The total number of projects from the year 1991-2018 in the sector of Electricity is 433 and the total investment made is 147,967.270M.

Sl.no	Project Name	Modality Type	Location	Investments (Millions)	Year
1	ACME Jaipur	250MW Solar Power Plan BOO	Madhya Pradesh	201.900	2018
2	Mahindra Solar Power Plant	BOO	Madhya Pradesh	197.200	2019
3	Telangana Solar PV Plant	BOO	Telangana	52.100	2017

b). Airports

The total number of projects from the year 1991-2018 in the sector of Airports is 8 and the total investment made is 5,400.100M.

Sl.no	Project Name	Modality Type	Location	Investment (Millions)	Year
1.	Mopa International Airport	BOT	North Goa.	289.000	2017
2.	Chhatrapati Shivaji Airport (Modernisation)	Build Rehabilitate Operate Transfer	Mumbai	332.40	2013

c). Water and Sewerage Projects:

The total number of projects from the year 1991-2018 in the sector of Water and Sewerage is 20 and the total investment made is 1,257.910M.

S.no	Project Name	Modality Type	Location	Investment (Millions)	Year
1.	Coimbatore istribution Contract	Management Contract	Coimbatore	497.00	2018
2.	Haridwa Sewage Treatment Plant	Build-Operate-Transfer	Haridwar	26.880	2017
3.	Davanagere Drinking water Services	Management Contract	Davanagere	86.3	2017

d). Ports:

The total number of projects from the year 1991-2018 in the sector of Ports is 42 and the total investment made is 9,068.040M.

Sl.no	Project name	Modality type	Location	Investments (Millions)	Year
1.	Paradip East Quay Coal Terminal	BOT	Paradip Port	184.640	2018
2.	Paradip Clean Cargo Birth	BOT	Odhisa, Jagatsinghpur Distrct	64.900	2016
3.	Essar Iron Ore Port Terminal Modernization	Build Rehabilitate Operate Transfer	Vishakapatnam, Andhra Pradesh	108.600	2015

e). Roadways

The total number of projects from the year 1991-2018 in the sector of Roadways is 435 and the total investment made is 80,962.200M.

Sl.no	Project Name	Modality Type	Location	Investment (Millions)	Year
1.	Udaipur-Rajasthan NH-8 Toll road	Build-Rehabilitate-Operate-Transfer	Udaipur, Rajasthan to Gujarat Border	346.800	2017

2.	Shimla Bypass Road NH-22	Build-Rehabilitate-Operate-Transfer	Himachal Pradesh	232.320	2018
3.	Four laning of Pandoh-Takoli Highway	BOT	Himachal Pradesh	451.800	2018

Challenges in Public Private Partnership in India

- Forest and Environmental Clearances: A large number of projects are delayed due to the lack of forest and environment clearances. There are also huge delays in conducting environment appraisal meetings and in constituting State-level Expert Appraisal Committees (SEACs) which slows down the project approval process.
- The PPP program in India lacks a comprehensive database of the projects that can be awarded under PPP. An online database, comprising all the project documents, including feasibility reports, concession agreements, and status of various clearances and land acquisitions will be of great help to all bidders.
- Land Acquisitions: Land acquisitions are a huge obstacle in the development of infrastructure under PPP projects. Projects have been delayed or stalled due to land acquisitions issues, mostly from the local authority/local communities.
- Focus on Economic Benefits - PPP Projects tend to focus on the economic aspects of the project and less on the social and environmental aspects.
- Project Sponsors of various PPP projects depend on commercial banks for financing the debt portion of the

project. The infrastructure sector, more specifically the roadways sector has been facing financial constraints.

- There has been aggressive bidding in the past decade. Aggressive bidding leads to cancellation or delaying of projects. It also results in low rate of participation from genuine bidders.
- Under pricing has also been observed in various EPC (Engineering Procurement and Construction) projects in the roadways and ports projects in the last few years which leads to decline quality of the project and hampers the economy.

Problems with PPP Projects

PPP projects have been stuck in issues such as disputes in existing contracts, non-availability of capital and regulatory hurdles related to the acquisition of land. Indian government has a poor record in regulating PPPs in practice. Metro projects become sites of crony capitalism and a means for accumulating land by private companies. Across the world PPPs are facing problems, performance of PPPs has been very mixed according to study conducted by various research bodies. It is also argued that PPP is mere a ‘’language game” by governments who find it difficult to push privatization, or when politically it is difficult to contracting out. Loans for infrastructure projects are believed to comprise a large share of the nonperforming asset portfolio of public sector banks in India. In many sectors, PPP projects have turned into conduits of crony capitalism. Many PPP projects in infrastructure sector are run by “politically connected firms” which have used political connections to win contracts. PPP firms use every opportunity for renegotiating contracts by citing reasons like lower revenue or rise in costs which becomes a norm in India. Frequent renegotiations also

resulted into drain of larger share of public resources. These firms create a moral hazard by their opportunistic behavior.

Advantages of Public- Private Partnership in India

- Increase in Gross Domestic Product: Development in the infrastructure will increase the economy of the country massively which will result in boost in the other sectors and consequently the GDP (Gross Domestic Product).
- Public Private Partnership leads to faster completion of projects as the projects can be resolved by comprehensive team work.
- Value for Money any appropriate risk transfer to the private sector over the life of the project from design/construction to operation/maintenance. (World Bank Group-PPPLRC)
- 3P improves the image the country through booming infrastructure and attract investors

Vijay Kelkar Committee Report on Revisiting and Revitalising PPP Model

Finance Minister in the Union Budget 2015-16 announced that the PPP mode of infrastructure development has to be revisited and revitalised. In pursuance of this announcement, a Committee on Revisiting & Revitalising the PPP model of Infrastructure Development was set-up which was chaired by Dr. Vijay Kelkar.

Key recommendations of the committee:

Contracts need to focus more on service delivery instead of fiscal benefits. Better identification and allocation of risks

between stakeholders. Prudent utilization of viability gap funds where user charges cannot guarantee a robust revenue stream. Improved fiscal reporting practices and careful monitoring of performance. Given the urgency of India's demographic transition, and the experience India has already gathered in managing PPPs, the government must move the PPP model to the next level of maturity and sophistication. Cost effectiveness of managing the risk needs to be evaluated. An Infrastructure PPP Adjudication Tribunal ("IPAT") chaired by a Judicial Member (former Judge SC/Chief Justice HC) with a Technical and/or a Financial member, where benches will be constituted by the Chairperson as per needs of the matter in question. Projects that have not achieved a prescribed percentage of progress on the ground should be scrapped. Re-bid them once issues have been resolved or complete them through public funds and if viable, bid out for Operations and Maintenance. Sector specific institutional frameworks may be developed to address issues for PPP infrastructure projects. Umbrella guidelines may be developed for stressed projects that provide an overall framework for development and functioning of the sector specific frameworks. Unsolicited Proposals ("Swiss Challenge") to be discouraged to avoid information asymmetries and lack of transparency. Amend the Prevention of Corruption Act, 1988 to distinguish between genuine errors in decision-making and acts of corruption. Set up an institution for invigorating private investments in infrastructure, providing guidance for a national PPP policy and developments in PPP. An institutionalized mechanism like the National Facilitation Committee (NFC) to ensure time bound resolution of issues. Ensure adoption of principles of good governance by the Special Purpose Vehicle (SPV). Discourage government participation in SPVs that implement PPP projects unless

strategically essential. Ministry of Finance to allow banks and financial institutions to issue Zero Coupon Bonds which will also help to achieve soft landing for user charges in infrastructure sector. Encourage use of PPPs in sectors like Railways, Urban, etc. Railways to have an independent tariff regulator. Set up an institute of excellence in PPP to inter alia guide the sector, provide policy input, timely advice and undertake sustainable capacity building. Ensure integrated development of infrastructure with roadmaps for delivery of projects.

Way Forward

New projects especially large-scale transit projects are significant for increasing mobility and for the series of changes in land use patterns. PPPs have the potential to deliver infrastructure projects better and faster. Currently, PPP contracts focus more on fiscal benefits. There is need for a serious assessment of the efficacy and the likely benefits of increasing private sector participation in metro rail projects before the adoption of this model. NITI Aayog in its document 'Strategy for New India @75', targeted investment rates to 36 per cent by 2022-23 from 28 percent of 2017-2018. To raise the rate of investment (gross fixed capital formation as a share of GDP) slew of measures will be required to boost both private and public investment. Private investment needs be encouraged in infrastructure through a renewed public private partnership (PPP) mechanism on the lines suggested by the Kelkar Committee. A mature PPP framework, along with a robust enabling ecosystem shall enable the Government to accomplish, to a considerable extent, what our Prime Minister, has said “The Government has no business to do business” and

thereby promote private sector investments and participation towards the nation building.

Cooperative Fedaralism

Cooperative federalism means that the centre and the states share a horizontal relationship and address each other grievances through mutual trust and coordination. The Federal character of the Indian Constitution is one of its salient features, however the term 'Federation' has now where been used in the Constitution. Constitution has provided for a structure of governance, which is essentially federal in nature. It contains all the usual features of a federation, i.e. two government, division of powers, written Constitution, supremacy of Constitution, rigidity of Constitution, independent judiciary and bicameralism. However, the Indian Constitution also contains a large number of unitary or non-federal features, i.e. a strong Centre, single Constitution, single citizenship, flexibility of Constitution, integrated judiciary, appointment of state governor by the Centre, all-India services, emergency provisions, and so on.

Article 1, on the other hand, describes India as a 'Union of States' which implies two things: one, Indian Federation is not the result of an agreement by the states; and two, no state has the right to secede from the federation. Hence, the Indian Constitution has been variously described as 'federal in form but unitary in spirit'. Within this basic framework of federalism, the Constitution has given overriding powers to the Central government. States must exercise their executive power in compliance with the laws made by the Central government and must not impede on the executive power of the Union. Governors are appointed by the Central government to oversee

the States. The Centre can even take over the executive of the States on the issues of national security or breakdown of constitutional machinery of the State. Considering the overriding powers given to the Central government, Indian federation has often been described as 'quasi-federation', 'semi-federation', 'pragmatic federation' or a 'federation with strong unitary features'.

Federalism with the cultural and ethnic pluralism has given the country's political system great flexibility, and therefore the capacity to withstand stress through accommodation. However, continuation of the same requires not simply federalism, but cooperative and constructive federalism. A strong Centre is necessary for strong States and vice versa is the essence of cooperative federalism. Indian federation should be seen in the context of its democratic system of governance at the national, state and local levels and the pluralities of its culture in terms of ethnic, linguistic, religious and other diversities which cut through the States. India is the largest democratic country as also the largest federal and the largest pluralist country of the world. While democracy provides freedom to everybody, federation ensures that governance is distributed spatially and a strong central government enables that the 'unity amidst diversity' is maintained. It is through Federation that the country mobilizes all its resources to maintain its harmony and integrity and marches ahead to progress.

Development of Cooperative Federalism Post Independence

The changing dynamics and the varied experiences that the Indian State has had like one party rule, the rise of regional parties, the formation of coalition Governments, active role of

the Judiciary, have shaped the trajectory of federalism by swinging the pendulum from cooperative to confrontationist and vice versa. It has been a trend in Indian political history that so long as the central and state governments were ruled by the same political party, the cooperative framework worked very well. But, when different political parties are in power in the centre and the states and more recently when coalition governments are in power there are signs of stresses and tensions in intergovernmental relations between the Centre and the States.

Cooperative in the 50s and 60s- First fifteen years after independence were marked by a democratically elected regime with a comfortable majority coupled with idealism and freshness of hope having just gained independence. Confrontationist From 1960s To 1980s - The supremacy of the Centre broke the power of States and established a new balance or rather, imbalance between the Centre and the States. Cooperative in the 90s – the decade was marked by regime of coalition government of national and regional parties at the centre which were cooperative in nature. Cooperative, Concomitant, Negotiatory and Opportunistic In the last decade - The current trends emphasize cooperation and coordination, rather than demarcation of powers between different levels of government. The basic theme today is interdependence.

Emerging Challenges for 21st Century Federalism

The new challenges facing 21st Century federalism have further necessitated the pre existing need for cooperative federalism, thereby making its practice as a form of governance all the more indispensable.

- Multi Party System: The states today have acquired sufficient political weight of their own through a pluralised party system enabling individual states to embark onto bilateral negotiations with the union bypassing the institutionalised bodies of collective policy framing that have proved to be ineffective, thus lending a negotiator character to our federalism.
- International Treaties: India is making strides in the global sphere and the local governments that promote shared partnership in development have come to be noticed today. Hence, whenever development programs or any other interests of states are touched by international agreements, the well conceived demands of states should be met in order to promote truly cooperative, coordinative and multi dimensional centre state relations.
- Environmental factors: Environmental Challenges of global nature like climate change do not recognize state frontiers. Pollution and conservation issues reflect the uncomfortable tension between decision making process of the governments at the centre-state –local levels. Disaster Management transcends inter-state boundaries too.
- Terrorism: Terrorism, militancy, organized crimes, problem of internally displaced persons, refugees – all these require that the country as a whole comes together and the institutional bodies under state governments help the centre by collectively making available the necessary information and resources.
- Voice of Separatism: The increasing voices of autonomy and separatism have vitiated the political and social fabric of the federal structure. States are

increasingly harbouring feelings of deprivation and alienation and have begun viewing all problems from a narrow parochial outlook. This not only weakens the nation but also makes the land fertile for the growth of terrorism and insurgency.

- Globalization: Globalization has reinforced the need for concurrence between the geographical, climatic, environmental and technological diversities inter as well as intra states so that they may link with global processes for viable and sustainable development and growth. The experiences felt at the global level are also being felt at the local level.

Problems in Existing Structure

- Institution of Governor: Governor has been seen as an agent of centre in the state government because governor is generally appointed without consent of Chief Minister and centre government can remove governor anytime for trivial reasons as there are no sufficient safeguards provided in the constitution. Further governor has been provided lot of discretionary powers as compared to President like referring a bill to the President etc and become a major hurdle in achieving the objective of cooperative federalism.
- Centrally Sponsored Schemes (CSS): These schemes are formulated by union and implemented by states by getting financial support from centre. These schemes are against spirit of cooperative federalism because how can you decide requirement of North Eastern State by staying at New Delhi.
- States are also criticized for some actions in contradiction of spirit of cooperative federalism like

oppose the various important bills GST or VAT either in Rajya Sabha or legislative assembly for political reasons, poor implementation of welfare schemes etc. Further poor devolution of power and finance by states with local government is a matter of concern for spirit of cooperative federalism.

- AFSPA, All India Services and financial control over large number of resources by central government are other drawbacks in existing federal structure, among others.

With the enactment of the concept of Cooperative Federalism the governor shall act as an institution of coordination between centre and states rather than conflict. Sharing of powers and responsibilities between the three levels of government will lead to participative policymaking which may lead to horizontal and vertical decentralization in a cooperative manner rather than conflict and confusion. This is particularly important in areas of concurrent responsibility, where the Centre has had a tendency to ride roughshod over the States by occupying the common legislative space. A reform of the seventh schedule lists in the direction of greater empowerment of States would be consistent with the logic of increased financial transfers and cooperative federalism. Locating the right level for making and implementing policy is a central feature of the cooperative responsibility matrix. The creation of NITI Aayog in place of Planning Commission, devolution of 42% share of taxes to states, committee to review the scope of all CSS and share a large chunk of revenue with states from mining are some good steps towards achieving the objective of cooperative federalism.

GST: Cooperative Federalism

Though Indian states have achieved Political Integration in 1950's with the integration of Princely states in Indian Union, economic Integration was still missing. Passing of GST is a shining example of cooperative federalism where States and Centre have ceded their power to tax and come up with a single tax system to realize the dream of one Economic India with 'One Market'. Thus, GST once again has shown Unity in Diversity of Indian Society.

In our Federal System both Centre and States have power to impose taxes. The division of such taxation powers is given in Union and State List under 7th Schedule. With the spirit of cooperative federalism, under GST, both Centre and States have given up taxation powers and as a product following taxes have been eliminated.

Central taxes that would be subsumed under the GST are	State taxes that would be subsumed under the GST are
Central Excise duty	State VAT
Duties of Excise (Medicinal and Toilet Preparations)	Central Sales Tax
Additional Duties of Excise (Goods of Special Importance)	Luxury Tax
Additional Duties of Excise (Textiles and Textile Products)	Entry Tax (all forms)
Additional Duties of Customs (commonly known as CVD)	Entertainment and Amusement Tax (except when levied by the local bodies)
Special Additional Duty of Customs (SAD)	Taxes on advertisements g. Purchase Tax
Service Tax	Taxes on lotteries, betting and gambling
Central Surcharges and Cesses so far as they relate to supply of goods and services	State Surcharges and Cesses so far as they relate to supply of goods and services

The Constitution of India has also been amended accordingly. This fundamental reordering of federal fiscal relations for the cause of common good shows the strength and resolve of the federal structure. This convergence for the cause of larger public good has been made possible, initially due to the mechanism of the Empowered Committee of Ministers (EC) and later the GST Council. Under the GST regime, the Centre & States will act on the recommendations of the GST Council. GST Council comprises of the Union Finance Minister, Union Minister of State for Finance and all Finance Ministers of the States. 2/3rd of voting power is with the States and 1/3rd with the Centre, which reflects the accommodative spirit of federalism.

Though the Constitution provides for decisions being taken by a 3/4th majority of members present and voting, all decisions have been taken unanimously by consensus. The very fact that meetings held so far reflects the spirit of "One Nation, One Aspiration, One Determination". In this context, it is important to note that credit for the new law does not go to one party or one government but it's a shared legacy of all.

The participation of all States and Centre in the framing of GST laws has led to the following **features** in the GST Laws. These features signify spirit of cooperative federalism.

- Harmonisation of GST laws across the country: Even though Centre and each State legislature have passed their own GST Acts, they are all based on the Model GST law drafted jointly by the Centre & the States. Consequently, all the laws have virtually identical provisions.
- Common Definitions: There are common definitions in the CGST and SGST Act.
- Common Procedures / Formats: There are common procedures; common formats in all laws, even the sections and subsections in CGST Act and SGST Act are same. UTGST Act provides that most of the provisions in CGST Act, as stated in Section 21 shall apply to UTGST Act also.
- Common Compliance Mechanism: GSTN, a not-for-profit, non-government company promoted jointly by the Central and State Governments, is the common compliance portal and the taxpayers shall interface with all states as well as Centre through this portal.
- Other significant areas, where such co-operation has been displayed by the Centre and States are as under:

- Joint Capacity Building Efforts: Joint Capacity Building efforts by Centre as well as all the States are being organised wherein for the first time the training of officers of Centre and State is being conducted under the auspices of National Academy of Customs, Indirect Taxes and Narcotics (NACIN). NACIN has formed a Joint Coordination Committee in each State comprising of Centre, State and NACIN Officers for overseeing Capacity Building efforts.
- Joint Trade Awareness & Outreach Efforts: Centre along with the State Government Officials has been organising Joint Trade Awareness & Outreach programs wherein for the first time the Officers came together to create GST awareness amongst Trade and other stakeholders.
- Cross Empowerment of Officers of Centre as well as States: Though GST will be jointly administered by Centre and State, for ensuring ease of doing business, but the individual taxpayer will have a single interface with only one Tax Authority either Centre or State.
- Joint Implementation Committees: In order to ensure smooth rollout of GST, the GST Council has formed a three tier structure consisting of: the Office of the Revenue Secretary, GST Implementation Committee (GIC) and eight Standing Committees. In addition, eighteen Sectoral Groups representing various sectors of the economy have been set up. All these Committees viz. GST Implementation Committee (GIC), Standing Committees and Sectoral Groups have representation of Centre and State Officers in the spirit of cooperative federalism to ensure quick administrative decisions required before and after the rollout and ensure

effective coordination for smooth implementation of GST.

Indeed, GST in India in its conception, enactment and implementation is an example of real 'co-operative federalism' at work, in tune with the unique character of India - 'Unity in Diversity'.

Module V
Kerala Economy

5.1. Economic Liberalization and Economic Growth in Kerala

Pre-conditions for economic growth and development

- High rates of investment in physical capital stock, social and economic infrastructure and human resources (public and private investment)
- Technological progress resulting in increase in factor productivity (land, labour, capital productivity etc)
- Population growth and associated increase in labour force (workers and work seekers in working age group)
- Institutional, attitudinal and ideological changes creating conducive climate for promoting investment, production, productivity, technological progress, migration of the labour force etc.
- Public expenditure on health, education, provision of public utility services, poverty alleviation schemes, social welfare schemes
- Preservation and protection of natural resources, ecology and environment (sustainable development)
- As market mechanism is the basic mechanism, which determines the working of the economy, market friendly policies are required. Kerala being a regional economy of India and a part of the global economy, it will have to function within the constraints imposed by the national and global factors.

- Achieving a higher rate of economic growth is a precondition for development (more production of goods and services, generation of employment, income etc). However, the growth should be achieved with two conditions
- It should be inclusive growth (for achieving poverty reduction, to be sustainable in the long run, broad based across sectors and inclusive of large part of country's labour force)
- Growth should aim sustainable development (protection of environment, ecology and natural resources.)

Wide variation in development could see during the pre-liberalized period (1956-1990) and post-liberalized period (1990-2016). This is due to difference in economic policies pursued. The policies pursued during the pre-liberalized period were not favorable to satisfy the pre-conditions of development. Low rate of investment, discouraging private investment, heavy dependence of public investment are the major features of that time. We heavily relied on the small amount of resources of the state for development and expansion of social services. Public investment through economics plans are considered as solution to economic backwardness (five year plans). Political ideology discouraging private investment in industry and service sectors. Believed in socialist ideology and implemented unhealthy market interventions and hostile market policies. Political ideology supported militant trade union activities, which adversely affected investment and starting industry and service units. Thus, basic economic policies were against market principles, promotion investment, technological change, increase in production of goods and services and generation of employment. However, there had been a radical shift in

economic policy, since 1991 favorable to market functioning, promotion of private investment, technological progress and increase in production of goods and services.

Phases of development of Kerala

There are three phases for explaining development of Kerala, the First phase (1956-1975), Second Phase (1976-1990), Third Phase (1991-2016).

First phase (1956-1975)

In the first phase, State remained as very backward economy with traditional methods of production. The rate of growth was very low due to low investment. The private investment in non-agricultural sectors was small. The volume of investment was too small to break the vicious circle of low rate of growth, technological backwardness and low levels of productivity in all sectors.

State of economy during the first phase (1956-1975)

State remained as very backward economy. Agricultural sector remained backward, with low productivity levels. Backward industries with dominance of traditional and labour intensive industries like coir, cashew, handloom etc. Dominance of Massive poverty and high rate of unemployment are other features. According to one estimate, the percentage of poor people in Kerala was 90.75% in 1960-61. The techno-economic survey estimated the unemployment rate as 13% in 1956. The Kerala model of development was presented in 1970's when 53% of the people were below poverty line (1977-78). Though Kerala is a poor state, it could make impressive advances in health and education. Hence, it brings about improvement in quality of life based on indicators like birth rate, death rate, infant mortality rate, life expectancy etc. The

Kerala model gave a distorted explanation and adversely affected policy formulation and development perspectives.

Economic Policies

The state pursued a highly market intervention type of policy since 1956. Imposed economic controls, regulations and restrictions, which distorted the functioning of market mechanism. Expansion of public sector through public investment. Infrastructure sectors like power, water supply, irrigation, communication, roads were put under the state ownership and monopoly. Policies totally prohibited all private efforts to develop infrastructure items. Industrial policies aimed at starting public sector units, industrial co-operatives, reviving sick units by cooperatives, industrial licensing, introducing controls, restrictions on mechanization etc. Modernization and mechanization were prohibited. Eg. Prohibition of mechanization of coir weaving industry, agitation against introduction of tractors and tillers and computers. Education policies aimed only to promote public education institutions through public spending (government institutions and grant-in-aid support to private educational institutions). A major objective of education was to get public sector jobs. Prohibited private investment in higher education sector which resulted in stagnation of professional and technical education institutions. A number of big bureaucratic institutions (Department of agriculture, Agriculture University, research stations). Construction of big irrigation projects, creation of credit agencies etc were started for agriculture development. Lot of public resources was spent for constructing major irrigation projects lasting construction for

two to four decades. Nobody bothered about the public money wasted for the purpose.

Second Phase (1976-1990)

In the second phase, the economy began to move forward from economic backwardness and stagnation. The large-scale migration of labour to Gulf countries and flow of remittances began to make rapid economic changes. Flow of remittances stimulated economic change in income, consumption, savings and investment of lakhs of migrant households. The spending of remittances resulted in construction of houses, real estate, demand for consumer durables, motor vehicles, education, health and generation of new secondary and tertiary activities. The backward economy began to witness rapid changes during the second phase, (1976 to 1990) with the large scale migration of Keralites workers to the Gulf countries. The large scale migration and flows of remittances have resulted in unprecedented economic changes in Kerala. The total stock of Keralites emigrants in Gulf increased from 2.5 lakh in 1979 to 6.17 lakh in 1990. Remittances received from the Keralites emigrant workers increased from about ₹824 crore in 1980 to ₹1310 crore in 1990. Widespread changes had taken place in the labour market, consumption, savings, investment, poverty, income distribution and regional development. Migration had also resulted in reduction of unemployment, created shortage of construction workers, upgraded skills, increased wages and promoted the migration of construction workers to Kerala from neighboring states. Available evidences suggest that migration has helped migrant households to attain higher levels of income, consumption and acquisition of assets compared to non-migrant households. Due to the unfavorable climate for industrial investment, there had been a continuous outflow of

capital, bank deposits, entrepreneurs, businessmen and industries to other states during the period. A hypothesis on economic impact on gulf migration 'since the mid-1970s, the factor which had the greatest impact on Kerala's economy especially on labour market, consumption, savings, investment, poverty, income distribution and economic growth has been the Gulf migration and migrant remittances' (B. A. Prakash, (1998) Economic and Political Weekly).

Third Phase (1991-2016)

Liberalization and globalization policies were implemented in India since 1991. It created favorable conditions for private investment. New policies led to rapid increase in private investment, increase in migration and flow remittances, higher rate of investment and technological progress, more public expenditure on public infrastructure and social services. It helps to rapid reduction in poverty and unemployment. Thereby State moved to a higher level of economic growth, technological change, and speedy transformation of economy and generation of more employment. During the third phase, four major factors influenced the economic changes. They are the impact of liberalized economic reforms implemented by the Government of India since 1991, the state policies and public expenditure, rapid increase in private investment due to the economic reforms and increase in migration and flow of remittances. The United Democratic Front (U.D.F) government made serious efforts to introduce market oriented liberalization reforms since 1991. However, it could not succeed due to the strong and persistent opposition of left political parties and trade unions. The Left Democratic Front (L.D.F) government that came to power in 1996 strongly held a view that the liberalization reforms aggravated the economic problems of Kerala. They

argued that the globalization and liberalization policies were destroying the very fabric of Kerala. Due to this controversy about the merits and defects of the reforms by ruling and opposition parties, the reforms were fully implemented only since 2001. Economic data on GDP growth, urbanization, investment, production, technological change, employment generation, reduction of poverty, increase in consumption levels etc... suggest that Kerala witnessed the highest rate of change during the post-liberalization period compared to earlier period.

Emerging Development Issues

Kerala has been experiencing a dual pattern of development at the economic and social fronts. While the real sectors like agriculture and industry remained sluggish with low productivity levels, the service sector achieved rapid progress. On the one side, Kerala achieved better human development compared to other states, but on the other, more than one third of the people remain poor. In spite of development of infrastructure, acute shortage, poor maintenance etc… are reported in the case of roads, road transport, railways, power, water supply, water ways, irrigation, urban infrastructure, waste disposal etc. The continuous unsound fiscal situation of the state government during the last two decades has severely affected the ability of the state to promote development and social welfare activities. The labour market has developed in to a paradoxical situation of excess supply of educated labour on the one hand (acute educated unemployment) and shortage of manual category of workers. Though the state has achieved substantial expansion of public health and education, they face serious deterioration in quality of services. The decentralization of power and strengthening local governments failed to

improve the civic services and implementation of local level development plans. The worst deluge experienced in Kerala within a century in August 2018, created unprecedented damage and destruction of properties of lakhs of people and destroyed their economic base built during their lifetime. Even after the completion of six decades, Kerala do not have a sound economic policy or development strategy to achieve inclusive growth and sustainable development.

Recent Trends in Kerala's Economic Growth

Kerala is a relatively rich Indian State. According to quick estimates for 2018-19, per capita income of Kerala is ₹1,48,078. The corresponding national average (for 2018-19) is ₹93,655. In other words, average income per person in Kerala was approximately 1.6 times the Indian average in 2018-19. Among big Indian States, Kerala is one of the leading ones with respect to per capita incomes, along with Haryana, Gujarat, Karnataka, Maharashtra and Tamil Nadu.

The quick estimate of Gross State Domestic Product (GSDP) at constant (2011-12) prices is ₹5,59,41,196 lakh in 2018-19 as against the provisional estimate of ₹5,20,57,851 lakh in 2017-18, registering a growth rate of 7.5 per cent in 2018-19 compared to 7.3 per cent in 2017- 18. At current prices, the GSDP is estimated at ₹7,81,65,326 lakh (quick estimate) in 2018-19 as against the provisional estimate of ₹7,01,57,738 lakh in 2017-18, showing a growth rate of 11.4 per cent. The quick estimate of Gross State Value Added (GSVA) at constant (2011-12) prices is ₹5,00,08,120 lakh in 2018-19 as against the provisional estimate of ₹4,65,14,275 lakh in 2017-18, leading to a growth rate of 7.5 per cent in 2018-19 compared to 6.8 per cent in 2017-18 (Table.5.1).

Table.5.1State Domestic Product and Per Capita Income of Kerala

	Income, in ₹ lakh			Growth Rate, in %	
	2016-17	2017-18 (P)	2018-19 (Q)	2017-18 (P)	2018-19 (Q)
Gross State Domestic Product					
a) At Constant (2011 12) prices	4,85,30,154	5,20,57,851	5,59,41,196	7.3	7.5
b) At Current prices	6,34,88,640	7,01,57,738	7,81,65,326	10.5	11.4
Net State Domestic Product					
a) At Constant (2011-12) prices	4,43,61,530	4,77,27,475	5,13,32,180	7.6	7.6
b) At Current prices	5,70,59,076	6,32,72,713	7,07,54,223	10.9	11.8
Gross State Value Added (GSVA) at basic prices					
a) At Constant (2011-12) prices	4,35,37,107	4,65,14,275	5,00,08,170	6.8	7.5
b) At Current prices	5,70,24,819	6,33,65,119	7,00,31,142	11.1	10.5
Per capita GSDP					
a) At Constant (2011-12) Prices	1,41,396	1,50,922	1,61,374	6.7	6.9
b) At Current Prices	1,84,979	2,03,396	2,25,484	10.0	10.9
Per capita NSDP					
a) At Constant (2011-12) Prices	1,29,251	1,38,368	1,48,078	7.1	7.0
b) At Current Prices	1,66,246	1,83,435	2,04,105	10.3	11.3

Source: Department of Economics and Statistics
P: Provisional Estimate, Q: Quick Estimate

5.2. The Kerala Model of Development

The Centre for Development Studies at Thiruvananthapuram with the help of United Nations, conducted a case study of selected issues with reference to Kerala in 1970s. The results and recommendations of this study came to be known as the 'Kerala model' of equitable growth, which emphasized land reforms, poverty reduction, educational access and child welfare. Professor K. N. Raj, a renowned economist who played an important role in India's planned development, drafting sections of India's first Five Year Plan, and a member

of the first UN Committee for Development Planning in 1966, was the main person behind this study. He started the Centre for Development Studies in Thiruvananthapuram in 1971, by the request of the Kerala Chief Minister C Achutha Menon. The Kerala model brought a sea change in development thinking which was until then obsessed with achieving high GDP growth rates. However, Pakistani Economist Mahbub ul Haq in 1990, changed the focus of development economics from national income accounting to people centered policies. To produce the Human Development Report (HDRs), Haq brought together a group of well known development economists including: Paul Streeten, Frances Stewart, Gustav Ranis, Keith Griffin, Sudhir Anand, and Meghnad Desai.

In collaboration with Raj's close colleague Amartya Sen, he persuaded the UNDP to carry out work on Human Development Indicators (HDIs) which started playing a larger role than GDP in the framing of development policies. Another decade down the road, the Millennium Development Goals, embracing many of the Kerala Model's features — with the notable omission of land reforms — became the new charter of development. Raj's seminal contribution to development policy thus had worldwide repercussions. The economists noted that despite low incomes, the state had high literacy rates, healthy citizens, and a politically active population. Researchers began to delve more deeply into what was going in the Kerala Model, since human development indexes seemed to show a standard of living which was comparable with life in developed nations, on a fraction of the income. The development standard in Kerala is comparable to that of many first world nations, and is widely considered to be the highest in India at that time. Despite having high standards of human development, the

Kerala Model ranks low in terms of industrial and economic development. The high rate of education in the region has resulted in a brain drain, with many citizens migrating to other parts of the world for employment. The overall job market in Kerala is also very depressed, forcing many to relocate to places like Dubai.

Features of Kerala Model of Development

Some of the important features of Kerala model of development are the very high Human Development Index, Health Care, Political awareness, Education and state policy or public intervention.

1. **Human Development Index**

This index, which has become one of the most influential and widely used indices to measure human development across countries, gives Kerala Model an international recognition. The HDI has been used since 1990 by the United Nations Development Programme for its annual Human Development Reports. From the starting of this index, Kerala has topped in all parameters, even more than the developed countries. The India Human Development Report, 2018 prepared by Institute of Applied Manpower Research placed Kerala on top of the index for achieving highest literacy rate, quality health services and consumption expenditure of people with 0.779 HDI index.

2. **Health Care**

The basis for the state's impressive health standards is the statewide infrastructure of primary health centres. There are over 2,700 government medical institutions in the state, with 330 beds per 100,000 populations, the highest in the country. With virtually all mothers taught to breast-feed, and a state-supported nutrition programme for pregnant and new mothers, infant mortality in 2011 was 12 per thousand, compared with

91 for low-income countries generally. The biggest achievement of Kerala Model of Development is control of the population growth. In the seventies, the growth rate in population declined from 2.33 percent in the sixties to 1.76 percent. In Kerala the birth rate is 40 per cent below that of the national average and almost 60 per cent below the rate for poor countries in general. In fact, a 1992 survey found that the birth rate had fallen to replacement level. Kerala's birth rate is 14 per 1,000 females and falling fast. India's rate is 25 per 1,000 females and that of the U.S. is 16. Its adult literacy rate is 94.59 per cent compared to India's 65 and the US's 99. Life expectancy at birth in Kerala is 75 years compared to 64 years in India and 77 years in the US. Female life expectancy in Kerala exceeds that of the male, just as it does in the developed world, Kerala's maternal mortality rate is lowest in India. Kerala's access to affordable health care and education has huge impact on birth and mortality rate of the population. Birth control is wildly accessible. There is a dispensary every few kilometres where IUDs and other forms of birth control are freely available. The health clinics provide cheap health care for children, programs for mothers like breast-feeding, and a state-supported nutrition program for pregnant and new mothers. For example, more than 95% of Keralite births are hospital-delivered what place Kerala among developed countries.

3. Political Awareness

Political awareness among the common people including children is quite high, thanks to the unique political situation that exists in Kerala. Political history in Kerala shows a trend of an alternating elected right and left government, which results in an increase in public welfare activities, much to the benefit of the common man. In each town square, political parties

maintain their icons in careful profile. Strikes, agitations, and stirs are so common as to be almost unnoticeable.

4. Education

One of the main successful stories of Kerala's development is education. In Kerala education is accessible to all, irrespective of caste or religion. Christian missionaries introduced English education. Kerala's literacy rate 91% (2001 survey) and 93.9 percent in 2011 census is almost as high as in China (93%) or Thailand (93.9%). Kerala has been able to reduce the regional and gender gaps in education, literacy and enrolment at all level of education. More than 94 percent of the rural population has access to primary schools within a distance of one kilometer, while 98 per cent of population has got one school within a distance of two kilometers. Furthermore 96 percent of the population is served by an upper primary school within a travel distance of 3 kilometers and one-fourth by a secondary school within 2 kilometers. Nearly 98 percent of the rural population has the facility for secondary education within 6 to 8 km. Also facilities of higher education and technical education are accessible to rural students in reasonable distance.

Another aspect of Kerala's education system is presents of the non-formal education institutions, which are offering courses. Interesting fact is that Kerala's student's counts on one- fifth of the whole population. Also the education system employs 18 percent of the population. The number of teachers is equivalent to about 50 per cent of the total number of workers in the registered factories. The reasons laid on the government no-fees policy for primary and secondary education, as well as low fees for the higher education and technical education institutions. Additionally, easy and highly subsidised transport system for students, especially from rural areas, makes the

education more affordable. In addition Kerala has been able to achieve gender equity in education system. Nearly half of the students in lower primary classes are girls. The female literacy in rural Kerala is 92.92% and that of urban area is 94.99 % in 2011 census. Furthermore, the number of girls entering education, except technical and professional education, is much higher than the boys. Education contributes in many ways to Kerala development. Particularly women's education has played important role in declining the mortality rates. Educated women are better able to take charge of their lives. For example, the typical Kerala's woman gets married at the 22 age, compared to 18 in the rest of India. On an average, women with at least an elementary education give a birth to two children less than uneducated women. What's more, they also want a good education for their children, particularly their daughters.

5. State Policy

Important factor to Kerala's social development was land reform, which completely transformed landownership system, and ended janmi system. It also protected tenants, and ended system of rack-renting. It shifted house and land ownership to poor families. In 1957 Kerala elected a communist government headed by EMS Namboothiripad, introduced the revolutionary Land Reform Ordinance. The Land reform was implemented by the subsequent government, which had abolished tenancy, benefiting 1.5 million poor households. This achievement was the result of decades of struggle by Kerala's peasant associations. In 1967 in his second term as Chief Minister, Namboothiripad again pushed for reform. The land reform initiative abolished tenancy and landlord exploitation; effective public food distribution that provides subsidised rice to low-income households; protective laws for agricultural workers;

pensions for retired agricultural laborers; and a high rate of government employment for members of formerly low-caste communities. Furthermore, in 1989 the government initiated the group-farming program, which provides families with financial and technical assistance. The program was expected to be a key to reduction of production costs and raise efficiency of paddy cultivation. In terms of development infrastructure like transport, telephone line banking system Kerala made the leading place among Indian states. The banking system, particularly growth study mostly thanks to Gulf remittance. In addition, Kerala's transport, which has huge impact on population accessibility to education and health care, shows impressive growth. On the other hand, power sector suffers on improvement.

Thus the Kerala model of development refers to the state's achievement of significant improvements in material conditions of living, reflected in indicators of social development that are comparable to that of many developed countries, even though the state's per capita income is low in comparison to them. Achievements such as low levels of infant mortality and population growth, and high levels of literacy and life expectancy, along with the factors responsible for such achievements have been considered the constituting elements of the Kerala model. Precisely, the Kerala model has been defined as: A set of high material quality-of-life indicators coinciding with low per-capita incomes, both distributed across nearly the entire population of Kerala. A set of wealth and resource redistribution programmes that have largely brought about the high material quality-of-life indicators. High levels of political participation and activism among ordinary people along with substantial numbers of dedicated leaders at all levels. Kerala's

mass activism and committed cadre were able to function within a largely democratic structure, which their activism has served to reinforce.

Criticism of Kerala Model

Despite its achievements, the model is heavily criticised for the low industrial development in the state and high levels of unemployment. The educational reforms failed to make a direct mark on the state, as people tend to go abroad for monetary benefits.

5.3. Agricultural Performance

Agriculture is a pivotal sector for the economy to achieve the Sustainable Development Goals (SDG) of no poverty, zero hunger, good health and wellbeing. With decline in the size of land holdings in agriculture, State has to focus on production, productivity and profitability to attain the SDG targets and sustainability in agriculture. Agricultural performance is subject to year to year fluctuations because of vagaries of nature as well as price volatility. The agricultural sector in Kerala has undergone significant structural changes in the form of decline in share of Gross State Domestic Product indicating a shift from the agrarian economy. The natural disaster that hit the State in the form of floods and landslide wreaked havoc, affecting agricultural sector the most. Crops were most heavily affected, contributing to 88 per cent of the total loss and damage to the sector.

At national level, the share of agriculture, forestry and fishing sector in GVA has shown decline over the years from 17.8 per cent in 2012-13 to 14.9 per cent in 2017-18. The share of crops

in GVA declined from 11.5 per cent in 2012-13 to 8.7 per cent in 2017-18. However, the importance of agriculture for the livelihood of the rural population and food security of large masses is significant in the economy. The agriculture sector in Kerala has been facing challenges with regard to its growth.

According to the data from the Directorate of Economics and Statistics (DES), the annual growth rate (GSVA at constant 2011-12 prices) of agriculture and allied activities (including crop, livestock, forestry and logging and fishing and aquaculture) was (-) 6.31 per cent in 2013-14, 0.02 per cent in 2014-15, (-) 5.10 per cent in 2015-16 and 0.08 per cent in 2016-17. The sector witnessed a growth of 1.72 per cent in 2017-18. But the growth declined to (-) 0.52 percent in 2018-19. The all India growth rate of agriculture and allied sectors was 5.57 per cent, (-)0.22 per cent, 0.59 percent, 6.29 per cent and 3.37 per cent in 2013-14, 2014-15, 2015-16, 2016-17 and 2017-18 respectively. The growth rate of agriculture and allied sectors in Kerala was lower than the all India growth rate till 2017-18. In 2017-18, the growth rate in Kerala was ahead of the growth rate at all India level. The share of Agriculture and allied sectors in total GSVA (at constant 2011-12 prices) of the State has witnessed a secular decline from 13.77 per cent in 2012-13 to 10.04 per cent in 2017-18. Details are provided in Table 5.2.

Table 5.2.
Share of agriculture and allied sectors in GVA/GSVA National and State level, constant prices 2011-12

Sl.no	Year	Share of agriculture and allied sectors in total GVA(India)	Share of agriculture and allied sectors in GSVA(Kerala)
1	2012-	17.8	13.77

	13		
2	2013-14	17.7	12.37
3	2014-15	16.5	11.92
4	2015-16	15.4	10.74
5	2016-17	15.3	10.26
6	2017-18	14.9	9.48
7	2018-19	NA	8.77

Source: National Accounts Statistics 2018, GoI and Directorate of Economics and Statistics, GoK

Reviving the agriculture sector require a quantum increase in productivity from the current levels. This in turn requires technological breakthrough given the limited supply of land and other structural rigidities, addressing low level of mechanization, shortage of irrigation facilities, treatment of soil acidity and multiple nutrient deficiencies, plant health management, remunerative prices and poor extension services.

Land Use Pattern

Kerala has witnessed major changes in its land use pattern over the years. The major change being the shift from cultivation of food crop to nonfood crops and increase in area under non-agricultural use. Changes in land use and cropping pattern in Kerala pose a challenge not only to food security but also to the ecological sustainability of the State. An analysis of changes in

land use pattern over a period helps us to comprehend the present scenario of agricultural land utilization.

As per the land use data of 2017-18, out of a total geographical area of 38.86 lakh ha, total cultivated area is 25.79 lakh ha (66 percent) and the net area sown is 20.40 lakh ha (52 percent). Land put to non-agricultural use stands at 11 percent and forest area is 28 per cent. The cultivable waste and current fallow constituted 3 and 2 percent respectively. As compared to 2016-17, there is a decline in area under barren and uncultivated land, cultivable waste, fallow other than current fallow and current fallow by 8 per cent, 5 per cent, 11 per cent and 20 per cent respectively. As per the land use data of 2018-19, out of a total geographical area of 38.86 lakh ha, total cultivated area is 25.68 lakh ha (66 per cent) and the net area sown is 20.44 lakh ha (53 per cent). Land put to non-agricultural use stands at 12 per cent and forest area is 28 per cent. The cultivable waste and current fallow constituted 2 and 1 per cent respectively which is lower than 3 per cent and 2 per cent in 2017-18. As compared to 2017-18, there is a decline in area under barren and uncultivated land, fallow other than current fallow and current fallow by 5.6 per cent, 8 per cent and 0.1 per cent respectively. The net area sown increased by 0.2 per cent. The land use pattern is shown in table.5.3.

Land use Pattern in Kerala

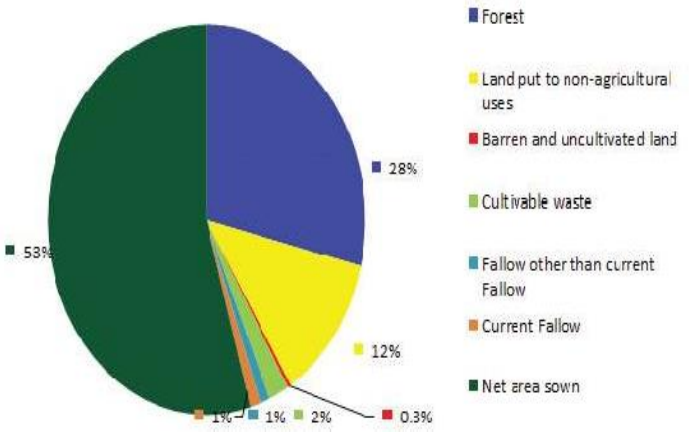
(Area in Ha)

Sl. No	Classification of Land	2017-18	2018-19	Percentage of Geographical area	Change in area between 2017-18 and 2018-19	
					Actual	Percentage
1	Total Geographical Area	3886287	3886287	100	0	0
2	Forest	1081509	1081509	28	0	0
3	Land put to non-agricultural uses	443041	454047.05	12	11006.05	3
4	Barren and uncultivated land	10894	10280.57	0.3	-613.43	-5.6
5	Permanent Pastures and Grazing land	0	0	0	0	0
6	Land under miscellaneous tree crops	2245	2117.88	0.05	-127.12	-5.7
7	Cultivable waste	96491	96496.73	2	5.73	0
8	Fallow other than current Fallow	49461	45540.92	1	-3920.08	-8
9	Current Fallow	57522	57463.59	1	58.41	0.1
10	Net area sown	2040415	2044802	53	4387	0.2
11	Area sown more than once	539284	523502.76	14	-15781.24	-3
12	Total cropped Area	2579699	2568304	66	-11395	-0.4
13	Cropping Intensity (%)	126	125.6	0	-0.4	0

Source : Directorate of Economics and Statistics

The total cropped area and area-sown more than once declined by 0.4 per cent and 3 per cent respectively. This decline in total cropped area and area sown more than once may be due to the deluge that hit the State in 2018-19. The land put to non-agricultural uses has increased by 3 per cent. The land use pattern is shown in Figure.5.1.

Figure.5.1.Land use pattern of Kerala, 2018-19



The total number of operational holdings in the State has increased from 6,831 thousand in 2010-11 to 7,583 thousand in 2015-16 showing an increase of 11 per cent. The average size of operational holding has declined to 0.18 ha. In 2015-16 as compared to 0.22 ha in 2010-11. The number of operational holdings is shown in Table.5.4

Table.5.4

Number of Operational Holdings and Area Operated by Size/Class in Kerala

Sl. No.	Size of Holding (ha)	Number (in '000)		Area of Operational Holdings (ha)		Average size of Operational Holdings (ha)	
		2010-11	2015-16	2010-11	2015-16	2010-11	2015-16
1	2	3	4	5	6	7	8
1	Marginal (Below 1.00 ha)	6580	7333	886	856	0.13	0.12
2	Small (1.00-1.99 ha)	180	181	282	242	1.57	1.34
3	Semi - medium (2.00-3.99 ha)	57	56	159	141	2.79	2.54
4	Medium (4.00-9.99 ha)	12	11	64	60	5.32	5.32
5	Large (10.00 ha & above)	2	2	120	94	64.58	51.04
	Total	6831	7583	1511	1394	0.22	0.18

Source: Ministry of Agriculture

Cropping Pattern in Kerala

Cropping pattern means the proportion of area under different crops at a particular point of time. A change in cropping pattern implies a change in the proportion of area under different crops. Kerala is one of the states in India where land is put to more intensive use than anywhere else, mainly because of the lower per capita availability of land in the state. Kerala's cropping pattern is characterized by the domination of non-food crops or cash crops like rubber, coconut, pepper, arecanut, cashew nut, spices and plantation crops, which together account for more than 50% of the cropped area in the state. The diverse topographic, climatic and soil related conditions in Kerala enable its people to cultivate both cash crops and food crops. Under colonial period the Britishers initiate the plantation crops

and the Rajas of Travancore also promotes such crops to tap the European capital, technology and man power. In cropping pattern Kerala resembles with the agricultural economy of Sri Lanka. Data regarding the area, production and productivity of important crops grown in Kerala are shown in Table..5.5.

Table.5.5. Area, Production and Productivity of Principal Crops

Sl. No.	Crops	Area(ha)		Production(T)		Productivity (kg /ha.)	
		2017-18	2018-19	2017-18	2018-19	2017-18	2018-19
1	Rice	189086	198026	521310	578256	2757	2920
2	Pulses including Tur	1992	956.55	2045	2055.5	1027	2149
3	Pepper	85141	82761.2	37955	36218.3	446	438
4	Ginger	437C	3275.1	18979	15124	4343	4618
5	Turmeric	2778	2483.7	8822	6693.9	3176	2695
6	*Cardamom	39080	38882	18350	11535	470	297
7	Areca nut	94580	95739.4	108516	99924.9	1147	1044
8	Banana	62108	52868.2	565829	424048	9110	8021
9	Other Plantains	54455	56211.7	379683	383102	6972	6815
10	Cashew nut	39720	38781	25629	15635	645	403
11	Tapioca	70193	61874.1	2697319	2325007.3	38427	37576
12	**Coconut	760443	760946.6	5230	5299	6878	6964
13	***Coffee	84976	84976	66465	64676	782	761
14	$Tea	30205	36473.9	62230	60760	2060	1666
15	# Rubber	551115	551115	540775	540775	981	981

*Note: **Production in Million Nuts, Productivity in Nuts/ha*

*Source: *Spices Board, # Rubber Board, *** Coffee Board, $ Tea Board*

Food crops comprising rice, tapioca and pulses accounted for just 10.15 per cent of the total cropped area in 2018-19 while cash crops (cashew, rubber, pepper, coconut, cardamom, tea and coffee) constituted 62.1 per cent. The area under crops like rubber, coffee, tea and cardamom was 27.7 per cent of the total cropped area. Coconut occupies the largest area with 29.6 per cent coverage followed by rubber with 21.5 per cent. Rice comes third with 7.7 per cent of the total cropped area. The food crops recorded decline in area in 2018-19 except for rice which showed an increase of 4.7 per cent. Among other major crops, except for coconut, arecanut, tea and other plantains, all other crops recorded a declining trend in area under cultivation. The increase in area under coconut is 0.06 per cent. Tea

recorded the highest increase in area with 20.8 per cent over 2017-18. The area under coffee and rubber remained the same. Kerala state, which had a low base in food production, is facing serious challenges in retaining even this meagre area. Kerala agricultural economy is undergoing structural transformation from the mid seventies by switching over a large proportion of its traditional crop area which was devoted to subsistence crops like rice and tapioca to more remunerative crops like banana and plantations.

Crop-Wise Analysis

1. Rice

Rice is the major food crop cultivated in the State occupying 7.7 per cent of the total cultivated area. On analysing the area under cultivation for the last 10 years, the area under paddy cultivation was highest in 2009-10 recording an area of 2.34 lakh ha with a production of 5.98 lakh tonnes. The area and production of paddy in 2018-19 has declined by 15 per cent and 3.5 per cent respectively compared to 2009-10. The productivity of rice had shown an all-time increase of 2,920 kg per ha over the last ten years which is 14 per cent increase over 2009-10. The area under paddy cultivation in Kerala in 2018-19 was 1.98 lakh ha which is 4.7 per cent increase over 2017-18. The production and productivity, increased by 10.9 per cent (5.78 lakh tonnes) and 5.9 per cent (2920 kg/hectres) respectively compared to 2017-18.

Table.5.6.

Area, Production and Productivity of Rice in Kerala and India

Sl. No	Year	Area ('000' ha)		Production ('000'MT)		Productivity (kg/ha)	
		Kerala	India	Kerala	India	Kerala	India
1	2009-10	234.013	41920	598.339	89090	2557	2125
2	2010-11	213.187	42560	522.738	95980	2452	2255
3	2011-12	208.16	43970	568.993	102750	2733	2337
4	2012-13	197.277	42410	508.299	104399	2577	2462
5	2013-14	199.511	43900	564.325	106500	2827	2424
6	2014-15	198.159	43860	562.099	105480	2837	2390
7	2015 16	196.87	43500	549.275	104410	2790	2400
8	2016-17	171.393	43990	436.483	108500	2547	2494
9	2017-18	189.085	43790	521.31	112910	2757	2578
10	2018-19	198.025	n. a.	578.26	n. a.	2920	n. a.

Note : n. a ; Not available

Source: Directorate of Economics and Statistics, CMIE, RBI, Pocket book of agricultural statistic 2018

There are three main rice growing seasons in the State:

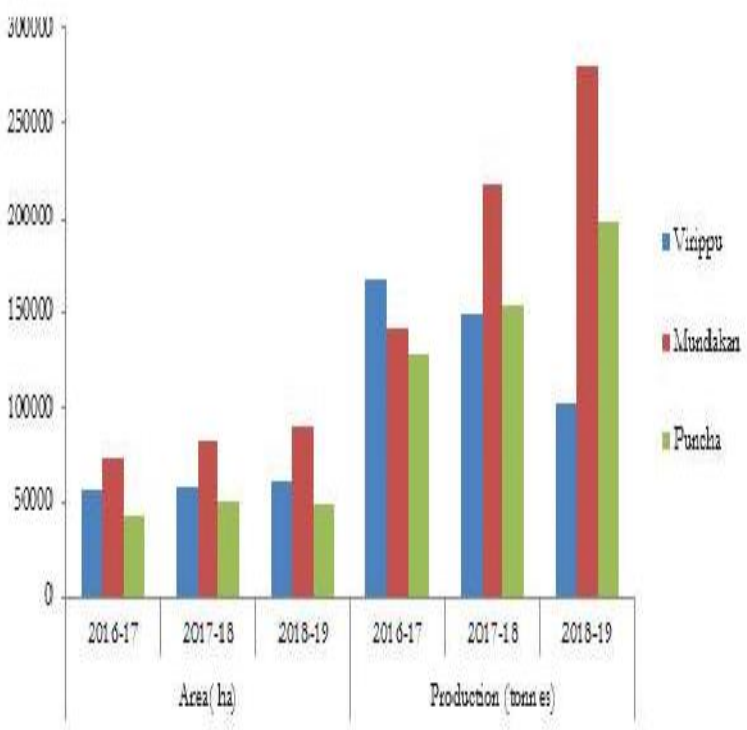
(a) Virippu season/Autumn season/ First crop season, which starts in April-May and extends up to September-October;

(b) Mundakan season/Winter season/Second crop season, which starts in September-October and extends up to December-January; and

(c) Puncha season/Summer season/Third crop season, which starts in December-January and extends up to March-April.

Season-wise trends reveal that the area under Virippu and Mundakan has increased and Punja crop area has declined over the previous year (Figure.5.2).

Figure.5.2



But the increase in area under Virippu crop is not reflected in its production showing a decline of 31.5 per cent over 2017-18. Mundakan and Puncha crop showed an increasing trend in production and productivity compared to 2017-18. The productivity of Puncha was the highest among the three seasons and 2018-19 recorded the highest yield over the last three years. Mundakan crop is prominent in the State. While Puncha crop is dominant in Alappuzha District, Mundakan and Virippu crop is prominent in Palakkad District.
(Table.5.7).

Table.5.7

Season- wise Area, Production and Productivity of Rice in Kerala (2016-17 to 2018-19)

Season	Area (ha)			Production (MT)			Productivity (kg/ha)		
	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19
1	2	3	4	5	6	7	8	9	10
Virippu	56601	58278	60718.46	167181	148913	101944	2954	2555	1679
Mundakan	72253	81115	88449.47	141397	218934	279528	1957	2699	3160
Puncha	42544	49693	48858	127905	153463	196784	3006	3088	4028
All seasons	171398	189086	198026	436483	521310	578256	2837	2790	2920

Note : Since dry area paddy is not used for calculation of production and productivity that area is not included in the table.

Source : Directorate of Economics and Statistics

Palakkad, Alappuzha, Thrissur and Kottayam accounted for about 80 per cent of the total area of rice in the State, their individual shares being 39 percent, 19.5 percent, 11.1 percent and 11.2 percent respectively. These Districts contributed 82 percent of the total rice production in the State. Palakkad and Alappuzha Districts stood first and second with respect to area and production of rice in the State. But with respect to productivity, Pathanamthitta and Alappuzha hold the first and second position with an increase of 28 percent and 14 percent over 2017-18. Kottayam District recorded the highest increase in paddy area of 27 percent with 25 percent increase in production The productivity declined by 1.7 per cent. The highest increase in paddy production of 32 percent was recorded in Pathanamthitta District with just 2.6 percent increase in area indicating the rise in productivity in the District. A decline in productivity was recorded in Kottayam, Idukki, Ernakulam, Thrissur, Kannur and Kasargod Districts in 2018-19 compared to 2017-18 with highest decline of 17 per cent in Idukki District (table.5.8).

Table.5.8

District-wise Area, Production and Productivity of Rice in Kerala

Sl. No	District	Area (ha)			Production (MT)			Productivity (kg/ha)		
		2016-17	2017-18	2018-19	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19
1	2	3	4	5	6	7	8	9	10	11
1	Thiruvananthapuram	1392	1737	1968.91	3069	4551	5166.23	2205	2620	2624
2	Kollam	1302	1923	1974.59	2396	4302	4513.92	1840	2237	2286
3	Pathanamthitta	2640	3087	3168.77	8837	8843	11675.81	3347	2865	3685
4	Alappuzha	32453	36325	38623.02	102439	105676	128560.20	3157	2909	3329
5	Kottayam	17216	17426	22172.05	48030	49509	61917.15	2790	2841	2793
6	Idukki	695	825	676.13	1631	2293	1562.40	2347	2779	2311
7	Ernakulam	4730	5414	5001.6	10695	12888	11191.64	2261	2380	2238
8	Thrissur	21100	21478	21981.58	57478	69114	69453.23	2724	3218	3160
9	Palakkad	65513	75276	76942.68	144275	198626	215284.71	2202	2639	2798
10	Malappuram	7140	7790	8205.69	17211	23571	26983.45	2411	3026	3288
11	Kozhikode	1987	2528	2174.8	2935	3960	3438.75	1477	1566	1581
12	Wayanad	7822	8026	7761.51	20647	21792	22340.26	2640	2715	2878
13	Kannur	4671	5190	5140.4	10623	11318	11143.61	2274	2181	2168
14	Kasaragod	2737	2061	2234.42	6217	4867	5024.24	2271	2361	2249
	State	171398	189086	198026	436483	521310	578256	2547	2757	2920

Source : Directorate of Economics and Statistics

The interventions to promote paddy cultivation in the State include assistance to undertake fallow land cultivation, upland cultivation, conversion of single crop to double crop and promotion of specialty rice. The key initiatives in 2018-19 include input assistance @ ₹5,500/ha and production incentive @ ₹1,000/ha/season, for an area of 1,36,450 ha through Corporation, Municipality and Grama Panchayats.

2. Coconut

Although coconut is one of the principal crops, its cultivation in the State has not been encouraging over the years. An increase in production of 1.32 percent is recorded in the State in 2018-19 over 2017-18. Among the major coconut producing States in the country, Kerala stands first with respect to area and production, but in productivity it is fifth, next to Andhra Pradesh, Tamil Nadu, West Bengal and Karnataka (Coconut Development Board Statistics 2017-18). Coconut, cultivated in 7.61 lakh ha occupies 29.6 per cent of the gross cropped area. Compared to the area under coconut cultivation in 2009-10, a

2.2 per cent decline has been observed during the last decade in the State. The decline in production was 6.5 per cent during the last decade indicating the comparatively low per hectare productivity of coconut in the State. A marginal increase in area, production and productivity to the tune of 0.06 per cent, 1.32 per cent and 1.25 per cent respectively has been observed in 2018-19 compared to 2017-18 (Table.5.9).

Area, Production and Productivity of Coconut in Kerala and India

Sl. No	Year	Area ('000'ha)		Production (million nuts)		Productivity (nuts/ha)	
		Kerala	India	Kerala	India	Kerala	India
1	2008-09	787.769	1895	5802	10148	7365	7749
2	2009-10	778.618	1900	5667	10824	7278	8300
3	2010-11	770.473	1896	5287	10840	6862	5718
4	2011-12	820.867	2070	5941	23351	7237	11277
5	2012-13	798.162	2136	5799	22680	7265	10615
6	2013-14	808.647	2140	5921	21665	7322	10122
7	2014-15	793.856	1975.81	5947	20439	7491	10345
8	2015-16	790.223	2088*	5873	22167*	7432	10614*
9	2016-17	781.496	2082*	5384	23904*	6889	11481*
10	2017-18	760.443	2096*	5230	23798*	6878	11350*
11	2018-19	760.946	n. a.	5299	n. a.	6964	n. a.

Note : n. a. - Not available

*Source: Directorate of Economics and Statistics, * Coconut Development Board Statistics*

Table.5.9

The major constraints in coconut farming in the State are high labour cost, shortage of skilled labour, non-remunerative price and lack of promotional programmes for marketing coconut products. Prevalence of root wilt disease, poor management and prevalence of senile and unproductive palms, especially in the southern region are the other concerns. The Coconut

Development programmes in the State is directed towards integrated development of holdings aimed at maximizing income from unit area through better agro management practices and promotion of multi species cropping and farming system. Keragramam is one such programme being undertaken for the integrated management of coconut gardens on cluster basis and replanting to replace senile and diseased palms. Massive replanting of root wilt palms by elite palms and elimination of senile palms by replanting and under planting, setting up of nurseries for production of quality seedlings and their subsequent distribution required for increasing productivity is targeted to be achieved through the initiative of the Coconut Development Council. The shortage of quality seedlings for replacing the old, senile and unproductive palms and for new planting can be overcome through farmer participatory approach by establishing more nucleus seed gardens in farmer fields. The isolated attempts of production of dwarf coconut seedlings and hybrids need to be scaled up substantially with the support of research and development institutions. Entrepreneurial ventures for the production of value-added products like desiccated coconut, beverages, shell based products, coconut cream and Neera has to be promoted with appropriate tie up with credit and marketing agencies.

3. Pepper

Pepper production in India in 2018-19 is estimated at 62.14 thousand tonnes compared to 70.87 thousand tonnes in 2017-18 (United Planters Association of Southern India (UPASI) Annual Report, 2018-19) which is a decline of 12.3 per cent. Accordingly, Kerala contributes 58 per cent of the national production in 2018-19 with 36,218 tonnes. This is 4.57 per cent decline in production over 2017-18 (Refer Table.5.5). There

has been a rallying in pepper price since 2011 and it increased consistently upto 2016. But this trend was reversed since 2017 as the prices declined to ₹529.59 per kg and further dipped to ₹392.42 per kg in the year 2018. The decline in pepper prices was largely on account of imports of pepper. (UPASI Annual Report 2018-19). In order to revive spices development in the State, pepper rehabilitation programme through decentralized pepper nurseries, establishment of new pepper gardens, and revitalization of existing gardens are being carried by the Department of Agriculture, GoK. Integrated pepper development in Idukki, assistance for area expansion, support to secondary and micro nutrients, soil ameliorants and revitalization of pepper samithies are the key initiatives to promote pepper production in the State.

4. Cashew

India stood next to Vietnam in cashew production in 2017. The production of raw cashew nuts declined from 817 thousand metric tonnes in 2017-18 to 742 thousand metric tonnes in 2018- 19. However, the area under cashew cultivation recorded an increase from 1,062 thousand hectares to 1,105 thousand hectares in the respective years. The decline in production was reported to be due to low night temperature for prolonged period which resulted in reduced fruit setting and ultimately reduce production. Among the cashew growing States in India, Maharashtra stands first in production contributing a share of 28 per cent followed by Andhra Pradesh contributing to 14 per cent. Kerala stands fifth in cashew production contributing 11.17 per cent of the total cashew production in the country. (Directorate of Cashewnut and Cocoa Development, CEPCI). In the last one decade in Kerala, there has been a continuous and considerable decline in both area and production of

cashew. The production which stood at 35.82 thousand metric tonnes in 2009-10 declined to 15.64 thousand metric tonnes in 2018-19, with a decline in the area from 48.97 thousand hectares to 38.78 thousand hectares during the same period. Productivity of the crop which was around 731 kg per hectare in the 2009-10 also showed a decline to 403 kg per hectare in 2018-19 seriously affecting the prospects of the crop. The area and production declined by 2.3 per cent and 39 per cent respectively in 2018-19 compared to 2017-18 (Table.5.10).

Table.5.10

Area, Production and Productivity of Cashew in Kerala and India

Sl. No	Year	Area ('000'ha)		Production ('000'MT)		Productivity(kg/ha)	
		Kerala	India	Kerala	India	Kerala	India
1	2009-10	48.97	923	35.82	613	731	664
2	2010-11	43.85	945	34.75	653	793	691
3	2011-12	54.05	991	36.74	692	680	749
4	2012-13	52.09	982	37.92	728	728	741
5	2013-14	49.10	1006	33.38	736	680	732
6	2014-15	45.44	1027	29.72	725	654	705
7	2015-16	43.09	1034	24.73	670.3	574	648
8	2016-17	41.66	1035	27.94	779	671	752
9	2017-18	39.72	1062	25.63	817	645	753
10	2018-19	38.78	1105	15.64	742	403	707

Source : Directorate of Economics and Statistics, Directorate of cashew nut & cocoa development, CEPCI

5. Plantation Crops

Plantation crops are high value commercial crops of great economic importance and play a vital role in the Indian economy, in view of their export and employment generation potential and capacity for poverty alleviation, particularly in rural sector. Each of the four plantation crops of South India has its distinct characteristics and economic problems. Kerala has a substantial share in the four plantation crops of rubber, tea, coffee and cardamom. These four crops together occupy 7.11 lakh ha, accounting for 27.7 per cent of the total cropped

area in the State (Refer Table.5.4). Kerala's share in the national production of rubber is 84 per cent, cardamom 89 per cent, coffee 20.2 per cent and tea 4.5 per cent in the year 2018-19 (Table.5.11).

Table.5.11

Plantation Crops- Area, Production and Productivity in Kerala (2016-17 to 2018-19)

1	2016-17 2	2017-18 3	2018-19 4
AREA (ha)			
Tea	30205	30205	36473.93
Coffee	84976	84976	84976
Rubber	551050	551115	551115
Cardamom	39080	39080	38882
PRODUCTION (MT)			
Tea	61505	62230	60760
Coffee	63476	66465	64676
Rubber	540400	540775	540775
Cardamom	17147	18350	11535
PRODUCTIVITY (kg/ha)			
Tea	2036	2060	1666
Coffee	747	782	761
Rubber	981	981	981
Cardamom	439	470	297

Source: Directorate of Economics and Statistics, Economic Survey (Various issues)

6. Rubber

India became the fifth largest producer of natural rubber (NR) in 2018 with a share of 4.8 percent of world production. India holds third rank in productivity in the world in 2018, succeeding Vietnam and Thailand. The production of NR in India in the year 2018-19 was 6.51 lakh tonnes, registering a decline of 6.2 per cent compared to 6.94 lakh tonnes produced a year ago. The tapped area in the year was only 70 per cent of the tappable area. The country has consumed 12,11,940 tonnes of NR in 2018-19, which is 9 per cent more from the quantity of 11,12,210 tonnes consumed in 2017-18. The country imported 5.82 lakh tonnes of NR in 2018-19 as compared to 4.69 lakh tonnes imported in the previous year with 24 per cent

increase. Annual average price for domestic RSS 4 grade rubber for the year 2018-19 was ₹125.95 per kg compared to ₹129.80 per kg in 2017-18. Rubber occupies the second largest area in the State next to Coconut with 21 per cent of the gross cropped area. No considerable change with respect to area and production is observed in the State in 2018-19 compared to 2017-18 (Ref Table.5.11). Adverse weather especially, impact of the excessive rains and floods, the consequent high level of incidence of Abnormal Leaf Fall disease, lack of skilled labourers, grower's reluctance in harvesting or poor maintenance of trees in response to the low NR prices are the major constraints in rubber production in the State.

7. Coffee

Domestic coffee production for the year 2018- 19 was estimated at 319.5 thousand tonnes with Arabica production of 95,000 tonnes (29.7 percent) and Robusta at 224.5 thousand tones (70.3 percent). This represents an increase in production of 3.5 thousand tonnes compared to 316 thousand tonnes in 2017-18. With respect to Kerala, the production of coffee registered a decline from 66,465 metric tonnes in 2017-18 to 64,676 metric tonnes in 2018-19 with no change in area (Ref Table.5.11). The productivity of the crop in terms of bearing area in Kerala is 761 kg/ha (Coffee Board, 2018). Among the coffee producing States, Kerala stands second next to Karnataka in the country.

8. Tea

India is the second largest producer of tea in the world. The Tea Board had revised the production figures in 2011 by bringing within the net all segments of tea producers, both organized and unorganized, especially North India, many of whom were not

reporting their crop production details earlier. This helped India in reaching the 1 billion mark. The domestic tea production in 2018-19 was 1,350.04 million kg which is higher by 24.99 million kg of 2017-18. Tea production has recorded an increase of 12.50 per cent in 2018-19, compared to 2013-14 (Table.5.12). The total realisation of tea export in 2018-19 was ₹5,506.84 crore with unit value of ₹216.38 per kg which is higher by 8.73 per cent and 9.61 percent respectively over 2017-18. Kerala accounts for 4.5 percent of the total domestic production of tea in the country. Even though the area under tea has increased by 20.7 percent in 2018-19, the production of tea in the State has declined by 2.36 per cent compared to 2017-18.

Production, Consumption, Export and Auction Price of Tea

Year	Production			Consumption (In M kg)	Exports		Cochin Auction Price (₹/kg)
	India (In M kg)	Kerala (In M kg)	% of Kerala		India (In M kg)	Percentage of Production	
1	2	3	4	5	6	7	8
1996-97	780.10	61.60	7.90	618.00	162.00	20.77	44.42
1997-98	810.00	69.80	8.62	633.00	203.00	25.06	61.57
1998-99	874.10	65.90	7.54	664.00	210.00	24.02	73.33
1999-2000	824.40	67.80	8.22	650.00	192.00	23.29	62.04
2000-01	846.50	69.30	8.20	653.00	207.00	24.45	51.34
2001-02	853.70	66.10	7.70	673.00	183.00	21.44	52.21
2002-03	826.20	59.70	7.20	693.00	198.00	23.98	47.21
2003-04	857.10	56.60	6.60	714.00	173.70	20.27	45.78
2004-05	820.20	49.70	6.06	735.00	197.60	24.09	52.14
2005-06	928.00	58.50	6.30	757.00	199.10	21.45	49.66
2006-07	955.90	59.50	6.20	771.00	218.70	22.88	54.40
2007-08	944.70	56.00	5.93	786.00	178.75	18.92	56.05
2008-09	972.77	70.30	7.23	802.00	203.12	20.88	71.08
2009-10	979.90	68.90	7.03	n. a.	197.90	20.21	81.03
2010-11	966.40	66.80	6.91	n. a.	222.00	22.97	67.69
2011-12	1115.70	61.50	5.51	n. a.	215.40	19.31	70.03
2012-13	1126.30	63.00	5.59	n. a.	201.10	17.85	87.55
2013-14	1200.00	62.80	5.23	n. a.	219.10	18.26	99.17
2014-15	1207.30	65.17	5.40	932	201.20	16.66	93.35
2015-16	1191.10	57.89	4.87	951	217.70	18.27	81.67
2016-17	1250.49	61.51	4.97	973	227.63	18.20	n. a.
2017-18	1325.05	62.23	4.69	1066	256.57	19.36	n. a.
2018-19	1350.04	60.76	4.50	1090	254.5	18.85	n. a.

Note: n a. Not available, M kg – million kilogram Source : Association of Planters of Kerala, Tea Board

9. Cardamom

India is the second largest producer of cardamom and plays an important role in the international trade due to the unique aroma and flavour of Indian cardamom. The output of cardamom is dependent on the prevailing climatic conditions as the cardamom plant requires intermittent spells of rains and good sunshine during the growth stage. Cardamom production in India in 2018-19 estimated at 12.95 thousand tones which is

a decline of 7.7 thousand tonnes compared to 2017-18. In 2018-19, the prices of cardamom had increased by ₹514.02 per kg to reach ₹1,477.28 per kg compared to ₹963.26 per kg in the previous year. Kerala holds the major share in cardamom production contributing to 89.07 per cent of the total domestic production. The cardamom production in the State has declined by 37 percent in 2018-19 compared to 2017-18 recording 11,535 metric tonnes. This decline in production can be attributed to the huge loss incurred due the floods that hit the State in 2018-19 (Ref.Table.5.11).

5.4. Industrial Backwardness in Kerala

The State Kerala has attracted widespread and well-deserved international attention for its remarkable achievements in social spheres, particularly in the fields of land reform, health, and universal school education. With respect to life expectancy at birth (70.4 years for females in 1993-97), infant mortality rate (14 per 1000 live births in 2000), decline in birth and death rates, and literacy rate (87.9 percent) among females above the age of seven in 2001), Kerala is significantly ahead of the rest of India. In 1998-99, the median number of completed years of schooling for all persons above the age of six was 7.9 in Kerala; the corresponding figure for India was 4.0. It is a feature of Kerala's achievements that in Kerala, more than other Indian States, these achievements have cut across caste and gender barriers, and have been carried to regions across the State. Nevertheless, for all these achievements, per-capita domestic product and per-capita manufacturing value added in Kerala are substantially lower than the corresponding figures for India. In 1996, per-capita domestic product at constant (1987) prices was US$314 for Kerala compared to US$380 for India and US$750

for China. In the same year, per-capita manufacturing value added at constant (1987) prices was US$46 for Kerala compared to US$75 for India and US$255 for China. Industrialization in Kerala, in other words, is certainly far from being commensurate with the socio-economic achievements for which the State is so justly famous.

There are clearly two points of view with respect to Kerala's industrialization. According to the first line of argument, Kerala's industrial backwardness is associated with the high incidence of labor unrest and the active role of trade union movement in the State. The second line of argument finds that Kerala's industrial slow down is due to its weak industrial structure, which offers very little potential for inter- industry inter-linkages.

Salient features of Kerala's labor market

Industrialization in Kerala has been particularly unsuccessful with respect to generating employment opportunities for the relatively educated workforce in the State. In 2001, of the total 10.3 million workers in Kerala, 7.9 million workers were engaged in non-agricultural activities, and only 0.3 million workers were employed in the factory sector. The proportions of non-agricultural workers to total workers and of factory sector workers to total workers have been, respectively, 76.7 per cent and 2.9 per cent in Kerala compared with 41.6 per cent and 2.0 per cent in India. Within the factory sector of Kerala, a large part of the workforce (45.9 per cent in 1994-95) is employed in cashew processing and beedi making, industries that still employ traditional technology. Kerala's labor market in the post-1950 period is characterized by decline over the decades in "main workers" as a proportion of total population

and the highest rates of unemployment in the country. In 1999-2000, unemployment rates among economically active population were 10.9 per cent and 12.5 per cent respectively in rural and urban areas in Kerala; the corresponding national averages were 1.9 per cent and 5.2 per cent respectively.

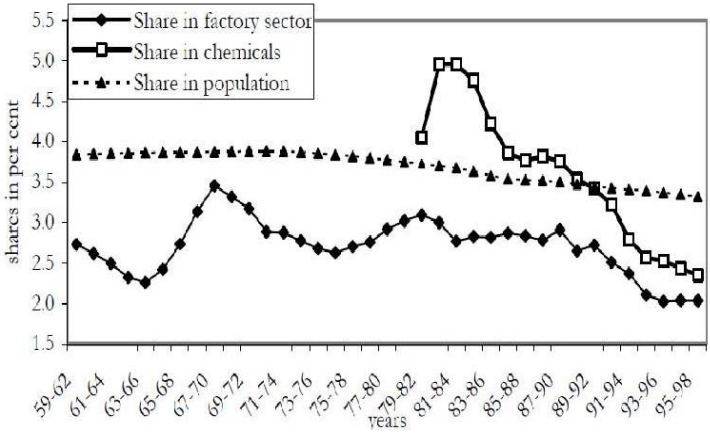
Migration of workers to countries in the Gulf region (as opportunities opened up in West Asian countries for construction jobs after 1973) is an important feature of Kerala's labor market, one that has provided a major source of employment for workers from the State. There were 1360,000 emigrants from Kerala in all foreign countries by the second half of 1998. This means that, by 1998, the number of workers from Kerala working outside India was larger than the number of workers in the organized sector in the State (1220,000). Also, between the early 1980s and late 1990s, the number of workers from Kerala employed abroad increased by approximately 1000,000, while the number of organized sector workers in the State increased by only 230,000, and the number of factory sector workers in the State increased by only 71,000.

Key features of structure and growth of Kerala's industrial sector

Kerala's share in the total value added by India's factory sector (which has always been lower than Kerala's share in India's population) has fallen over the years (Figure.5.3. According to data from India's Annual Survey of Industries (ASI), two industries -- chemicals and rubber-based industries – dominate value added in the factory sector and two industries -- cashew processing and beedi making – dominate employment in the factory sector of Kerala. ASI data shows that, in 1994-95, Kerala was 11th among 15 Indian States in diversification with respect to the number of constituent three-digit industries in the

factory sector. As per the ASI data, the presence of metal based industries, and machinery and transport equipment manufacturing industries in Kerala's industrial sector are less than proportionate to the countrywide average.

(Figure.5.3). Kerala's share in India in total population, in gross value added by factory sector, and in gross value added by chemical industry, 1959-62 to 1995-98 (in percent)



Source: ASI various issues.Notes: Gross value added is at constant (1981-82) prices. Chemical industry refers to the two-digit industry group 30 according to NIC 1987.

In 1995-98, chemicals and rubber-based industries (industry groups 30 and 31 according to the National Industrial Classification (NIC) 1987) together accounted for 38.9 per cent of the total value added by Kerala's factory sector (ASI data). However, diversification within two- digit industry groups 30 and 31 has been rather limited in Kerala. Chemical industry in Kerala has not diversified beyond heavy chemicals to downstream petrochemicals or synthetic fibers. According to Annual Survey Industries data for the year 1994-95, there were 44 four-digit industries within the two-digit industry group

chemicals (30) in India. Only 15 of these four-digit industries had a presence in Kerala in that year; the corresponding number for Maharashtra was 38. In sum, it can be said that the industrial structure of Kerala is relatively small in size and not very diversified.

Kerala's industrial sector has been falling below the Indian average in growth performance. In a distribution of rates of growth of value added by the factory sector across 15 Indian States, the rate of growth in Kerala was at the 69th percentile in the 1960s (1959-60 to 1969- 70), 23rd percentile in the 1970s (1970-71 to 1978-79), 8th percentile in the 1980s (1979-80 to 1990-91), and at the 23rd percentile in the 1990s (1991-92 to 1997-98) (ASI data for various years) The 1980s and 1990s were periods of a slower influx of industrial investments to Kerala. In a distribution of rates of growth of fixed capital stock by the factory sector across 15 Indian States, the rate of growth in Kerala was at the 38th percentile in the 1960s, 77th percentile in the 1970s, 23rd percentile in the 1980s, and at the 31st percentile in the 1990s. Between 1959-62 and 1995-98, profit as a proportion of output declined in Kerala's factory sector, from 14.9 per cent to 10.2 per cent; it increased in India's factory sector between these two time periods, from 12.4 per cent to 13.5 per cent (ASI data for various years).

It is of note here that, irrespective of the stagnancy in industrial growth, growth of per capita income of Kerala accelerated after the late 1980s. Per capita income of Kerala grew at an annual rate of only 1.88 per cent during the period between 1960-61 and 1972-73, and at statistically insignificant rates during the period from 1973-74 to 1987-88. Between 1988-89 and 1997-98, the annual growth of per capita income in Kerala

accelerated to a rate of 4.6 per cent, a rate that was faster than the corresponding rate of growth in India, which was 3.6 per cent. The real engines of Kerala's economic revival after the late 1980s were construction and services; and within the service sector, transport and financing services in particular. It is also important to note that per capita consumption expenditure in Kerala is higher than the corresponding national average; per capita consumption expenditure in rural Kerala was 56 per cent higher than the corresponding level for rural India in 1999-2000. This is reflection of the impact of remittances from workers in Gulf countries (which are not included in calculations of income growth discussed above) on Kerala's economy.

Explaining Kerala's industrial backwardness

Scholars have evaluated and explained Kerala's industrial backwardness in different ways. The radical nature of politics and labor relations in Kerala is often singled out as being the cause of the State's industrial backwardness. This view is widely held in the general discussions on Kerala within and outside the State. The outstanding feature of labor organization in Kerala is that it brought in informal-sector workers into its fold, while informal-sector workers in other parts of the country continue to survive under oppressive working conditions. As wage rates of informal-sector workers in Kerala rose above the corresponding Indian average and above the corresponding wage rates in neighboring States, Kerala, apparently, lost its advantages in industries that are based on cheap and unskilled labor and in industries that can relocate themselves easily, including, importantly, cashew- processing industry. At the same time, Kerala's factory sector as a whole, between 1959-60 and 1997-98, number of man days lost in strikes and lockouts

per worker was not associated with important parameters of industrial growth, including annual rate of change in employment or annual rate of change in labor productivity. Annual growth of employee earnings in Kerala's factory sector was found to be positively associated with annual growth of labor productivity, more than in 13 other Indian States. Thus clearly disputes the general suggestion that industrial slowdown in the State is "caused" by labor problems.

Some scholarly studies trace Kerala's industrial backwardness to a weak industrial structure. Kerala's modern industrial sector and its chemical industry in particular are characterized today by low level of diversification and low scales of production operation, at the level of individual plants as well as at the level of whole industries. Kerala's share in total value added in India's chemical industry was 4 per cent in 1979-82 and declined to 2.3 per cent in 1995-98 (see Figure 1). At the same time, Maharashtra and Gujarat, the two most industrialized States in the country located in India's west, had a combined share of 60 per cent in India's chemical industry in 1995-98 (ASI data, various years).

The potential economies of scale exist in India in chemicals (two- digit industry group 30) and in some other industries. Maharashtra, Gujarat, and some other Indian States have realized potential economies of scale in the chemical industry. Given the small scale of production of output, Kerala was unable to realize the potential economies of scale in the chemical industry. The failure of the major industry in Kerala (i.e., the chemical industry) to achieve significant economies of scale has affected the growth performance of the whole factory sector of Kerala. It was found that, during the period from

1959-60 to 1997-98, Kerala fell behind most other Indian States in a "cumulative cycle of growth differences" in India's factory sector, a process of regional growth differences in which industrial sectors of a few States achieved economies of scale and continuously increasing growth, whereas industrial sectors of a few other States, which did not achieve economies of scale, experienced continuously declining growth.

As will be shown below, the chemical industry (and within it, heavy chemicals) is one in which Kerala had no specific advantages with regard to the availability of raw material or the potential to establish backward and forward linkages. This explains the failure of chemical industry in Kerala with respect to expansion and growth. Previous studies that associate Kerala's industrial backwardness to its weak industrial structure have not answered the question as to how and why did an industrial structure dominated by chemicals emerge and persist in Kerala. The paper attempts to fill this gap in the literature; it does so by examining industrial policies and nature of investments in industry in Kerala from the 1930s in the context of the concept of path dependence.

Historical Events and Industrial Structure: The Period from mid 1930s to 1950

Before India became an independent republic in 1950, the geographical entity that constitutes present-day Kerala comprised three regions: the princely states of Travancore and Cochin, and Malabar. These regions were directly or indirectly under the political supremacy of colonial powers, particularly the British. Investments in modern industries began in the Alwaye–Kochi region in the princely state of Travancore after the mid-1930s. These investments were made largely by a few

immigrant capitalists, many of them belonging to the neighboring Madras Presidency. Encouragement by the Travancore administration and the wartime boom in demand for industrial goods were factors that aided this investment flow.

The modern industrial units that were established in Travancore after the mid-1930s made significant changes in Kerala's industrial structure, which consisted of only traditional industries until then. Trivandrum Rubber Works, manufacturing cycle tires and tubes, was opened in 1935; Indian Aluminium Company (IAC) set up what was to become the first aluminums smelter in India in Alwaye in 1943; Fertilizers and Chemicals Travancore Limited (FACT), the first major fertilizer plant in the country, was established in 1944. Many of the new industrial units produced heavy chemicals or chemical-based products. These include Travancore Electrochemical Industries Limited (TECIL), started in 1945; Travancore Titanium Products (TTP), started in 1946; and Travancore Cochin Chemicals (TCC), started in 1951. Interestingly, many of the industrial units established in Travancore after the mid- 1930s were pioneers in India in their respective fields of industrial production.

Industrial units established in Travancore after the mid-1930s have laid the foundations of Kerala's modern industrial structure. Many of these industrial units are, even today, the major industrial units in Kerala; the chemical industry, the major area of industrial investments in Travancore after the mid-1930s, is still the dominant modern industry in Kerala. It is argued here that the investments in Travancore in industrial units producing heavy chemicals and aluminium metal were led

by of two historical factors. First, there was a change in industrial policies of the Travancore administration in favor of large-scale industries after the 1930s. Secondly, the availability of hydroelectricity was considered to be a potential basis for industrialization.

Industrial policies of the Travancore administration

The Travancore administration did not consider setting up large-scale industries until the 1930s. The state in Travancore had actively intervened in industrial development during the period 1914-30, as had the governments of certain other princely states in India during this period. However, the policy interventions in Travancore were aimed at reviving small-scale and cottage industries like handloom weaving, making use of local capital and resources. Interestingly, political and commercial interests in Travancore during the period endorsed the governmental policy of encouragement to small- scale industries and apathy towards large-scale industries. The following statement from the 1924 budget of Travancore administration is evidence of the Government's point of view in this decade preceding the establishment of factory industries: it seems to the government that we shall be making a serious mistake if we expand our energy and resources for the development of factory industries in Travancore. Our industrial efforts might, with advantage, be directed towards the development and creation of cottage industries.

From the late 1930s, the Travancore administration reversed its earlier policy, and actively encouraged the development of large and medium-scale industries. Inaugurating the Trivandrum Rubber Factory in 1935, the Maharajah (supreme ruler) of Travancore said, "the needs of a growing population

[in Travancore] demand a supplementing of [Travancore's] income and resources by the encouragement of industrial pursuits". The changes in the industrial policies of Travancore are generally attributed to the Dewan (chief administrator) of Travancore Sir C. P. Ramaswamy Aiyer. However, argue that public opinion in Travancore had turned by the 1930s in favor of large industries, and public opinion pressurized the administration to make the policy changes.

The favorable conditions for industrial development that emerged in India after World War II began are likely to have contributed to the increase in investments in industry in Travancore and the change in industrial policies of the Travancore administration. The outbreak of the War in 1939 led to an increase in the demand for domestically produced industrial goods, after imports of industrial goods stopped flowing in to the country because of the war. Investments in industry – mostly by Indian entrepreneurs – during this period also took place in princely states such as Gwalior, Mysore, Hyderabad, Baroda and Travancore. Princely states were characterized by relatively lower wages, lax labor regulations, state patronage and a more attractive tax structure than British India.

Availability of hydroelectricity as a basis for industrialization

An important stimulus for industrial investments in Travancore in the period after the mid- 1930s was the advantage offered by the availability in Travancore of hydroelectricity. One important reason for delayed industrialization in Kerala – indeed in south India –was the absence of local deposits of important metallic minerals and fossil fuels. Coal reserves were

located in India's eastern region; mineral oil had to be imported from Burma or Iran; and although the railway system was well-developed, the high transportation charges involved in carrying fuel and raw material over long distances was a serious constraint to industrial development of the southern region. Wood and hydroelectricity were considered to be the only sources of energy available to the entire southern region.

Given this general context, the starting of Pallivasal Hydro-electrical project in the 1930s was something of a trigger for Kerala's industrialization. The construction work for the project, on a tributary of the Periyar River, began in 1932; the first stage of the project was commissioned in 1940, with an effective plant capacity of 9000 KW (kilowatt). The availability of hydro-electricity, which is a relatively cheap source of energy, was expected to give a major boost to the prospects of Travancore's industrial and economic development. While inaugurating Trivandrum Rubber Factory in 1935, the Maharajah of Travancore expressed the view that Kerala's potential for industrial development lay in its "abundant supply of raw material, [its] cheap labor and transport facilities…and electric power, which is available in sufficient quantities."

By the 1940s, industrial development in Travancore meant the development of large-scale industries. This change of perception is best seen in the pattern of allocation of electricity among different types of consumers. A few large-scale industries accounted for very high shares of the total electricity consumed in Travancore. The smelter established by IAC alone consumed over 50 per cent of the electricity generated in Travancore. More importantly, the tariff rates charged to this company were only 20 per cent of the rates charged for

domestic consumption. The requirements of small-scale industries and agriculture were apparently overlooked in the distribution of electric power. To the capitalists who invested in large-scale industries in Kerala, the availability of electric power at very low rates appeared highly attractive, so much so that they overlooked the unsuitability of the region for their investments in several other respects. This is best illustrated in the establishment of IAC's smelter in Alwaye. There are different stages in the production of aluminium. Bauxite, the basic raw material, is first converted into alumina; alumina is then reduced to aluminium ingots in an electrolytic process in a smelter plant; aluminium ingots are processed in rolling mills to produce sheets and circles, which, in turn, are used in aluminium-consuming industries. In the late 1930s, bauxite reserves were abundant in India's eastern region, and the major aluminium consuming industries, utensil- making plants for example, were located in Calcutta (now Kolkata) (in India's eastern region). It was only natural then for IAC to locate its plant converting bauxite to alumina in Muri in eastern India and its rolling mill in Calcutta. However, the smelter plant, whose operations require large quantities of electricity, was located in Alwaye in Kerala – disregarding the high costs involved in transporting alumina from Muri to Alwaye and transporting aluminium ingots back to Calcutta – in order to make use of the cheap hydroelectric power from Pallivasal project.

Travancore as a location for investments in industries producing chemicals or intermediate goods. Industrial units that were established in Travancore after the mid-1930s produced, to a large extent, intermediate goods, particularly chemicals. Because of investments in chemicals- producing industrial units, Travancore (and later Kerala) came to be an important

centre of India's chemical industry in the 1940s and 1950s. Kerala was the first producer in India of several chemicals, including rayon grade caustic soda, battery grade ammonium chloride, calcium carbide, sodium hydrosulphide, potassium chlorate, rare earths compounds and titanium dioxide. FACT was the first major fertilizer plant in India; its annual production capacity of 45,000 MT (metric ton) of ammonium sulphate was the largest in the country when it started production in 1948. Kerala was also a major producer of sulphuric acid; in 1952, the State accounted for 30 per cent of the total production of the acid in India.

However, given the low levels of local demand for chemical products and also the absence in Kerala of raw material required in the production of chemicals, Travancore of the 1940s was not a location greatly suited for such major investments in the chemical industry. Until 1939, India did not produce heavy chemicals in any large quantities. The demand for heavy chemicals from industries like textiles, dyestuffs, vegetable oils, soaps, glass and drugs was not very large, as the development of these industries in the country was rather limited until then. More importantly, the demand for chemicals came mostly from the few large industrial centers in the country, particularly Bombay (now Mumbai). Because of such restricted demand, the Tariff Board of 1929 was clearly against the dispersal of heavy chemical industries in India. The Board even recommended the establishment of a single, large manufacturing unit to cater to the whole national market and thus reap the advantages of economies of scale.

Travancore in the mid-1930s was not a location suited to take advantage of the demand for chemical products that then

existed in India. It is located at the southernmost corner of the country, far away from the major industrial centers like Bombay. Industries consuming heavy chemicals such as textiles or soap were ill-developed in Kerala. Moreover, there are no local reserves of the raw material required as inputs for the heavy chemical industry. Bauxite, coal and iron reserves were located in Bihar, Orissa and the Central Provinces; salt required for alkali industry was available in Saurashtra, Rajaputana and Punjab; pyrites in Bihar, Uttar Pradesh and Mysore; and limestone in Central Provinces, Assam, Bihar and Uttar Pradesh. The only notable advantage that Kerala possessed in the development of chemical industry was – as shown above – the availability of hydroelectricity.

"Lock-In" Of The Industrial Structure: The Period After 1950

In post-1950 Kerala, the main incentive offered by the State Government to investors continued to be the availability of cheap hydroelectricity. Chemicals and other intermediate goods continued to be the major area of industrial investments. In other words, industrial structure in Kerala came to be locked into the pattern of industrial investments in the State in the pre-1950 period.

After the State of Kerala was formed in 1956, the newly elected State Government identified food shortage and unemployment as the two major economic problems facing Kerala. According to policy makers of the new State, industrialization was the only long-term solution to the problem of unemployment, particularly the problem of educated unemployment, in Kerala. Successive governments in Kerala were also convinced that the thrust of Kerala's industrialization should be directed to the

building of large-scale industries. In the post-1950 period, in Kerala as in other Indian States, there have been three important players in industrial development: the Government of India, the State Government and the private sector. Among these three players, the Central Government has had the most prominent role. Direct investment in industry in Kerala by the Central Government has always been less than proportionate to Kerala's share in India's population. Kerala's share in total direct investment in industry by the Central Government was 0.00 per cent, 0.11 per cent, 1.53 per cent and 1.53 per cent respectively in the five-year plan periods of 1951-56, 1956-61, 1961-66 and 1969-74. Kerala's share in the assets (cumulative) of all Central Government public sector enterprises was 2.71 per cent in 1975-76, 2.28 per cent in 1980-81, 1.43 per cent in 1990-91 and 1.69 per cent in 1998-98. At the same time, during the period from 1951-52 to 1997-98, Kerala's share in India's population ranged between 3.9 per cent and 3.3 per cent. Assistance by financial institutions controlled by the Government of India and the number of industrial licenses issued to Kerala have each been less than proportionate to Kerala's share in India's population. Planned development by State Governments is dependent, in great measure, on financial transfers from the Central Government. In India, financial transfers from the Centre to the States have been low and declining over the years. The growth of Central transfers to the States decelerated from 14.6 per cent in the 1980s to 11 per cent in the 1990s. This has reduced financial autonomy and the freedom of intervention in industrial development of all Indian States, including Kerala. The Government of Kerala invested a larger proportion of its total plan outlay on industry than State Governments in other Indian States; the consequence, however, appears to have been to have spread limited resources thin.

When the State of Kerala was formed in 1956, the political leadership of Kerala was determined to bring in industries in the private sector as, according to E.M.S. Namboodiripad (a Communist and leader of the first State Government ministry that took charge in 1957), "the possibility of industrialization through the public sector was not very bright in Kerala". A few large business houses, whose headquarters and major bases are outside Kerala, dominated private sector investments in Kerala; over the years, their business interests in Kerala have waned. A class of big industrial entrepreneurs did not emerge in Kerala. There can be several historical reasons for this, which deserve to be investigated further, but it is found that the licensing system in India played a part in dampening industrial entrepreneurship in Kerala. In 1999, of the total investment in large and medium-scale industries in Kerala, the private sector accounted for 41.8 per cent, Central Government public sector for 43.3 per cent and State Government public sector accounted for 11.6 per cent.

Given the context outlined above, the two important features of investment in industry in post-1950 Kerala may be examined here.

Hydroelectricity as the continuing stimulus for Kerala's industrialization

After the formation of Kerala State, State Governments repeatedly emphasized that, with regard to the future of industry in the State, Kerala's natural resources and hydroelectricity were its chief advantages. While appealing in the budget speech of 1959-60 for Central Government participation in Kerala's industrialization, the Finance Minister of Kerala listed rubber, bamboo, forests, herbs, clay and

mineral sands as Kerala's important natural resources, and urged the Centre to "encourage industries that use these raw materials". The expansion of power generating capacity has been a major component in Kerala's development strategy after 1950. Large shares of the State's total Plan outlay in different Five-Year Plan periods have been spent on power generation. A Government report noted in 1970 that the increase in total power generating capacity from 18.5 MW (megawatt) to 546.5 MW was the outstanding achievement of economic planning in Kerala (Government of Kerala, 1970). The report by National Council of Applied Economic Research (NCAER) (1962, pp.110-23) recommended that, given the abundance of hydroelectric power resources in the State, Kerala should consider power generation itself as an industry and sell power to other Indian States. According to the State Electricity Department, Kerala was power surplus from 1966, when the Sabarigiri project was commissioned, until 1982, when the State had to go through the first major power cut (State Planning Board, 1984b, p.26). Kerala exported electric power to other Indian States during this period.

Successive State Governments in Kerala attempted, as had the Travancore Government in the 1940s, to bring in large-scale industries, particularly power-intensive industries, to the State by offering major concessions on electricity tariff rates. The average price of electricity in Kerala has always been lower than the countrywide average because generation costs of hydroelectricity are, in general, lower than for thermal electricity (the major source of electricity generation in India) (Table.5.13). In addition electricity prices in Kerala discriminate greatly in favor of large industrial consumers: until 1980-1, the price of electricity in Kerala was the lowest for

extra high-tension (EHT) and high-tension (HT) industrial consumers, lower than even the prices charged from agricultural consumers (Table.5.14). Of course, a justification for such a pattern of pricing was that, being bulk consumers of electricity and having high load factors, the cost of transmitting electricity to EHT and HT consumers is low. But the pattern of electricity pricing in Kerala was also motivated by the official policy of the Government of Kerala to encourage large, power-intensive units. Official thinking in this regard is well reflected in a letter from the Chairman of Kerala State Industrial Development Corporation (KSIDC) to the State's Industries Department in 1965. The chairman wrote that, given Kerala's "disadvantages" (such as its location at the southernmost corner of the country), the supply of cheap electric power was the "most effective instrument [to attract] entrepreneurs from outside Kerala, [to establish] large-scale industrial units, particularly electricity-based ones like aluminium, zinc, caustic soda, etc." in the State.

Table.5.13 Average electricity tariffs, various categories of consumers, Kerala and India, 1998- 99 (paise/kilowatt hour)

Categories of consumers	Domestic	Commercial	Agriculture/ Irrigation	Industrial	Overall average
Kerala	83.44	295.7	55.1	165.9	173.2
India	131.1	345.29	29.66	297.53	197.85

Source: reported in Tata Energy Research Institute (TERI) (1999), Table 24, p.120.

Table.5.14. Average electricity tariffs in Kerala, various categories of consumers, different years (paise/ kilowatt hour)

Categories of consumers	1971-72	1980-81	1990-91	1999-2000

Domestic	39.4	33.2	43.0	81.0
Commercial	41.2	49.2	76.0	436.4
Industrial (LT)	17.8	27.4	69.0	241.1
Industrial (HT&EHT)	4.7	9.7	54.0	221.7
Agriculture	11.9	18.2	25.0	67.2
Overall average	9.5	21.2	60.0	165.8

Source: Kerala State Electricity Board (2000), p.32, Table 24.

Most industrial units established in Kerala in the 1960s and 1970s were based on the intensive use of electric power. Indian Aluminium Company (IAC) continued to get major concessions in electricity tariffs after 1950. The rates at which the State Government directed Kerala State Electricity Board (KSEB) to supply power to the company in the early 1960s was uneconomically low for KSEB, and even raised questions from the industrial licensing committee of the Government of India. For TCC, the price of electricity in Kerala was low enough to compensate the cost disadvantage arising from the transportation of raw material (in this case, salt) from Gujarat. Cominco Binani Zinc Limited (later Binani Zinc Limited) located its zinc smelter in Kerala mainly because KSEB had agreed to supply power uninterruptedly to the company.

EHT industrial consumers, which are a few large industrial units mostly in the Alwaye-Kochi belt – 38 industrial units in 2000 – thus consumed very large shares of the electricity produced in Kerala, particularly until the 1970s. In 1970-71, industrial consumers (EHT, HT as well as low tension (LT) consumers) accounted for 82.6 per cent of the total electricity

sales in Kerala; the corresponding figure for the country as a whole was 67.6 per cent. However, the share of industrial consumers in the total electricity consumption of Kerala declined sharply over the 1980s and 1990s: from 70.2 per cent in 1980-81 to 33.0 per cent in 1997-98. The share of domestic consumers in total electricity sales in Kerala increased from 16.3 per cent in 1980-81 to 49.4 per cent in 1997-98. The share of agricultural consumers in total electricity sales in Kerala has always been low: in 1997-98 it was a meager 4.4 per cent in Kerala, at a time when the all-India figure was 30.7 per cent (Table.5.15).

Table.5.15. Shares of various categories of consumers in total electricity sales in million kilowatt hour, Kerala and India, different years (in per cent)

Categories of consumers	1951		1960-61		1970-71		1980-81		1990-91		1997-98	
	Kerala	India	Kerala	India	Kerala	India	Kerala	India	Kerala	India	Kerala	India
Domestic	8.2	12.4	10.5	10.7	6.6	8.8	16.3	11.2	31.1	16.8	49.4	20.3
Commercial	1.6	6.9	0.8	6.1	4.6	5.9	7.0	5.7	9.7	5.9	8.7	6.5
Industrial	83.7	63.8	81.6	69.5	82.6	67.6	70.2	58.4	51.6	44.2	33.0	35.4
Industrial (LT)	--	--	--	--	--	9.0	8.1	9.0	6.8	9.2	7.0	7.7
Industrial (HT& EHT)	--	--	--	--	--	58.7	62.1	49.4	44.8	35.1	26.1	27.7
Agriculture	3.7	4.2	3.8	6.0	2.7	10.2	2.9	17.6	3.9	26.4	4.4	30.7
Total sales	100	100	100	100	100	100	100	100	100	100	100	100
Total sales (in million KWh)	168	4793	486	13953	1525	43724	2756	82367	5274	190357	7684	296749

Source: Public Electricity Supply, General review, All India statistics, various issues.

Continuing investments to chemicals and other intermediate goods

Investments in industry in Kerala after 1950 continued to be directed mainly towards chemicals and other intermediate goods. Direct investment in industry in Kerala by the Central Government has been almost entirely in chemicals. The largest share of direct investment in industry by the Government of Kerala also went into chemicals. Moreover, the State and Central Governments have greatly encouraged private sector investment in the chemical industry. The emphasis on investments in the chemical industry was not, however, accompanied by investment in projects representing backward and forward linkages with respect to the chemical industry.

In 1940s a sufficiently large market for chemical products did not exist within Kerala. There was no substantial change in this respect after 1950. Given the limited market for chemical products within Kerala, the expansion of many of the originally established chemicals-producing industrial units in Kerala was dependent on the simultaneous emergence of chemicals-consuming industries in the region. Of course, Kerala could sell its products to chemicals-consuming industries in other Indian States, for example, leather industry in Tamil Nadu. However, Kerala's location at the southern-most corner of India, costs and difficulties involved in transporting heavy chemicals, absence of any real advantages to Kerala in production of heavy chemicals, and competition from the bigger chemicals-producing industrial sectors of Maharashtra, Gujarat and Tamil Nadu have been factors that worked against this.

In several instances, an important justification for starting a new chemicals- producing (and chemicals-consuming)

industrial unit in Kerala was that it created a source of demand for the existing industrial unit. For example, several industrial goods began to be produced in Kerala in order that the new line of production would generate a source of demand for the products of TCC. From its early days, TCC faced difficulties in selling its products, particularly chlorine. When FACT expanded its operations to the production of ammonium chloride, in which chlorine is used as a raw material, it did so partly in order to consume the chlorine produced by TCC. License approval for the third stage expansion of TCC depended critically on the third stage expansion of FACT. In connection with TCC's application for expansion, Union Minister for Industries wrote to the State Minister for Industries on the importance of finding markets for the products of TCC. TCC justified its third stage expansion plans by indicating that Travancore Rayons and Gwalior Rayons were to be its major consumers. An important consideration in establishing Travancore Rayons near Alwaye was the availability of caustic soda from TCC and a few other chemicals from FACT. When proposals were floated in the late 1960s to start a new newsprint mill in Kerala, an important benefit perceived from the proposed project was that it would create one more consumer for TCC, which was then finding it difficult to sell its products. Many chemicals- producing industrial units in Kerala were thus built on each other's demand, and on the availability of cheap hydroelectricity.

Path Dependence and "Inefficient" Outcomes in Industrialization

The expansion of modern industrial sector in Kerala has been constrained by several factors. The more prominent of these factors are linked to the very nature of investments in industry

in modern Kerala. First, although the availability of electricity was publicized by the Governments of Travancore and Kerala as being the major incentive offered to establish industries in the State, the shortage of electric power later became the single largest constraint to the expansion of Kerala's modern industrial structure. Secondly, chemicals-producing industrial units, the major area of industrial investments in Kerala, have been facing difficulty in marketing their products.

Insufficient availability of electric power and problems to industrial development Contrary to what was believed in the initial decades of planning, Kerala was (and still is) not power surplus. Although the State has sought to attract power-intensive industries with exceptionally low tariff rates, it simply cannot any longer sustain electricity supplies to such industries. The growth of electric power potential in Kerala has been slow – slower than in India over the 1980s and 1990s. Total installed power generating capacity in Kerala increased from 1012 MW in 1980-81 to 1771 MW in 1997-98, an increase of only 75 per cent; the corresponding increase in India during the same period was 195 per cent, from 30214 MW to 89102 MW (Table.5.16).

Table.5.16. Installed power generating capacity (utilities only) in Kerala and India, prime mover-wise (in megawatt)

	Hydro		Steam		Gas		Total		(1) as % share of (2)
Years	Kerala	India	Kerala	India	Kerala	India	Kerala (1)	India (2)	
1951	29	575	4	1098	0	163	33	1835	1.8
1960-61	133	1917	5	2436	0	300	137	4653	2.9
1970-71	547	6383	0	7508	0	168	548	14709	3.7
1980-81	1012	11791	0	17122	0	274	1012	30214	3.3
1990-91	1477	18308	0	41237	0	2343	1477	63636	2.3
1997-98	1689	21905	0	55970	0	7661	1771	89102	2.0

	(95)	(25)	(0)	(63)	(0)	(9)	(100)	(100)

Notes: Figures given in brackets in the last row indicate the shares of power generating capacity by the different prime movers in the total power generating capacity. Source: Public Electricity Supply, General review, All India statistics, various issues

It has been argued that even in the period before 1980, when Kerala was declared by the State Government to be power surplus and was encouraging investments by power-intensive industries, the situation was not in fact one of a surplus of supply over demand. Domestic demand was suppressed by the absence of an adequate transmission and distribution network. The Kerala State Planning Board (1984b, pp. 104-6) noted in 1984 that voltage levels and power supply conditions in Kerala were unsatisfactory and that State Plan allocations in Kerala for power transmission network were unjustifiably low during the Fourth, Fifth, and Sixth Plan periods. Kerala faced a major power shortage in the 1980s. In 1982-83, the power shortage coincided with drought conditions in the State in that year. Power cuts and rationing have been frequent in Kerala continually since the 1980s. In 1997-98, the overall average per capita electricity consumption in Kerala was less than half the corresponding Indian average (Table.5.16).

Table.5.17. Average per-capita electricity consumption by different categories of consumers, Kerala and India, 1997-98 (in thousand kilowatt hour)

	Domestic	Commercial	Industrial-LV & MV	Industrial-HV	Agricultural	Overall average
Kerala	0.95	0.8	5.77	1267	1.05	1.46

India	0.81	1.81	9.03	1643	7.93	2.96

Note: LV is low-voltage, MV is medium voltage, and HV is high-voltage. Source: Public Electricity Supply, General review, All India statistics, various issues

As of now, hydroelectricity is the most easily available source of electric power in Kerala. According to the State Planning Board (1984b, p.26), Kerala has a hydroelectric potential of 3000 MW at a 60 per cent load factor. However, there have been major hurdles to realizing this hydroelectric potential of Kerala. Kerala is a narrow stretch of land, its width varying from 32 to 120 kms from the Arabian Sea in the West to the Western Ghats in the East. Given its topography, and given also that Kerala's rivers are monsoon-fed, only storage hydroelectric schemes are feasible for the State. Proposals for storage schemes, however, have raised serious protests by environmental groups in Kerala. Delays in the construction of power projects were another hurdle to the realization of Kerala's power generating potential.

Problems related to shortage of electric power have been particularly severe in the case of heavy chemical industries, as they are, by nature, relatively power-intensive than labor intensive. According to Annual Survey of Industries data for the year 2001-02 the proportion of value of fuels consumed to value of output and the proportion of cost of labor to value of output were, respectively, 12.2 per cent and 3.8 per cent in the case of manufacture of heavy chemicals (three-digit industry group 241 according to NIC 1998) compared with 6.2 per cent and 5.3 per cent in the case of factory sector as a whole. Individual industrial units in Kerala have, at different times

after 1950, faced power shortages that sometimes lasted several months, as well as short, undeclared, yet frequently occurring power and voltage interruptions. Evidence in this regard came from an examination of the annual reports of FACT from 1946 to 2000 for every instance of major production loss. Reasons cited by the Company for the production loss has been then recorded. The shortage of electric power has been a very important reason for the industrial stoppages in FACT.

Table.5.18. Reasons for instances of major production losses, Fertilizers and Chemicals Travancore Limited (FACT), 1946-2000 (in percent)

Reasons for production losses:	1946-60	1961-70	1971-80	1981-90	1991-2000	1946-2000
Power shortage	38.9	45.5	29.2	33.3	29.4	34.1
Industry-wide factors*	5.6	0.0	33.3	11.1	35.3	19.3
Plant failures & breakdown	11.1	27.3	16.7	22.2	11.8	17.0
Raw material shortage	22.2	18.2	8.3	5.6	11.8	12.5
Labor problems	22.2	0.0	12.5	5.6	0.0	9.1
Other reasons	0.0	9.1	0.0	22.2	11.8	8.0
All reasons	100	100	100	100	100	100
Total instances of major production losses (actual number)	18	11	24	18	17	88

Notes: *Industry-wide factors that affected the production performance of FACT include statutory fixing of fertilizer prices by the Central Government (in the 1970s), decontrol of fertilizer prices in India, and import competition (in the 1990s). Source: FACT annual report, various years.

FACT has been reporting problems due to shortage of electric power from as early as 1953. The electrolytic hydrogen plant in FACT had to be abandoned soon after it was set up in 1959 because of inadequate supplies of power. FACT reported losses in production due to power interruptions and voltage fluctuations in each of the years from 1969-70 to 1980 – a period when Kerala was reportedly "power surplus" and there was no electricity rationing through power cuts in the State. Power disturbances suffered by FACT during this period of time were noticeably higher than power disturbances suffered by industrial units of similar size in other parts of the country. For many of the major industrial units in Kerala, the cost of power shortages has been particularly high because of the integrated nature of the production processes in these industries. For instance, a study conducted in 1973 on the reliability of power supply in FACT made the following observation: Sophisticated plants operating at high pressures and temperatures require at least 12 hours to come back to normal operations after every shutdown [due to power failure]. Besides, frequent power stoppages cause leakages in the high-pressure pipelines carrying dangerous gases and inflammable liquids, and also reduce the normal life of catalysts and imported machinery.

After 1980, the power supply situation in Kerala has deteriorated and problems of industrial growth arising out of power shortages and interruptions have increased. Kerala has lost out to other Indian States as regards the availability and the cost of electric power. In India, power generation using coal or natural gas as feedstock has expanded substantially in capacity after the late 1970s; this expansion has been particularly fast in certain regions of the country, where different types of

feedstock are more easily available. Power-intensive industries find it profitable to operate in locations where power is available plentifully or where captive power plants can be run at relatively low costs because of the easier availability of feedstock. Annual production capacity of the Kerala unit of IAC expanded by a factor of only 0.6, from 8,000 MT in 1943 to 13,000 MT in 2000. According to reports in 2001, the plant had become almost non-viable after power tariffs were raised by 25 per cent in Kerala. During the same period, the annual production capacity of aluminium in India as a whole had expanded by a factor of 79.6, from 8,000 MT to 645,000 MT; and aluminium production units with very large production capacities were built in regions close to bauxite and coal reserves.

Problems of markets for intermediate goods

The expansion of Kerala's major industries -- intermediate goods such as chemicals and basic metals such as aluminium – has been severely constrained by the difficulties in marketing their products. Although Kerala has been producing a range of chemical products such as titanium dioxide, calcium carbide, acetone and phenol, downstream industries consuming these chemical products – such as industries producing paint, plastics, artificial fibers and pharmaceuticals -- have not emerged in Kerala on any large scale even today. Aluminium-based industries are almost non-existent in Kerala. In the absence of an easily reachable local market, the expansion of chemicals- and also aluminium-producing industries in Kerala had to depend on demand for their products from markets outside the State. This has not been easy because constraints to the growth of these industries in Kerala are then accentuated by the costs and difficulties of transportation. For instance, in the

1960s, J.K. Industries Limited, Calcutta, noted that the disadvantages to establishing an aluminium smelter in Kerala would be "much more than to any other aluminium producer in India." Bauxite or alumina would have to be carried over 1000 miles from Bihar, and all the finished products would have to be carried back to the consuming centers. Kerala's State Planning Board (1984a) has noted that Kerala is deficient in basic inputs for the chemical industry, that the main markets for chemical products are located away from Kerala, and that this results in higher costs of transport and handling. FACT complained in 1973 that its costs were higher than its competing units only because of the high transportation costs it incurred. So did Steel India Wire Ropes in 1998, whose raw material comes from and whose customers are located in places far away from Kerala.

In addition to the factors discussed above, Kerala's industrialization was also constrained by the mismatch between the kind of industries that have arisen and the natural environment in Kerala. This includes the problem of high densities of population and limited supplies of land for industry in Kerala's different natural regions. Chemicals-producing industrial units in Kerala are geographically concentrated in the Alwaye-Kochi industrial belt. The effluent discharge by these industrial units has caused considerable damages to the water bodies in Kerala. These industrial units have also caused atmospheric pollution, particularly in the Alwaye-Kochi area. Problems of industrial pollution have been issues of public debate in Kerala, thanks to the activism of environmental movements in the State. The issues discussed in the foregoing pages have had, predictably, an impact on the scale of operation of major industrial units in Kerala. Today, Kerala's modern

industrial structure is characterized by low scales of operation -- at the level of individual plants as well as at the level of whole industry. In Table.5.19, we compare the production capacities of selected manufactured goods in Kerala and India in the 1950s and 2000. While Kerala was a major producer in India of these manufactured goods in the 1950s, the State's share in total production in India declined drastically by 2000.

Table.5.19. Production capacities of selected manufactured goods, Kerala and India, 1950s and 2000 (in 1000 metric tons)

	1950s			2000		
Manufactured good	Kerala	India	2 as % share of 3	Kerala	India	5 as % share of 6
1	2	3	4	5	6	7
Caustic Soda	6.6a	37.1a	17.8	66.0a	2019.0 d	3.3
Sulphuric Acid	56.2 b	189.4b	29.7	--	--	--
Calcium Carbide	10.8 c	20.0 c	54.0	0.0 a	150.0 d	0.0
Nitrogenous Fertilizers	11.0 e	9.0 f	100	325.0 a	11077.8 d	2.9
Phosphatic Fertilizers	8.0 e	9.0 f	88.9	132.0 a	3760.7 d	3.5

Sources: a Information collected during field visits, 2001 March-April; b for June 1952, from De Sousa (1961), p. 112; c estimated production capacity for 1960-61 from De Sousa (1961), p. 224; d data for 1999-2000 from <www.indiastat.com; e production capacity in 1948 as reported in FACT annual report; f production capacity target for First Five-year Plan, from De Sousa (1961), p. 109-112.

There is nothing in the argument so far to suggest that, due to historical factors, the course of Kerala's industrialization was predetermined, to result in industrial backwardness. That will be adopting a fatalist view, ignoring the role of contingency and

agency, something which the theory of path dependence does not ascribe to. Evidence from various countries suggest that it is possible to overcome "geographical constraints and lousy initial conditions" with good institutions or effective policy measures. At different points in time, industrial policies in Kerala could have changed track to follow alternative paths of industrialization, which might have proved more successful in the State.

There existed great possibilities for taking advantage of Kerala's rich natural resources, including a wide range of agricultural products, enormous forest wealth, long coastline, and several inland water bodies. Kerala has had immense opportunities for agro- and food- processing; production activities based on wood, bamboo, and hard fibers like coir; production of herbal and medicinal products, and tourism (an industry that is currently growing at fast rates in the State). Industrial policies in Kerala have not made good use of these opportunities. It may be useful to remember that industrial policies to promote growth of exports based on agricultural products and natural resources have been crucial to the rapid development of South East Asian countries, particularly Malaysia and Thailand, especially before 1980.

Industrialization of Kerala involved relatively low levels of investment in knowledge-based industries. Industries manufacturing electrical and non-electrical machinery, electronics, and software industries do not have a considerable presence in the State. There are no major research institutions in Kerala carrying out basic or applied research in science or engineering. Compared to its neighboring States, Karnataka and Tamil Nadu, Kerala has much fewer engineering colleges and

other institutions for technical education. At the same time, Kerala has a relatively large supply of educated workforce. Skilled laborers from Kerala including medical professionals, and particularly nurses, have been migrating in large numbers to the rest of India and abroad. Effective state intervention in knowledge-based industries, of the kind that occurred in the case of some East Asian countries and also in the case of some regions in India like Bangalore, could have reaped rich dividends in Kerala. There was considerable expansion of consumer demand and domestic savings in Kerala after the mid-1970s, consequent to the large flow of remittances from migrant workers in Gulf countries. It is of note, however, that there have been no major policy measures in the State to channel domestic savings to productive investment or to take advantage of the expansion in consumer demand for industrial growth. Gulf remittances led to a boom in investments in real estate and house construction in Kerala.

Conclusions

The relative industrial backwardness of Kerala – the Indian State that has made remarkable achievements in social spheres – has been a puzzling question in development. The popular argument is that Kerala's industrial backwardness is due to labor problems. A recent study showed that while the organization of informal-sector laborers may have led to the loss of competitiveness to the State in industries that are based entirely on cheap labor, labor problems do not explain the slow growth of modern factory sector in Kerala. This paper explains Kerala's industrial backwardness as due to a path dependent process of industrialization. A policy decision of the Travancore administration in the 1930 -- to attract large-scale, chemicals-based industries to the State by the advertisement of

cheap hydroelectricity as the basis for industrialization – has had a long lasting impact on Kerala's industrial structure. After 1950, State Governments in Kerala continued investments in chemicals-based industries by offering hydro-electric power at highly subsidized rates. However, by the 1980s, Kerala was chronically facing power-shortages, and power rationing and power cuts have crippled large-scale industry in Kerala. Kerala also lost its early advantage over other Indian States with respect to the cost of electric power. There are constraints with respect to marketing of chemicals and allied industrial goods produced in Kerala; downstream industries consuming chemicals or other intermediate goods never did emerge in Kerala on a large scale. There have been popular protests against air and water pollution caused by the chemicals-producing units in the State. All these factors have limited the expansion of the chemicals-dominated, modern industrial sector of Kerala.

There are several constraining factors that kept the course of Kerala's industrialization on its former course. First, public investment in industry in Kerala by the Central Government has been low. Secondly, State Governments in Kerala, like State Governments in other Indian States, have had only limited degrees of freedom in regard to policy options in industrial development, particularly because of the low level of fiscal transfers from the Centre to the States. Thirdly, given the high rates of unemployment in the State, there have been strong pressures from the public to protect employment in the existing industrial units, and this further reduced the options available to democratically elected governments in Kerala. Lastly, an indigenous class of entrepreneurs never emerged in Kerala due to reasons that require further investigation. Savings mobilized

in Kerala have been channeled to investments in real estate, house construction, and some service sector establishments.

Of course, altering the course of industrialization was (and still is) possible. It is also true that, given the relatively large supply of skilled labor force, Kerala has great prospects in knowledge-based industries. Charting out a new path for Kerala's industrialization, however, requires much greater investment and policy intervention from the Central and State Governments than what was seen over the past five decades. Industrialization experience of Kerala draws attention to the importance of path dependence in industrialization, and also the importance of sound policies in navigating the economy to the right path.

5.5. Health Sector in Kerala

Kerala has a long history of health care. Even before the advent of the Allopathic medicine Kerala was in the care of indigenous Ayurveda medicine. Now in the state along with this Allopathy, Homeopathy and Unani are working effectively. It is said that the commendable achievements that gained by the Kerala state in birth rate, death rate, gender equality, life expectancy, infant mortality, maternal mortality etc is due to the well health care facilities provided by the state. This has been considered as a paradox, 'good health at low cost'. The State is reported to have the lowest rural-urban inequalities in public health status. The success of Kerala health indicators is more due to the investment in the social capital rather than only in the public health care, resulting in a more accountable and integrated primary health care system High levels of education especially

among women and greater health consciousness have played a key role in the attainment of good health standards in Kerala.

Health sector in Kerala is at a cross road. Early success in reducing mortality has led to an ageing population suffering from degenerative diseases associated with the demographic shift. As a result of surpassing all the Indian states in morbidity rate, the state is suffering with the prevalence of chronic and acute illness like diabetes, heart diseases, mental, asthma, blood pressure, cancer etc. Having abandoned the public health strategies that helped the State control communicable diseases in the past the State is witnessing the re-emergence of these diseases. Increase in alcoholism and accidents are worrying the state. Kerala has to recapture the basic structure and policies that helped us reduce mortality in the past and to develop the capacity to deal with the problems associated with non-communicable which now affect all segments of the population.

Health Care Infrastructure in Government Sector

The Health Care system in Kerala comprises mainly under three heads namely Alopathy, Ayurveda and Homoeopathy. The Health infrastructure consists of 2724 institutions with 52893 beds. Besides there are 5403 sub centres under Directorate of Health Services .Out of the total institutions 46.44% are under Allopathy, 32.2 % under Ayurveda and 21.36 % under Homoeopathy department. Medical services are also provided through the co-operative sector and the Private sector. There are 74 hospitals with 6767 beds under the Co-operative sector in the State.

Table.5.20: Health Infrastructure in Government Sector During 2011

SI. No.	System of medicine	Institutions	Beds	Patients treated	
				IP	OP
1	Allopathy(DHS)	1255	37750	1831724	53057551
2	Allopathy(DME)	10	10079	347334	3341592
3	Ayurveda(ISM)	874	2860	41102	10481288
4	Ayurveda Medical Education	3	1259	9072	386721
5	Homoeopathy	582	945	53442	11839811
	Total	2724	52893	2282674	79106963

Source: Allopathy, Medical Education, Ayurveda and Homoeo Departments Table 4.18 shows the basic health indicators of both Kerala and India during 2011.

Table.5.21: Basic Health Indicators 2011

SI No	Health Indicators	Kerala	India
1.	Crude Birth rate (‘000 population)	14.8	22.1
2.	Crude Death rate (‘000 population)	7.0	7.2
3.	Infant mortality rate(‘000 population)	13	47
4.	Child mortality rate 0-4 years(‘000 population)	2	15
5.	Maternal mortality rate (per lakh live birth)	81	212
6.	Total fertility rate (children per woman)	1.7	2.6
7.	Couple protection rate (in percent)	62.3	52
8.	Life expectancy Male	71.4	62.6
	Female	76.3	64.2
	Total	74.0	63.0

Source: Directorate of Health Services

Department of Health Services

The department of Health Service is formed mainly for the establishment and maintenance of medical institutions with necessary infrastructure. It offers services such as control of communicable diseases, Family Welfare services including maternal and child health services, implementation of National control / eradication programmes, providing curative services and administration. Details of major medical institutions under DHS during 2010 & 2011 are shown in Table.5.22 below. There are 1254 institutions and 37177 beds under the Directorate of Health services which include 835 Primary Health Centres, 237 Community Health Centres, 78 Taluk Hospitals, 17 TB clinics/ centres, 29 grand- in- aid institutions and 3 leprosy control clinics/units. Besides, there are 5403 sub centres. Out of the 835 PHCs, 174 are now categorized as 24x7 PHCs.

Table.5.22 Major Medical Institutions Under DHS (No.)

SI.No	Institution	2010	2011
1	Primary Health Centres (including MCH Centres)	835	835
2	Community Health Centres	237	230
3	Taluk/District /Women &Children Hospitals	95	103
4	Dispensaries	24	25
5	T.B. Clinics/Centres	17	17
6	Grant-in-aid institutions	29	29
7	Leprosy Control Units	3	3
8	Sub Centres	5403	5403

Source: Directorate of Health Services

Medical Education

In Kerala, Medical Education is imparted through 8 Medical Colleges at Thiruvananthapuram, Alappuzha, Kozhikode,

Kottayam, Manjeri, Ernakulum, Kollam and Thrissur Districts and Nursing Education through 6 Nursing Colleges in Thiruvananthapuram, Kozhikode, Kottayam, Alappuzha, Ernakulam and Thrissur Districts. Five Dental Colleges are functioning at Thiruvananthapuram, Kozhikode, Alappuzha, Thrissur and Kottayam Districts. Besides, four colleges of Pharmacy and one Paramedical Institute is also functioning under the Department. Works for establishing new Medical Colleges are progressing in Idukki, Konni and Kasargod during 2018-19.

Major Health Problems in Kerala

1. **Communicable Diseases**

Kerala is witnessing an increasing burden of communicable and non-communicable diseases. Although the State has been successful in controlling a number of communicable diseases earlier, the emergence of dengue, chikungunya, leptospirosis, malaria, hepatitis, H1N1, in recent years has led to considerable morbidity and mortality. Instances of vector borne diseases like dengue, malaria, Japanese encephalitis, scrub typhus etc. have seen a marked increase in many Districts. Water borne infections like different kinds of diarrhoeal diseases, typhoid and hepatitis are showing persistence in many Districts. Cholera has surfaced in many Districts after few years of relative low incidence. Vaccine preventable diseases like diphtheria and whooping cough are yet to be eliminated despite years of effort.

- **Dengue**

Dengue fever, which surfaced in Kerala as early as 1998, has now become the single largest of the vector borne diseases. Till 2015, the disease was more prevalent in Districts like

Thiruvananthapuram, Kollam, Kottayam, Pathanamthitta, Kozhikode and Malappuram. But in 2017, all the Districts reported Dengue in large numbers. Districts located at higher altitudes were having low prevalence, but all others showed high incidence. The main reason for this wide spread distribution is believed to be due to the changes in the environmental factors causing proliferation of the dengue vector-Aedes mosquitoes. These mosquitoes, which in the earlier days were seen more in rural settings, have now spread to urban areas also. Details of cases and death from 2015 to 2019 October are given in Table.5.23.

- **Leptospirosis**

Leptospirosis is another emerging public health challenge faced by the State. Considered as a rare disease in the early 1980's, it has now spread to all Districts. In 2012-13 a major epidemic of the disease occurred, affecting most of the northern Districts, following which the disease has become endemic in Kerala. The disease is initially a rodent borne infection, spread through urine of the infected rodents, and the consequent contamination of the environment is the factor responsible for the disease. Over the years, the disease has been reported in many domestic animals like cows, dogs, pigs etc. and thus has become an occupational risk for those engaged in agriculture works. People, who have been involved in cleaning of stagnant canals and drains were reported to have contracted the disease. More recently the mortality due to leptospirosis is also on the rise, and joint efforts of veterinary and animal husbandry departments are essential for effective control of this disease. Out of the 1098 leptospirosis cases reported in 2015, 43 deaths were reported. The number of cases increased to 1,710 with 35 deaths in 2016. In 2017, a total of 1,408 cases were confirmed

resulting in 80 deaths. In 2018, there were 2079 cases and 99 deaths reported. In 2019, there were 611 cases and 26 deaths reported up to August 2019.

Table.5.23:Communicable Diseases in Kerala

Year		2015		2016		2017		2018		2019 (Up to October)	
Disease		Cases	Death	Cases	Death	Cases	Death	Cases	Death	Cases	Death
Dengue Fever		4114	29	7218	21	21993	165	4090	32	2370	12
Malaria		1549	4	1540	3	1194	2	908	0	342	1
Confirmed Chikungunya		152	0	124	0	54	0	76	0	30	0
Japanese Encephalitis (JE)		0	0	1	0	1	0	5	2	7	0
Leptospirosis		1098	43	1710	35	1408	80	2079	99	611	26
Hepatitis - A		1980	10	1351	10	988	24	1369	5	979	3
Cholera		1	0	10	0	8	1	9	0	7	0
Typhoid		1772	0	1668	2	314	1	109	0	23	0
ADD (Diar-rhoea)		467102	4	493973	14	463368	8	540814	12	390345	5
Scrub Typhus		1149	15	633	3	340	5	400	6	348	7
Kala Azar		4	0	2	0	0	0	6	1	3	0
Kysanur Forest Disease		102	11	9	0	0	0	0	0	8	2
H1N1		900	80	22	1	1411	76	823	50	835	43
Fever	OP	2676842	26	2641311	18	3417968	76	2935627	63	1906006	36
	IP	96189		80049		109974		59983		39384	
Diarrheal Diseases		-	-	326517	10						
Enteric fever		-	-	1192	0						
Measles		1589	2	870	3	508	1	190	0	79	1
Chickenpox		19152	13	12698	1	27856	20	30154	17	21208	16

Source: Directorate of Health Services

- **Chikungunya**

Chikungunya is a newcomer among the vector borne infections. This disease believed to have originated in the remote islands in Arabian Sea in 2005-06 spread rapidly over whole of Kerala within the next two years, affecting more than 80per cent of our population. Fortunately, the disease is fading out, and has resulted in lifelong immunity for the affected population, a blessing in disguise. The past two years have seen only sporadic cases in Kerala, annual total being less than 200 cases and no deaths. Here, again the vector responsible for disease

transmission is the Aedes mosquitoes. Since both dengue and chikungunya are transmitted by same mosquito, and also since the same mosquitoes are responsible for transmission of the potential threat of Zika virus disease and Yellow fever, the State should be vigilant in future. In 2018, 76 cases were reported in which 38 were from Thiruvananthapuram District and 32 from Thrissur District. In 2019 (upto August) 30 cases reported in which 14 from Thiruvananthapuram District and 10 from Idukki District. A total of 29,35,627 viral fever cases were reported in Kerala in 2018. In 2019 (upto August), the number of reported cases are 19,06,006.

- **Malaria**

Malaria, another vector borne disease, transmitted by Anopheles mosquitoes has been a major public health challenge for our country for the past many decades. Various national programs targeting its elimination have met with limited success. Though Kerala had eliminated the disease in early 1970s, Malaria has now reemerged as a public health challenge. The problem is recently aggravated due to the presence of large scale population movement from malaria endemic States. Proportion of falciparum malaria, the more severe form of the disease is slowly on the rise in Kerala. Though elimination of indigenous form of Malaria has been included in the SDG targets by the State, the issues in its fulfillment are many. Rapid urbanisation, extensive infrastructure development in many Districts, uncontrolled construction works in urban area, and climate related changes in life cycle of mosquitoes are all big hurdles in the attainment of the SDG goals. Annual cases of malaria in Kerala are less than 2,000 and the number of deaths reported is also very low, but the major issue here is the increase in foci of indigenous malaria. Thiruvananthapuram,

Kollam, Kozhikode, Malappuram, and Kannur Districts have pockets of indigenous malaria over the past few years. Kasaragod District is persistently having high number of malaria, over many years, because of its proximity to the highly endemic Districts of Karnataka. Movement of fishermen along the western coast of our State is a potential threat for spread of malaria along the coastal Districts. The incidence of malaria in 2017 is 1,194 and two deaths were reported. In 2018, number of cases was 908 and no death was reported. In 2019 upto October, 342 cases reported and one death was reported. Details of cases and death due to communicable diseases from 2015 to 2019 October are given in Table.5.23.

- **Japanese Encephalitis (JE)**

This is a form of encephalitis, an inflammatory disease of brain and its coverings, and is also amosquito borne infection. Due to the presence of large paddy fields, Kerala is also at risk of, this disease, as the virus responsible for the disease is spread by Culex mosquitos, which bredmabundantly in water logged areas like paddy fields. The peculiar nature of the Culex mosquito to breed in contaminated water also, increases the potential threat in other areas as well. Role of migratory birds in transmission of JE is an extra risk for Kerala, because our State has many attractive sanctuaries for migratory birds. But since there is an effective vaccine against JE, we can be optimistic in its control programme, by strengthening the JE vaccination. Details of cases and death from 2015 to 2019 October are given in Table.5.23.

- **Water borne diseases**

The main reason for waterborne diseases is attributed to the unavailability of safe drinking water in many parts of the

District especially in tribal and coastal areas. Unhygienic drinking water sources like wells, pump houses, water supplied through tanker lorry, leaks in public water supply pipes and the consequent mixing of foul water with drinking water, dumping of wastes including sewage in water sources, use of commercial ice in preparation of cool drinks, habit of unsafe water in preparation of welcome drinks etc. are some reasons for spread of water borne diseases. Health Department is implementing a programme called "Jagratha" from November 2017 for prevention and control of communicable diseases. There was a considerable decrease in typhoid from 2015. Details of cases and death of water borne diseases like Acute Diarrhoeal Diseases (ADD), typhoid, Hepatitis, etc. from 2015 to 2019 October are given in Table.5.23.

- **HIV/AIDS**

Kerala State Aids Control Society is the pioneer organisation in the State working with the objective of controlling the spread of HIV as well as strengthening the State's capacity to respond to HIV/AIDS. The society was formed to implement the National Aids Control Programme in the State. The prevalence rate of the State has declined from 0.21 per cent in 2008-09 to 0.13 in 2010- 11 and 0.05 per cent in 2017. In Kerala, the prevalence of HIV/AIDS is 0.41 per cent (4.95per cent in 2011) among injecting drug users (IDU) which is 6.26 per cent at national level. It is 0.23 per cent (0.36 per cent in 2011) among men having sex with men (MSM) which is 2.69 per cent at national level and 0.10 per cent (0.73 per cent in 2011) among Female Sex Workers (FSW) which is 1.56 per cent in India in 2017. In transgender, HIV prevalence rate in Kerala is 0.16 per cent which is 3.14 per cent at national level. HIV prevalence among migrants in India is 0.51per cent.

2. Non-Communicable Diseases (NCD)

Common non-communicable diseases causing great threat to a healthy life are diabetes, hypertension, cardio vascular diseases, cancer and lung diseases. Unless interventions are made to prevent and control non-communicable diseases, their burden is likely to increase substantially in future, due to ageing population and changes in life style. Considering the high cost of medicines and longer duration of treatment, this constitutes a greater financial burden to low income groups. Rampant modernisation and urbanisation, drastic lifestyle changes, heavy dependency on alcohol and tobacco, affinity for white collar jobs, unhealthy eating patterns, low priority for physical exertion, high levels of stress in all strata of population are some of the reasons contributing to the prevalence of non-communicable diseases in the State.

In India, it is estimated that 42 per cent of total death are due to NCDs. In Kerala, the situation is more serious as more than 52 per cent of the total death between the productive age group of 30 and 59 is due to NCD. Hypertension, diabetes mellitus, cardio vascular diseases, stroke and cancer are the major non communicable diseases seen in Kerala. Studies show that 27 per cent of Kerala adult males are having diabetes mellitus compared to 15 per cent at national level. 19 per cent of adult female population is diabetic compared to 11 per cent in India. Genetic predisposition, dietary habits and sedentary lifestyle are considered to be the reason for this phenomenon. 40.6 per cent of adult males and 38.5 per cent of adult females are hypertensive compared to 30.7per cent and 31.9per cent at national level. Incidents of obesity, hyper lipedemia, heart

attack and stroke are also high. Cancer mortality is extremely high in males in Kerala compared to national average.

Achievements of Health Sector in Kerala

Kerala enjoys a unique position in the health map of India. The health indicators in Kerala are at par with the Western world. The important achievements are the following.

Low Birth and death rate, Low infant mortality rate Low child mortality rate, Low Maternal mortality Rate, Low cost medical facilities, High life expectancy, High Couple protection rate, High per capita medical expenditure, High public and private participation in medical facilities, Good medical infrastructure facilities, Good Public health information system, Good sanitation facilities, Equality in rural-urban medical facilities, Expansion of primary health care centers, Institutionalization of delivery, More gender equality, Nearly full immunization.

5.6. Education in Kerala

Kerala has achieved a well developed educational system through the progressive State policies in education, community involvement in developing and sustaining village schools and Madrassas, efforts by Missionaries and indigenous Christian organizations and efforts by various associations formed by other communities (like SNDP by the Ezhava Community and NSS by the Nair Community). Their efforts to establish schools and enroll children have played a significant role in shaping the educational progress of the Kerala state. Modern Education in the former Travancore State began with the Proclamation of 1844 by the Maharaja of Travancore that those educated in English school would be given preference in Public Service. Government established the Raja's Free School at Thiruvananthapuram as early as 1834 and it was the first school

to import English education in the former Travancore State. In the former Cochin State, the Govt. comes in to the field of education in 1818 with the Proclamation, by which there established 33 Vernacular schools. The study of English language was helped by the missionary Rev.Dawson who opened on English school at Mattancherry in 1818. Thereafter, English schools were opened at Thrissur, Thrippunithura and Ernakulam.

In 1868, the first batch was presented for the Matriculation examination. In Malabar area, the Local Boards Act of 1834 helped the establishment of schools. Later, the Elementary Education Act enabled the establishment of several Elementary schools and grant-in-aid was paid to Private schools by the District Educational Councils. From 1939 onwards, the disbursement of grant-in-aid to private schools was done by the District Educational Officers. The progressive educational policies of enlightened rulers of the erstwhile states of Travancore and Cochin and the educational activities initiated by the Christian Missionaries and other social organizations yielded remarkable development in the field of education in the State even before Independence. The Private Secondary School Scheme was introduced in Travancore-Cochin from 1st December 1951 onwards. Payment to the teachers of private schools was mace direct from the treasury from that date. Payment to non-teaching staff of private schools was mode by management till 31st June 1959.The Kerala Education Act and Kerala Education Rules come in to force with effect from 1st June 1959. The post of the Director of Public Instruction was included in IAS cadre from the year 1960-61. The Examination Section which was functioned as port of the Directorate of Public Instruction was separated and Commissionarate of Govt.

Examinations (Pareeksha Bhavan) was started with effect from 1st Oct. 1964 under the Directorate of Public Instruction. The Director of Public Instruction has been continuing as the Commissioner for Govt. Examinations since 1964. During the year 1956-57 there were 10,079 institutions under the Education deportment in the Kerala State. These consisted of 17 Arts and Science colleges in the Cochin and Malabar areas, two training colleges at Thrissur and Kozhikode, one post graduate training college at Thrissur, one Physical education college at Thiruvananthapuram, 762 High school, 1589 Middle schools, 6699 Primary schools, 87 Training schools, 7 Music and Fine arts schools, 5 schools for the physically handicapped, 33 Fisheries schools, 13 Nursery and Kinder Garden schools, 6 Technical schools, 2 Certified schools, 460 Basic schools, 32 Social Education Centers and 363 other special schools. Of these, 2129 were Govt. institutions and the remaining 7950 were under private management.

In accordance with the National Policy of Education (1986), District Institute of Education and Training (DIETs) were established In 14 districts of the State. The main function of DIETs is to provide academic and resource support at district level for the success of various program being undertaken in the field of primary and adult education. The Vocational Higher Secondary Education was introduced In the State during 1983-84. It is designed to prepare skilled work force in the middle level in one or more group of occupations, trade or job after matriculation at 10+2 stage of Education. The objective of the course is to enhance individual employability to provide an alternative for those pursuing higher education without particular Interest or purpose. Consistent with the National Policy of Education (1986), Government have decided to de-

link Pre degree Courses from Colleges in a phased manner and to Introduce 10+2 system in High schools of Kerala. Accordingly, Higher Secondary Course was introduced during the year 1990-91 as a step for reorganizing the secondary and collegiate education. The above two courses are functioning in High Schools by upgrading the classes, but the Administrative control is vested with separate Directorates.

The District Primary Education Program (DPEP) introduced in the State during 1994-95 was discontinued and a new scheme - Sarva Siksha Abhliyan (SSA) has now been started to universalize Elementary education by community ownership of the school system. The State Council of Educational Research and Training (SCERT) was established in the year 1994 as an autonomous organization by reorganizing the State Institute of Education (SlE) to provide academic support to General Education in the State. The Director of SCERT is the head of the Organization. It has a general body with the Honarable Minister for Education as chairman. A governing body with Secretary to Govt.(Gen.Edn) as Chairman and the Director of Public Instruction as Vice-Chairman supervises the functioning of SCERT. In brief, there was enormous expansion of educational facilities in the State since Independence. The development of Education over the years was tremendous. As literacy development is concerned; Kerala has the distinction of being a historic state in India so far. Kerala's literacy rate is comparable to the most advanced regions of the world. Kerala's literacy rate which was only 47.18% in 1951 has almost doubled to 93.91% in 2011. Male, female literacy gap which was 21.92% in 1951 has narrowed down to 4.04% in 2011.

Elementary Education

There were 12,961 schools in Kerala in 2018-19; 4,695 (36.22 per cent) government schools, 7,216 (55.68 per cent) aided schools and 1,050 (8.10 per cent) unaided schools. More government schools are functioning in lower primary (LP) section than upper primary (UP) or high school (HS) sections. Aided schools outnumber government schools in all sections. Malappuram District has the largest number of schools (1561) in the State followed by Kannur (1308) and Kozhikode (1281). Malappuram also has the largest number of government (553) and unaided schools (201) in the State. But the largest number of aided schools is functioning in Kannur District (963). There are 1,500 schools in the State which are offering syllabi other than the one prescribed by the State government. These include 1288 CBSE schools, 162 ICSE schools, 36 Kendriya Vidyalaya and 14 Jawahar Navodayas. One Jawahar Navodaya Vidyalaya school is functioning in all the Districts. There is an increase in the enrolment of students in 2019-20 to 37.17 lakh from 37.03 lakh in 2018-19.

Higher Secondary Education

Higher secondary courses were introduced in the State in 1990-91 to reorganize the secondary level of education in accordance with National Education Policy. There were 2,077 Higher Secondary Schools (HSS) in 2019 in the State. Out of these 839 (40.4 per cent) are Government schools, 858 (41.3per cent) are aided schools and the remaining 380 (18.3per cent) are Unaided and technical schools. Among the Districts Malappuram has the largest number of HSS (248) in the State followed by Ernakulam (209) and Thrissur (203) respectively. There are 7,249 batches of higher secondary classes in 2019. The enrolment in HSS was 3,84,128. Malappuram had the largest

number of batches (1067) with an enrolment of 59,068 students. The pass percentage of students in higher secondary courses has increased from 76.56 per cent in 2017-18 to 84.28 per cent in 2018-19.

Vocational Higher Secondary Education

Vocational higher secondary education was introduced in the State in 1983-84. Vocational higher secondary education in the State imparts education at plus two levels with the objective of achieving self/wage/direct employment as well as vertical mobility. There are 389 Vocational Higher Secondary Schools (VHSS) in the State with a total of 1,101 batches. Out of these 261 are in the Government sector and 128 in the Aided sector. Kollam (52) followed by Thiruvananthapuram (41) has the largest number of Vocational Higher Secondary Schools in the State. The percentage of students eligible for higher education in VHS examination in 2019 March is 80.1 per cent (including those who appeared for SAY examination).

University and Higher Education

There are 14 State universities functioning in Kerala. Out of these, four universities viz. Kerala, Mahatma Gandhi, Calicut and Kannur are general in nature and are offering various courses. Sree Sankaracharya University of Sanskrit, Thunchath Ezhuthachan Malayalam University, Cochin University of Science and Technology, Kerala Agricultural University, Kerala Veterinary and Animal Science University, Kerala University of Health Sciences, Kerala University of Fisheries and Ocean Studies, Kerala Technological University offer specialized courses in specified subject areas. Besides these, the National University of Advanced Legal Studies (NUALS)

established in 2005 and a Central University incepted in Kasargod District are also functioning in the State.

Arts and Science Colleges

There are 229 arts and science colleges in the State comprising of 163 private aided colleges and 66 government colleges. Apart from these, various un-aided/self- financing arts and science colleges are also functioning in the State with the affiliation of universities. In 2018-19, Ernakulam and Thiruvananthapuram (26) had the largest number of arts and science colleges in the State followed by Kottayam (24). Thiruvananthapuram and Kozhikkode have the largest number of government colleges (10) in the State. Total number of students enrolled in various arts and science colleges (excluding unaided colleges) under the four general universities in Kerala in 2018-19 is 3.28 lakh. Of this, 2.2 lakh (68 per cent) are girls.

Technical Education

Technical education aims at human resource development by way of application of technology for the benefit of the society, in terms of improving the quality of life, enhancing industrial productivity and improvising technologies for the overall development of the community. Technical education imparts education to young generation enabling them to contribute to the sustainable development and improvement of quality of life of the society.

Engineering Colleges

There are 179 engineering colleges in the State with a sanctioned intake of 51,764 in 2019. Out of these engineering colleges 167 (93.3 per cent) are self-financing colleges

(unaided), 9 (5.0 per cent) are government colleges and 3 (1.7 per cent) are private aided colleges. Largest number of the unaided engineering colleges are functioning in Ernakulum (32) followed by Thiruvananthapuram (25). There is no government engineering college in Kollam, Pathanamthitta, Alappuzha, Ernakulam, Malappuram and Kasaragod Districts. Of the engineering colleges in Kerala, the largest number of branch wise seats was in Electrical and Electronics (16,120) followed by Mechanical Engineering (10,315), Computer Science (9,384) and Civil Engineering (9,255).

Current Scenario

As per the School Education Quality Index (SEQI) of NITI Aayog, Kerala recorded an impressive performance in education by securing 82.17 per cent score and secured the top position. As per the report, the State scored 100 per cent in terms of the transition of students from primary to secondary classes and 95.4 per cent in inclusive education. There is an increase in the enrolment of students in 2019-20 to 37.17 lakh from 37.03 lakh in 2018-19. The hi-tech school project in schools has been successfully implemented (table.5.24).

Table 5.24: School Education in Kerala

Education			1970-71	1980-81	1990-91	2000-01	2009-10	2012-13	2016-17	2017-18	2018-19
60	Primary Schools	No.	9437	9605	9682	9714	9828	9737	9861	9852	9841
61	Enrolment	'000s	4156	4284	4402	3637	3015	2545	2398	2384	2428
62	High Schools	No.	1199	1971	2451	2596	2814	2890	3021	3119	3120
63	Enrolment	'000s		1310	1498	1611	1443	1426	1365	3681	3704

Source:Economic Review 2019

5.7. Migration in Kerala

A recent trend in the employment sector in the state is the inflow of interstate migrants' lobour from other states like West Bengal, Bihar, Orissa, Chhattisgarh, Jharkhand etc…,beside

from the adjacent states. Higher wages for unskilled labour in the state, large opportunities for employment and shortage of local labour, paradoxically, despite the high unemployment rate in the state, led to massive influx of migrant labour to the state. These workers are less advantaged group in the labour market working for a subsistence living. Below table shows the distribution of migrants from other state.

Table.5.24: Distribution Of Migrants - 2011

Districts	No. of Migrants
Ernakulum	55977
Idukki	53056
Thiruvanathapuram	48575
Palakkad	47955
Kasaragod	31884
Kannur	28115
Thrissur	25358
Kozhikode	23118
Malappuram	22092
Wayanad	18710
Kollam	16797
Kottayam	16349
Pathanamthitta	13683
Aleppey	11180

Source: Compiled from census of India, 2011 Economic review, 2011

The migrant labourers get much higher monetary wages than in their native places and they work for longer hours and their real wages may be lower. They live in shanty houses/rooms in slums like localities often on a sharing basis. These workers are

predominantly engaged in the construction, plywood and steel industries, their presence is noticeable in almost all employment including service sector in the state. Because of their lower levels of reservation wages and they do not have organization, union and lack of voice.

Highlights of the Kerala Migration Survey 2011

Migration has been a significant factor in helping reduce poverty, unemployment and relative deprivation in Kerala. There has been steady migration from the state of Kerala to countries in the Gulf and different parts of India and the world. It is estimated that over 10% of the population of Kerala lives outside the state, in various parts of India and abroad particularly in the gulf region, US and Europe study" Kerala migration survey2011" conducted by Shri. K.C.Zachariah and Shri.S.Irudaya Rajan - Centre for Development Studies, Thiruvananthapuram.

External Migration

- It is estimated that the number of Kerala emigrants living abroad in 2011 is 2.28 million, up from 2.19 million in 2008, 1.84 million in 2003 and 1.36 million in 1998.
- The number of Kerala emigrants who returned and living in Kerala in 2011 is estimated to be 1.15 million. It was 1.16 million in 2008, 0.89 million in 2003 and 0.74 in 1998.
- Only about 18.2% of the Kerala households had an emigrant in 2011 and only 27.1% had an NRK. The vast majority of the households nearly 82% did not have an emigrant member. Nearly three- fourths had neither an emigrant nor a return emigrant.

- The vast majority of the emigrants from Kerala in 2011 were Muslims (about 45%), although their share in the total population was only about 26%. On the other hand, the Hindu emigrant were only 37.5% of the total, their share in total population is about 56%.However,over the years, the Hindu have improved their share ,from 29.5% in 1998to37.5% in 2011. The gain among the Hindus was mostly at the expense of the Christians whose share shrank from 25.1in 2003to 17.9by 2011.
- The largest number of emigrants originated from Malappuram district, a position it retained from the beginning. However, its share has shrunk somewhat from 21.8% in 1998 to 17.9% in 2011.
- The principal countries of destination of Kerala emigrants have remained more or less unchanged over the years, with 90% of the Kerala emigrants going to one or other of the Gulf countries. Within the Gulf region, the UAE retained its number one rank, with Saudi Arabia coming in the second position.

Internal Migration

- The number of Kerala migrants living on other states in India in 2011 is estimated to be 9.31lakh, up from 9.14lakh in 2008.
- The number of Kerala out-migrants who returned and are now living in Kerala in 2011 is estimated to be 5.11lakh. The corresponding number was 6.86lakh in 2008, 9.94lakh in 2003 and 9.59lakh in 1998.
- Interstate migrants numbered 1.44million in 2011, 1.60 million in 2008, 2.11million in 2003 and 1.65million in 1998.

- The vast majority of the out-migrants from Kerala were Hindus 59.7% in 2011, the Christians were about 26.7% and Muslims were only 13.7%. Between 2008 and 2011, the share of the Hindu out- migrants declined from 61.7% to 59.7%, the share of the Christian out-migrants also declined from 30.9%to 26.7%, but the share of the Muslim out-migrants increased from 7.4% to 13.7%.
- Palakkad district accounted for the largest number of out-migrants from kerala, a position it retained from the begging. Thus the palakkad- Malappuram corridor is the most migration-prone area in the state, with Palakkad topping in the field of out- migration and Malappuram in the case of emigration. Kottayam district comes second in the order of out- migration followed by Kannur district.
- Pathanamthitta district, which led all district in 1998 in the matter of out- migration, is almost at the bottom of the list in 2011.

Migration of Casual Workers to Kerala

The large scale migration of workers from West Bengal, Assam, Bihar, Odisha, Uttar Pradesh, Tamil Nadu, Jharkhand, etc… to Kerala prompted by several factors, including high wage rate of manual and unskilled workers, better labour atmosphere and comfortable living conditions in Kerala. There were estimations on the number of guest workers in Kerala, with some studies pegging the number at around 25 Lakh. There is no clear data on the total number of migrants and sources of their origin available with the Labour Department or

other official agencies. The Gulati Institute of Finance and Taxation (GIFT), Thiruvananthapuram has estimated their number to be 25 lakhs on the basis of a study they conducted in 2013. The number might have swelled to 30 lakhs by now. The GIFT projects this to go up to 40 lakhs by the end of the decade. The state-wise percentage of migrant labourers residing in Kerala, according to GIFT, is: West Bengal (20), Bihar (18.10), Assam (17.28), Uttar Pradesh (14.83), Odisha (6.67) and the rest of the states (23.13). The study found that over 70 percent of the labourers earned above Rs 300 a day on an average and each labourer sends Rs 70,000 to his family annually. The workers, who were getting only Rs 50 to Rs 70 a day in these states, came in troves when they were offered Rs 300 to Rs 400 a day in Kerala. Attracted by the higher wage, people started coming to Kerala. Workers from Bangladesh and Nepal also came. The largest concentration of migrant workers (60 percent) is in the construction sector, which has been witnessing a boom over the past one decade and more. The rest works in farms, hotels and restaurants, shops and manufacturing units. Besides Paippad, other centres where largest concentration of migrant labourers found are Perumbavoor in Ernakulam district, and Cheruvannur in Kozhikode.

5.8. Decentralization In Kerala

Participatory development and democratic decentralization are accepted as a strategy of development all over the world to enhance the quality of governance. Participation would strengthen democracy and thus promote good governance. The involvement of the people and utilization of their knowledge and expertise will make development sustainable. The most

important aspect of participation is effective devolution of power to the people so that they have a decisive role in making decisions concerning them. Participation also creates opportunities for the marginalized sections to influence decisions.

The 73rd and 74th Amendments in the Indian Constitution put forward the objective of democratic decentralization. Considering the importance of the 73rd & 74th Acts, the state government have initiated one of the most historic and revolutionary step towards decentralization process in the state. Over the last two decades, Kerala's experience in decentralization has been accepted globally as one of the most significant institutional reforms in public governance. Kerala adopted a big bang approach to decentralization with the launch of People's Plan Campaign on 17th August 1996. The process of decentralised planning was launched in IXth Five-Year Plan, consequent to the enactment of Kerala Panchayati Raj Act (1994) and Kerala Municipality Act (1994) and the constitutional amendments by ensuring peoples participation in the decentralized planning process. Under the X Five-Year Plan, the decentralisation programme in Kerala was restructured and named "Kerala Development Plan" (KDP). In the XI Five-Year Plan period, the entire process was revamped by giving stress to the concept "People's Planning," focusing on the completion of the institutionalisation of decentralised government. The XII Five-Year Plan approach envisaged some concrete steps to strengthen the planning process with the use of information technology. The second phase of the "People's Plan," campaign has now been inaugurated. The thrust in the XIII Five-Year Plan period is on second-generation social and economic issues confronting the State. The second phase of

decentralised planning aims at solving these second-generation problems with genuine people's participation backed by strong administrative and political measures.

It is basically the process of devolving the functions and resources of the state to the elected governments at the lower levels so as to facilitate greater direct participation by the citizens in governance including fixing of local priorities, identification of feasible schemes, selection of beneficiaries, monitoring of implementation etc. The most prominent feature of Kerala's decentralisation is the devolution of Plan resources on formula based, non-discretionary and equitable manner. This has enabled the Local Governments to receive development funds from the State's Plan allocation for implementing schemes formulated at local level. Since the launch of decentralised planning in 1997-98, an average about 25 per cent of the State's investible resources have been devolved to local governments as Development fund. In addition, the State transfers 3.5 per cent of its own tax revenue as General purpose fund and 5.5 per cent of own tax revenue as Maintenance fund every year. Local Governments have absolute freedom in formulating and implementing projects based on their priorities subject to Plan guidelines issued by the State government.

Major Landmarks in Kerala’s Decentralized Planning

Some of the major landmarks in the decentralized planning process are: Enabled the state to structure a systematic participatory planning methodology at various stages of developmental planning process, implementation, monitoring etc. Initiated the transfer of about 25% of the annual plan allocation of the State Plan to the LSGs in the form of untied plan grant for implementing projects for local development

according to the wishes of the people. Enabled transfer of powers, functions, institutions and staff to LSGs and improved not only the capacity of the local public but also capability of the elected representatives in understanding and identifying local level planning. It introduced a transparent method in the selection of individual beneficiaries of the schemes based on some fixed criteria. Decentralized planning laid foundation for wide ranging reforms like right to information, a good practice in giving benefits, enhanced accountability mechanisms, outsourcing of technical support, improved management system and simplified planning process. It motivated improvement of accountability and introduced good governance features in the administrative set up. It made local governance more practical, responsive and transparent. Created a positive effect on reducing poverty to some extent by providing provisions to meet the basic needs of the weaker sections of the society especially by introducing 'Ashraya' concept.

Working of Decentralized Planning in Kerala

The decentralized planning in the State operated mainly through the Grama Sabha (GS). People's participation in decentralization was sought to be ensured mainly through meetings of the Grama Panchayat (GP) ward level Grama Sabha, chaired by the ward member. Ten per cent of the voters of the ward constitute the quorum; The officials of Grama Panchayat and implementing departments are required to attend the Grama Sabha meetings. The Block level Grama Sabha consisting of Grama Panchayat Presidents and Block Samiti members and the District level Grama Sabha consisting of GP presidents, Block Panchayat Presidents and District Panchayat members were meant to vertically integrate plans. The Neighbourhood Groups (NHGs) was envisaged as a sub-system

of Grama Sabha, NHG (Ayalkoottam) would be formed as an association of 20-25 women members to identify women from among themselves to form Self Help Groups (SHGs) for carrying out the Women Component Plan (WCP). Based on Grama Sabha recommendations, a one day District Sabha would be held every year which includes experts, elected members, representatives nominated by the Grama Sabhas, to discuss the draft annual plan document of the Panchayat Raj Institutions (PRIs), suggest the broad priorities of development projects and select members of Task Forces (Working Groups). At the apex level, the SPB, co-ordinates with the Department of Local Self Government and takes the lead in decentralized planning at different tiers by issuing Guidelines and observing compliance and progress. Apart from the conduct of Local body elections, the State Election Commission has been empowered to delimit the wards of PRIs for elections and to disqualify the defectors. The 1st State Finance Commission was constituted in 1994 and the 2nd in 1999. The 1st State Finance Commission (SFC) submitted its report in February 1996.

Functions of Grama Panchayat

The GP is the lowest tier and there are mandatory functions as well as regulatory functions to GP. Civic functions like provision of local public goods such as roads, waterways, street lights, drainage, solid waste management, public markets, burial grounds, bathing places, ferries, parking places, waiting sheds etc. The regulatory functions assigned to the GP are regulating building construction, slaughtering of animals, sales of meat, fish and perishable articles, regulating eating places, prevention of adulteration, regulation of fairs and festivals, licensing of destructive and offensive trades. Environmental protection, registration of birth and death, immunization, vector

control, and management of stray dogs are also the mandatory functions. The general functions of the GP include collection of data, organizing voluntary work, campaigning for thrift, neighbourhood groups and self-help groups, ensure people's participation, generation of communal harmony and awareness building on civic duties. Many welfare functions have been assigned to the GP. Identification of the homeless and provision of dwellings, implementation of family welfare programmes, running of Anganwadies, sanctioning and distribution of various pension schemes for the poor, implementation of poverty alleviation programmes, protection of relief works are some of the welfare functions assigned. The promotional functions are the development of co-operatives, self help groups among farmers, planting of trees, promotion of cottage industries, handicrafts, traditional industries, encouragement of use of biogas etc. The implementation of various schemes of central and state governments is also the function of the local bodies so that it performs the agency function.

Functions of Block and District Panchayats

Only limited functions have been envisaged for Block Panchayat. The general functions mainly consist of providing technical advice to the GPs, utilization of technical expertise at Block level and preparation of complementary schemes to that of GP. The District Panchayat (DP) is the apex of local bodies, but each layer is autonomous. The general functions of the DP are similar to the BP such as mobilization of technical expertise and provision of technical advice to BPs and GPs and Municipalities and preparing complementary schemes for the programmes at lower levels. The sectoral functions for BP as well as DP have been specified in the Act.

The Revenue Sources of Local Bodies

The revenue sources of the local body can be broadly classified into a) tax revenue b) non-tax revenue c) grants and d) loans.

Tax revenue can again be classified into 1) own taxes, 2) assigned taxes and 3) shared taxes. Own taxes are assigned by state and levied and collected by the local body. Assigned taxes are those statutorily assigned to local bodies, but collected by state government and made over to local bodies. Shared taxes are assigned to the states and collected by them but a share of the proceeds is distributed among the local bodies.

Non-tax revenue consists of income from property, markets, license fees, contributions etc.

Grants-in-aid may be broadly divided into a) plan grant b) specific purpose grant, c) general purpose grant and d) central Finance Commission grant. Loans mainly consist of loans from government and other financial institutions. The Kerala Panchayat Raj Act empowers the panchayats to raise loans (Section 197). Only the GP (also for urban local bodies) has got the power to tax. The newly created BP and DP have no tax source. Only assigned tax is part of basic tax to these bodies, which is provided in the form of a grant. Hence, these bodies are almost fully relying on grants of the state government for its functioning.

People's Plan Campaign (PPC)

The distinguishing feature of decentralization in Kerala is the democratization of the planning process. There is no existed well-established or experimented methodology of grass root level planning for the state to emulate. Therefore, a methodology for bottom-up participatory planning was developed. In participatory planning, choice and priorities are fixed by the people. This necessitates drawing the people into

the planning process. Hence, the planning process was launched as campaign. The methodology for the planning evolved for this had nine phases.

- Grama Sabha
- Development seminar
- Task forces
- Preparation of local plan
- Preparation of higher level plan
- Plan appraisal and sanction.
- Implementation
- Monitoring
- Evaluation

All the voters in a ward are the members of the Grama Sabha (GS). Kerala Panchayat Raj Act 1994 empowers the GS to make decisions regarding the developmental issues in the locality. The financial condition of the local bodies in Kerala is very fragile. In 1993-94, 88 per cent of the GPs in Kerala did not have enough revenue from own source, to meet salary, office expenses and routine maintenance expenditures. More than half of the GPS failed to meet their revenue expenditure even after accounting for assigned taxes.

At present, there are 1,200 local governments in Kerala, which include 941 Grama Panchayats, 152 Block Panchayats, 14 District Panchayats, 87 Municipalities and 6 Municipal Corporations. The allocation of development funds to LGs is being done under three categories - General Sector, Scheduled Caste Sub Plan (SCSP) and Tribal Sub Plan (TSP). The outlay for each category during 2011-12 to 2015-16 was fixed on the basis of the recommendations of the IV State Finance Commission (SFC). In the subsequent years, the change in outlay was in accordance with the increase in State Plan outlay.

The Commission recommended that at least 25 per cent of the likely Plan size of the State should be devolved to LGs for development purpose. The fund would be inclusive of the devolution from the Central Finance Commission and allocation to LGs for World Bank supported project called the Kerala Local Government Service Delivery Project.

Review of the XII Five-Year Plan

In the beginning of the twelfth Five-Year Plan some changes were made in the Plan guidelines, mainly in sectoral ceilings and project appraisal. There was no mandatory minimum ceiling in productive sector during the first four years. In case of infrastructure sector, the mandatory ceiling was fixed at 45 per cent in Grama Panchayats and Block Panchayats, 55 per cent in Municipalities and Corporations and 50 per cent in District Panchayats under general sector outlay. In addition, 10 per cent of the development fund was mandatorily earmarked for Women Component Plan and 5 per cent to children, old age, differently abled, palliative care and other vulnerable groups. The experience in the first four years was reviewed by the new government in 2016-17 and a decision was taken to restore the mandatory minimum allocation of 20 per cent under productive sector and minimum allocation of 10 per cent for sanitation. The budget allocation (Development Fund) to Local Governments in the XII Five-Year Plan is outlined in Table 5.25

Table.5.25: Award of Development Fund for LGs (2012-17), in crore

Year	State Plan Outlay*	Development Fund to LSGs	% to State Plan Outlay
2012-13	14010.00	3228.00	23.04

2013-14	17000.00	4000.00	23.52
2014-15	20000.00	4700.00	23.50
2015-16	20000.00	4800.00	24.00
2016-17	24000.00	5000.00	20.83
Total	95010.00	21728.00	22.90

*Inclusive of KSEB's contribution

The total development fund available with local governments in a financial year includes unspent balance of the previous year. However, the system of carrying forward the unspent balance to the next financial year was discontinues from April 1, 2016 onwards. In the XII Five-Year Plan, the budgeted outlay of development funds to local governments was 21,728 crore and 19,001.75 crore was utilised (Table 5.26).

Table.5.26: Development Fund Year-Wise Outlay and Expenditure in XII Five-Year Plan, in crore

Year	Budgeted Outlay	Expenditure	% to Budgeted outlay
2012-13	3,228.00	2,741.97	85.00
2013-14	4,000.00	3,918.27	98.00
2014-15	4,700.00	4,033.94	86.00
2015-16	4,800.00	4,467.76	93.00
2016-17	5,000.00	3,839.81	76.00
Total XII Plan	21,728.00	19,001.75	87.00

*Inclusive of KSEB's contribution

Major Policy Changes Initiated in the First Year of XIII Five-Year Plan

The two decades of Kerala's decentralized planning experience is unique and recognized world over. In the XIII Five-Year Plan period, the State envisages revitalization of the system of democratic governance by analysing the experiences of the past. The year under review witnessed some major changes in

the methodology of local level participatory planning in Kerala. The changes were introduced in accordance with the approach of the Thirteenth Five-Year Plan of the State. The second phase of the democratic decentralization in Kerala has been initiated with the introduction of a new set of guidelines for formulation and implementation of the Local Government Plans. An important objective of the new guidelines was to simplify the procedures so that delays can be avoided. On account of the cumbersome procedures that existed until now, the Plan formulation and its approval took more time than implementation. Therefore, the Local Governments were forced to rush through the process of implementation during the terminal months of the financial year. It was also responsible for the bunching of payments in the month of March. As a result of the introduction of the new methodology, all the Local Governments in the State could complete the process of formulation of their Annual Plans for 2017-18 before 15 June 2017. This is an unprecedented achievement in the history of local level planning in the State. Accordingly the year also witnessed early beginning of the implementation process. The Local Governments have already started the preparations for making the Annual Plan for 2018-19. The aim is to get it approved well before the beginning of the financial year. As a consequence, it is also hoped that the objective of integrating Annual Plans and the Local Government budgets would be achieved for the first time in 2018-19.

The Thirteenth Five-Year Plan of the State government places special emphasis on the issues arising due to fast moving urbanization in Kerala. It recognizes the importance of developing appropriate strategies and programmes for coping up with challenges and opportunities thrown up by the process

of urban growth. Keeping this in view, the Government has issued for the first time a separate set of guidelines for Plan formulation in urban Local Governments. An equally important initiative introduced in the year is the effort to make the district Plans. It is a constitutional mandate that the District Planning Committees make District Plans for integrating development plans prepared by various tiers of governments in the district. The State government has already issued the guidelines for the preparation of the district Plans. The District Planning Committees in the State are now engaged in the task of preparing the District Plans well in advance so that its suggestions can be incorporated in the Local Government Plans for 2018-19.

Although ‘beneficiary committees' were introduced for facilitating people's participation in Plan implementation, as many studies have pointed out, they have over time degenerated as agencies of corruption. The Thirteenth Five-Year Plan proposes to plug such loopholes in the system. The new guidelines, therefore, promotes e-tendering, besides restricting beneficiary committees to areas where they were found effective. The shift in the system of execution of public works is expected to bring about major savings in the cost of public works at the local level.

The new guidelines were designed to extend the autonomy of decision making at the local level. This is sought to be achieved by broadening the scope of subsidies that can be given through local government Plans. Besides the local governments are allowed a window of ‘Innovative Programmes' for designing schemes that are innovative but not allowed under the general rules regarding subsidies.

Other major policy changes are:

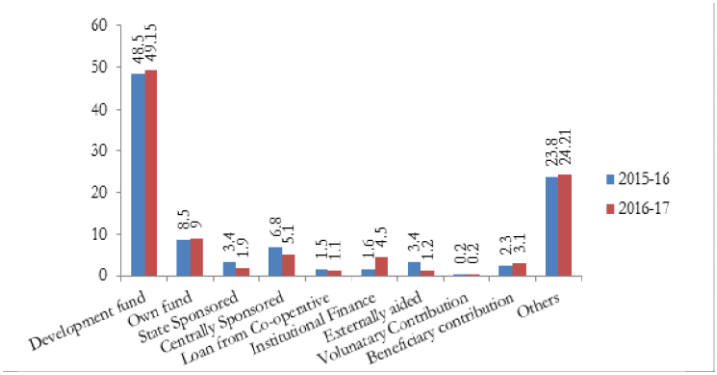
- Mandatory minimum allocation of 30 per cent for productive sector under general sector fund was ensured in the case of three tier panchayats and 10 per cent in the case of urban local bodies. Also 5 per cent allocation for disabled and children, 5 per cent for old age/palliative population, 10 per cent for WCP and 10 per cent for sanitation were ensured.
- Planning Committees were formed in all local government institutions for Plan formulation, implementation and monitoring of Plan schemes. This ensured the active involvement of all stakeholders in the Plan formulation of 2017-18 financial year.
- All the local governments in the State prepared Status Reports in 2017-18.
- The activities of four Development Missions launched by the Government namely - AARDRAM, HARITA KERALAM, LIFE and Education Mission which seeks to address the developmental problems of the State, are integrated with the Plans of local governments.

Financing of Local Government Plans - Annual Plan 2016-17

The various sources of funds available to local government institutions include Plan allocation (Development Fund), own fund, State sponsored schemes, centrally sponsored schemes, beneficiary contribution etc. In 2016-17 the total size of the Plans of all local governments was 11,644.62 crore. Out of which the share of development fund released to all local governments constitutes 5,724.90 crore, i.e. 49 per cent of the total allocation from various sources. The own fund contributes

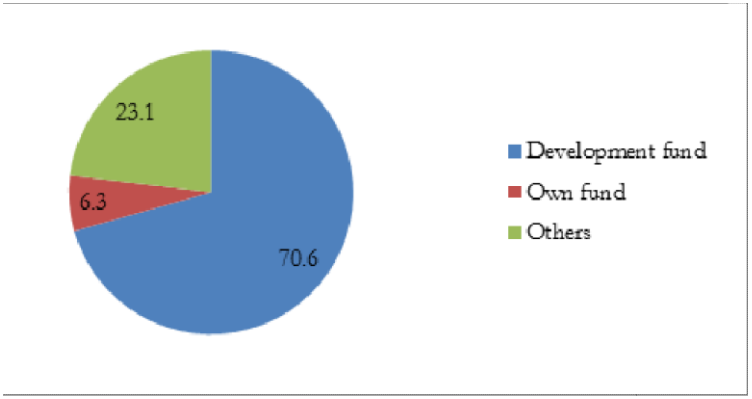
only 9 per cent of the total Plan size and the balance fund comes from other sources. Source-wise funding details and the respective percentage share to total fund allocated in 2015-16 and 2016-17 are given in Figure 5.4 Source/Sub-sector wise details of 2015-16 and 2016-17 given below.

Figure 5.4:



Sources of Financing LGs Plan – 2015-16 and 2016-17, in per cent. Source: Information Kerala Mission, 2017

Figure.5.5: Expenditure Share of Different Sources of Funds in 2016-17, in per cent



*Others include State sponsored, centrally sponsored, loan from co-operatives, voluntary contribution, beneficiary contribution and others (items excluding grant in aid and own fund).

It reveals that the share of development fund to total Plan size of local governments is 49 per cent and at the same time, the share of development fund to total expenditure was 70.6 per cent in 2016-17. It shows that the dependency of the local governments on development fund for expenditure responsibilities is very high and the local governments are not adequately exploiting the potential of own revenue generation.

Performance of Local Government – Development Fund

The budget allocation under the category of development funds to local governments in the Annual Plan 2016-17 and 2017-18 are given in Table 5.27. It may be noted that the allocation to local government institutions is in accordance with the recommendations of the State Finance Commission and policy decisions thereon. The local governments allocate their development funds (Plan allocation) broadly under three sections viz; productive, service and infrastructure sectors according to local government priorities and Plan guidelines. The productive sector mainly includes agriculture and allied sectors, soil and water conservation, irrigation and industries. The service sector consists of education and allied sectors, health and allied services, development of women and children and labour welfare etc. and the infrastructure sector includes energy, transportation and buildings.

In the year 2016-17, the total fund released under the category of development fund was 5,724.90 crore which is higher than the budgeted outlay of 5,000.00 crore. Out of the total fund released, 3,839.88 crore was utilised for different sectors in 2016-17. Thus, the Plan fund utilisation percentage in 2016-17 was 67.07 per cent which was lower compared to the previous year (73.6 per cent). It may be noted that the expenditure

pattern shows variations among different tiers of local bodies. Among the three tiers, the performance of Block Panchayat was better with 70 per cent expenditure followed by Grama Panchayats with 69 per cent and District Panchayats with 68 per cent in 2016-17. Municipalities (64 per cent) and Municipal Corporations (59 per cent) have lowest expenditure among various tiers of government in 2016-17. The tier-wise details of outlay, fund available and expenditure in 2015-16 and 2016-17 are given in Figure 5.6.

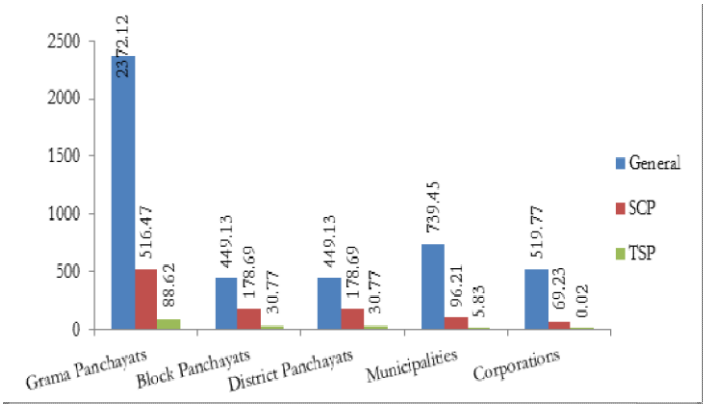
Table.5.27: Budgeted Outlay of Development Fund in 2016-17 and 2017-18 (in crore)

Type of LGs	2016-17				2017-18			
	General	SCP	TSP	Total	General	SCP	TSP	Total
Grama Panchayats	1968.25	516.46	88.62	2573.34	2409.97	582.66	99.98	3092.22
Block Panchayats	361.66	178.69	30.76	571.11	556.20	201.59	34.71	792.50
District Panchayats	361.66	178.69	30.76	571.11	556.20	201.59	34.71	792.50
Municipalities	642.33	95.82	5.82	743.98	761.67	108.10	6.57	876.34
Corporations	471.19	69.22	0.01	540.43	595.81	78.10	0.02	673.94
Total	3805.10 (4529.6)	1038.90 (1039.3)	156.00 (156.01)	5000.00 (5724.9)	4879.85	1172.04	175.99	6227.50

Figures in bracket is revised budget estimate for 2016-17 based on actual release.

Source: Appendix IV 2016-17 and 2017-18

Figure.5.7: Development Fund (2016-17) Released to Different Tiers of LGs (in crore)

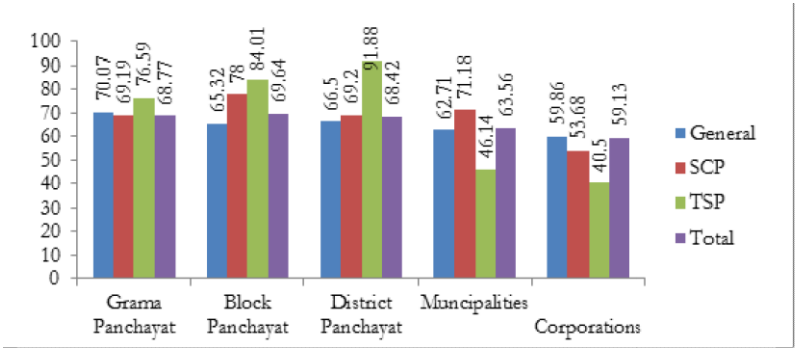


Category-Wise Performance

The allocation of development fund to Local Governments falls in three categories – General Sector, Special Component Plan (SCP) and Tribal Sub Plan (TSP). The outlay for each category is fixed on the basis of recommendations of the State Finance Commission. In 2016-17, an amount of 5,724.90 crore was released to different categories, of which general category, SCSP and TSP constituted 79 per cent, 18 per cent, and 3 per cent respectively. An analysis of category-wise utilisation in 2016-17 reveals that the percentage of expenditure under General Sector was 66 per cent of the total fund released and in the case of SCSP and TSP, it was 70 per cent and 80 per cent respectively. Shortfall in expenditure under SCSP/TSP was a common phenomenon for all tiers of Local Governments in previous years. But in 2016-17 the expenditure under SCSP and TSP category was higher than in the general category. This is a remarkable achievement by local governments. The category-

wise and local body-wise allocation and expenditure in 2016-17 are given in Figure 5.8.

Figure.5.8
Category-Wise Expenditure of LGs in 2016-17 (as percentage to released amounts)



Source: Information Kerala Mission 2017

Sectoral Analysis

The LGs allocate their funds mainly in three sectors viz. productive, service and infrastructure. Out of the total expenditure in 2016-17,the share of expenditure by productive, service and infrastructure sectors was 11 per cent, 64 per cent and 25 per cent respectively. It may be noted that the total expenditure under productive sector has increased compared to the previous year. But still it is far below the minimum sectoral allocation prescribed for the year. The improvement in productive sector expenditure in 2016-17 is an indication of the revival in agriculture and allied sectors. The expenditure incurred by urban local bodies shows a dismal picture in productive sector compared to their rural counterparts. The sector-wise expenditure details of 2015-16 and 2016-17 are given in Table 5.28.

Table.5.28
Sector-Wise Percentage of Expenditure to Total Expenditure in 2015-16 and 2016-17(in per cent)

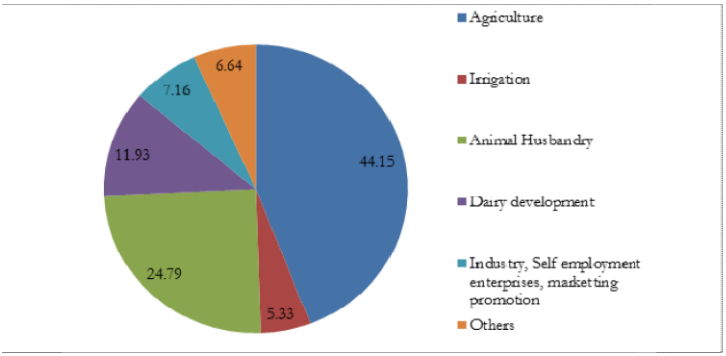
Type of LGs	2015-16				2016-17			
	Productive	Service	Infrastructure	Total	Productive	Service	Infrastructure	Total
Grama Panchayats	8.81	53.21	37.98	100	12.22	63.73	24.05	100
Block Panchayats	7.92	59.43	32.65	100	14.84	62.27	22.89	100
District Panchayats	6.93	60.43	32.64	100	14.73	67.71	17.55	100
Municipalities	5.27	51.37	43.35	100	7.25	61.94	30.81	100
Corporations	4.30	48.59	47.10	100	3.14	65.55	31.31	100
Total	7.68	54.47	37.85	100	11.31	63.94	24.75	100
Source: Information Kerala Mission 2017								

Productive Sector

The productive sector includes sub sectors such as agriculture, animal husbandry, dairy development irrigation, industry, energy conservation, fisheries etc. The total utilisation of Plan resources in the Annual Plan 2016-17 under productive sector was 434.32 crore. Out of the total productive sector expenditure by various tiers of Local Governments, 44 per cent of fund was utilized for the implementation of schemes under agriculture and allied sectors in 2016-17. The LGs have given more

weightage to agriculture and allied sectors compared to industries and other productive sectors. The industries sector has not received due consideration over the review period. The rural local bodies, especially Grama Panchayats have given major attention to the implementation of agriculture and allied programmes in productive sectors by spending a major share of the total expenditure incurred in productive sector. The details of productive sector expenditure in 2016-17 is Figure 5.9

Figure.5.9
Sub-Sector Expenditure Share of Productive Sector in 2016-17 (as percentage)

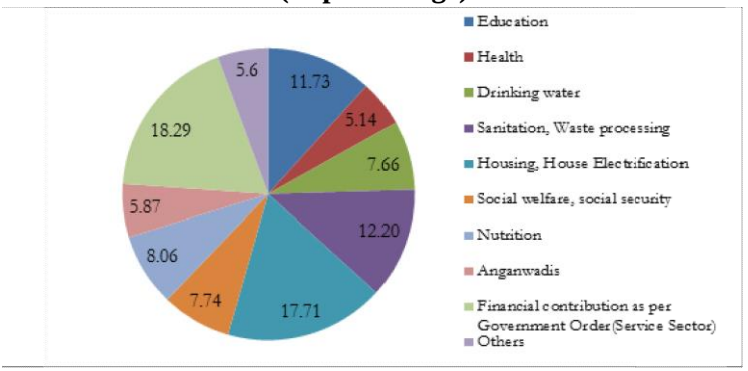


Service Sector

Social welfare and service sector is the major sub sector under, which the local governments set apart a major source of Plan allocation. The major service sector expenditure incurred by local governments include housing, education, sanitation and waste management etc. and these investments play a crucial role in local public governance. The service sector priorities of local governments enhance the quality of basic services provided to the public through welfare oriented programmes. Service sector fund utilization in 2016-17 has improved than

the productive and infrastructure sectors and achieved 64 per cent of the total expenditure. An amount of 449.11 crore was spent by the local governments in 2016-17 for financial contributions under service sector as per government order. The total expenditure for service sector activities by all the local governments comes to 2,455.24 crore in 2016-17 which is higher than the previous year. The lion's share of service sector expenditure undertaken by all the local governments was in housing and related expenditure. An amount of 434.76 crore was expended on housing, house maintenance and related activities. Sanitation and waste processing activities accounts for (299.44 crore) another major share in service sector expenditure. The expenditure on education and nutrition was 287.9 and 198.01 crore respectively. The expenditure under service sector in 2016-17 is shown in Figure.5.10.

Figure.5.10
Sub-Sector Expenditure Share of Service Sector in 2016-17 (as percentage)



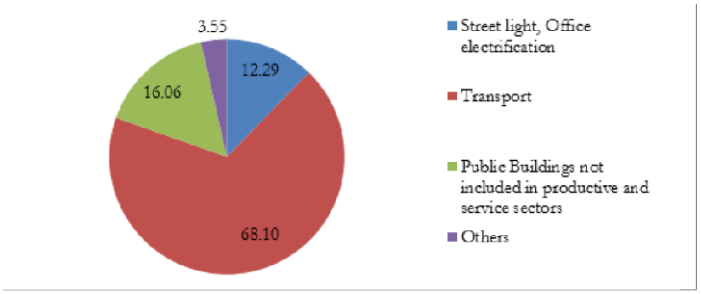
Infrastructure Sector

In 2016-17, the Local Governments set apart 25 per cent of the total expenditure on infrastructure sector activities such as

street lighting, transportation, and construction activities etc. The expenditure in 2016-17 shows a marginal decrease and the overall infrastructure expenditure as a share of total expenditure reduced to 25 per cent from 38 per cent of 2015-16. Out of the total expenditure a major portion has been utilised for transport sub-sector which includes roads, bridges etc. Out of the total infrastructure expenditure of 950.32 crore, Grama Panchayats utilised 492.44 crore which is followed by municipalities (164.77 crore). Expenditure details under infrastructure sector in 2016-17 is given in Figure 5.11.

Figure.5.11

Sub-Sector Expenditure Share of Infrastructure Sector in 2016-17 (as percentage)



Scheduled Caste Sub Plan and Tribal Sub Plan under Decentralization

The Scheduled Caste Sub Plan and Tribal Sub Plan are prepared based on Article 46 of Constitution of India for providing special protective measures to safeguard the interest of Scheduled Caste (SCs) and Scheduled Tribe (STs). This constitutional mandate requires the State 'to create a regime of equality including social equality through comprehensive measures of social justice.' As one of the major objectives of decentralised planning is to empower social equity and to improve the socio-economic status of Scheduled Castes and

Scheduled Tribes and enhancing their quality of life, the devolution under Special Component Plans has prime importance. The allocation of Plan funds to SCSP and TSP from State Plan outlay is done according to the ratio of population of SCs and STs to total population of the State. Out of the total SCSP/TSP Plan outlay, a portion of funds are earmarked to LGs for implementation of schemes under decentralised planning. The outlay and expenditure for each category in 12th Five-Year Plan are shown in Table.5.29.

Table.5.29
SCSP and TSP Allocation and Expenditure (2012-13 to 2016-17 (in Crore)

Year	SCSP		TSP	
	Budget Allocation	Expenditure*	Budget Allocation	Expenditure*
2012-13	739.46	661.58	110.98	99.65
2013-14	828.2	882.49	124.3	136.89
2014-15	927.58	811.56	139.21	121.61
2015-16	927.58	857.03	139.21	149.78
2016-17	1038.90*	726.02	156.00	124.69

*Revised allocation 1039.29 crore. Source: Appendix IV of the Budget and Information Kerala Mission, 2017.

The expenditure performance of SCSP and TSP funds of local governments has improved over the previous year. The total expenditure incurred by local governments on SCSP compared

to total fund released was 70 per cent, which shows an improvement over the previous year. On the other hand utilisation of 80 per cent of the total TSP fund released, is also an indication of effective fund utilisation. The tier-wise expenditure of SCSP shows that the Block Panchayats and municipalities have the highest expenditure and in the case of TSP, the District Panchayats has the highest expenditure (92 per cent). Municipal Corporations have not effectively utilised both SCSP and TSP funds.

Performance under Special Sector Plans

Women Component Plan and Plan for disadvantaged groups (aged, children, differently abled, palliative and other vulnerability) in the Plan of local governments is one of the salient features in Kerala's decentralised planning. In 2016-17 it was stipulated that of the total Plan size, local governments have to set apart the mandatory provision of 10 per cent for women development and 5 per cent for children and disabled and 5 per cent for aged population. The expenditure on WCP in 2016-17 as percentage to total expenditure was 9.5 per cent, which is slightly lower than the overall WCP sectoral allocation of 10 per cent. In the case of special programme for children and differently abled it comes to 3.5 per cent and 2.3 per cent respectively. The details of expenditure for special sector Plans in 2016-17 is given in Table 5.30.

Table.5.30

Expenditure for Special Sector Plan in 2016-17

Special sectors	Expenditure (in crore)	% to total Expenditure
Women Component Plan	366.35	9.5
Special Programme for	134.72	3.5

Children		
Special Programme for Elderly	56.88	1.2
Differently Abled	89.8	2.3
Palliative Care	66.61	1.7
Youth Welfare Programmes	77.55	2.0
*Inclusive of KSEB's contribution. Source: Information Kerala Mission, 2017.		

Strengthening of District Planning Machinery

District Planning Committee, has been created as per Article 243 ZD of the Constitution of India at the district level for planning at district and below. The district planning as a strategy for a balanced, integrated and meaningful development of district has been an accepted concept since the beginning of the planning era. Accordingly, District Planning Committees were constituted in all the fourteen districts in accordance with the spirit of the 74th Amendment of the Constitution so that they can play the nodal role in Plan preparation by LGs, approval of local Plans, providing suggestions to LGs, monitoring of Plan implementation etc. and their integration at district level as also their linkages with the State Plan. The DPC consists of 15 members headed by the District Panchayat President with District Collector being the Member Secretary. All MPs and MLAs are permanent invitees of DPC and the district level officers are ex-officio Joint Secretaries. The DPCs are fully functional in the State. The District Planning Officer being the Joint Secretary (Co-ordination) of DPC assists the Member Secretary in convening meetings, preparation of agenda, minutes and all other secretarial duties. The constitution of DPC has been done every five years without fail

in the State consequent to the general election to the Local Governments every five year. The construction of DPC secretariat buildings have been completed in Ernakulam, Thrissur, Kasaragod, Wayanad, Kannur and Alappuzha. In the other districts the work is at various stages of completion.

5.9. Poverty Estimation of Kerala After Its Formation.

Compared to innumerable poverty estimates at the national level, only a very limited number of estimates at the state level are available. However, some national estimates provide state wise data of poverty from which the extent of poverty in Kerala is available.

According to Dandekar and Rath estimates, the poverty in Kerala is highest. To their estimates 90.75 and 88.89 percent of the rural and urban population were respectively below the poverty line during 1960-61. These figures were said to be an exaggerated figures as the estimation did not take into account certain locally significant items like tapioca, banana, coconut and fish. The study of C.D.S came as a sharp reaction against the findings of Dandekar and Rath. According to C.D.S estimates, 47 percent of the rural and 54 percent of the urban population were undernourished during 1961-62.

Ahluvalia has estimated the state wise rural poverty ratio for the period 1957-58 to 1973-74.According to him 59.6 percent, 57.8 percent, 62 percent and 49.3 percent of the rural population Kerala were below poverty line during 1957- 58, 1960-61, 1970-71 and 1973-74 respectively. Mahendra Dev has estimated the state wise poverty ratio based on NSS data for the period 1961-62 to 1986-87. His study is based on the monthly

per capita consumption expenditure of Rs.15 at 1960-61 prices. The estimate shows that during 1961-62, 49.7 percent of the rural people were below poverty line in Kerala. For the year 1970-71this percentage was 61.8 and this has declined to 20.9 percent during 1986-87.

Gourav Datt and Martin Ravallion have estimated the state wise poverty ratio for the year 1983 on the basis of NSS data. They have considered monthly per capita consumption expenditure of Rs.89 as the poverty line. They found that 37.76 percent of urban and 39.07 percent of the rural people were below poverty line in Kerala in the year 1983.Thus the authors estimated that 38.82 percent of the total populations in Kerala were below poverty line.

Table.5.31: Poverty in Kerala and India

Year	Round	Poverty Rate (%) (Kerala)	Poverty Rate (%) (India)
1973-74	27	59.73	54.88
1977-78	32	52.22	51.32
1983	38	40.42	44.48
1987-88	43	31.79	38.86
1993-94	50	25.43	35.97
1999-00	55	12.72	26.10
2004-05	61	15.00	27.50
2009-10	66	12.00	29.80

Source: Planning Commission, 2011 and NSSO Data

According to the Planning Commission's estimate, 59.73 percent of the total Kerala population was lived below poverty line during 1973-74 while it was only 54.88 % in all India level in the same period. In the initial years of its formation, the poverty ratio is high compared to the all India average and later it comes down.

Poverty in Kerala

The existing poverty measure of Planning Commission of India is based on the recommended nutritional requirements of 2400 calories/person/day in rural areas and 2100 calories/person/day in urban areas. The official percentage of population below poverty line is estimated based on the household consumer expenditure survey carried out by National Sample Survey Organization (NSSO). Former methods of poverty estimation viz; URP method of estimation and MRP method of estimation have been replaced by Tendulkar method of estimation from NSSO 66th round onwards.

The state specific poverty line 2009-10 for Kerala is fixed at monthly per capita income of Rs. 775.30 which is above the poverty line of other states. The number of persons below poverty line for Kerala is exhibiting a downward trend. It is possible to achieve a zero poverty State in Kerala. Till 1973-74, the incidence of poverty in Kerala, both rural and urban, was higher compared to that in the rest of the country. In 1983-84, however, the relative position of Kerala vis-à-vis India was reversed – the incidence of poverty in Kerala dropped below the Indian average. This was possible because both rural and urban poverty in Kerala declined steadily throughout the last

four decades, and more sharply compared to the decline in the country as a whole.

Trends in Rural and Urban Poverty in Kerala

Historically, Kerala has followed a development path quite different from that of other Indian States. The focus on education and healthcare has resulted in a faster reduction of the poverty ratio in Kerala compared with the other Indian States. According to the official figures, the absolute poverty ratio in Kerala is lower than 12 per cent in 2011-12 and has shown a sharp reduction over the last forty years. The incidence of poverty in Kerala was 59.79 per cent in 1973-74 which came down to 11.3 per cent in 2011-12. At the all India level, the ratio of poverty was 54.88 per cent in 1973-74 (which was lower compared to Kerala) and it reduced to 29.5 per cent in 2011-12. Kerala has also made a substantial improvement in reducing the incidence of both rural and urban poverty. The combined poverty ratio was 59.79 percentage for Kerala and 54.44 percent for India. These figures declined to 12 percentage for rural people and 12.1 percentage for the urban in Kerala for the period 2009-10 and with a combined poverty ratio of 12 percentage. In the same period, the rural and urban poverty for India is 33.8percentage and 20.9 percentage respectively with a combined poverty ratio of 29.80percentage. In Kerala, from 1973-74 to 2011-12, rural and urban poverty ratio has declined from 59.19 per cent to 7.3 per cent and from 62.74 per cent to 15.3 per cent respectively, whereas in India these figures declined from 56.44 per cent to 30.9 per cent for rural people and 49.01 per cent to 26.4 per cent for urban people. The challenge before Kerala is to bring it down further and continue the numerous programmes which have made the achievement possible.

Table.5.32

Head Count Index Of Poverty In Kerala And India

Year	Rural Kerala	Urban Kerala	Total	Rural India	Urban India	Total
1973-74	59.19	62.74	59.79	56.40	49.00	54.88
1977-78	51.48	55.62	52.22	53.10	45.20	51.32
1983	39.03	45.68	40.42	45.60	40.80	44.48
1987-88	29.10	40.33	31.79	39.10	38.20	38.86
1993-94	25.73	24.55	25.43	50.10	31.80	35.97
1999-00	9.40	20.27	12.72	27.10	23.60	26.10
2004-05	13.20	20.20	15.00	28.30	25.70	27.50
Rangarajan Committee Estimates						
2009-10	9.7	23.7	16.00	39.6	35.1	38.2
2011-12	7.3	15.3	11.30	30.9	26.4	29.5

Source: Planning Commission, GOI.

The magnitude of urban poverty has been increasing due to stagnation in manufacturing industry resulting in lower income for urban dwellers. Due to rapid increase in land price and construction costs, a good number of the urban people in Kerala are forced to live in slums. Availability of drinking water and sanitation facilities is grossly inadequate. Urbanization is an important aspect in the process of economic and social development and is associated with many problems such as migration from villages to towns, relative cost of providing economic and social services in the towns of varying sizes, provision of housing for different sections of the people,

provision of facilities like water supply, sanitation, transport and power, pattern of economic development, location and dispersal of industries, civic administration etc. Only one-fourth of households in slums have electricity. The composition of the poor has been changing. While rural poverty is getting concentrated in the agricultural labour and artisan household, urban poverty results in casual labour households.

Socio-Economic and Caste Census (SECC), 2011, was the latest exercise conducted by the Government of India (GoI) mainly aimed at ranking households based on their socioeconomic status. SECC becomes very crucial for India because it gives a broader and dynamic definition of poverty. SECC estimates a deprivation index based on seven criteria.
According to the SECC (2011) data, out of the 76.99 lakh households in Kerala, 63.19 lakh (82.08 per cent) live in rural areas. Of this, 10.32 per cent are SC households and 1.63 per cent are ST households. Out of the total rural households, 19.16 lakh (30.33 per cent) rural households are deprived. The highest deprivation rate is in Palakkad (42.33 per cent) followed by Thiruvananthapuram (38.36 per cent) and Wayanad (36.33 per cent) Districts and the lowest deprivation rate is in Ernakulam (20.30 per cent), Kottayam (23.02 per cent) and Kannur (24.25 per cent) Districts. Out of the total rural SC and ST households, 57.66 per cent of SC households and 61.68 per cent of ST households are included under the deprived category.

While considering the different indicator-wise deprivation rates among the rural households in Kerala, the highest deprivation was recorded in the indicator, ‘landless households deriving major part of their income from manual casual labour’ (18.86 per cent) followed by ‘SC/ST household’ (7.11 per cent) and

'female-headed households with no adult male member between age 16 to 59' (3.65 per cent) respectively. The lowest deprivation was reflected in the indicator, 'disabled member and no able-bodied adult member' (0.19 per cent) followed by the indicator only one room with kacha walls and kacha roof' (1.43 per cent) and 'no literate adult above 25 years (1.81 per cent). District-wise details of the per cent of deprived rural households based on the deprivation index are given in Appendix 1.31. According to the SECC data, the main breadwinner of the 70.75 per cent of the rural households in Kerala earns less than ₹5,000 per month, while at all India level, the corresponding share was 74.52 per cent. This ratio was the highest in Wayanad (79.67 per cent), followed by Malappuram (75.55 per cent) and Palakkad (74.38 per cent) Districts. The ratio was the lowest in Ernakulam (64.37 per cent), followed by Kottayam (64.46 per cent) and Pathanamthitta (64.66 per cent) Districts. In Kerala, 50.61 per cent and 10.26 per cent of the rural households depend on manual casual labour and cultivation as their most important source of household income. At the all India level, the corresponding shares are 51.18 per cent and 30.10 per cent respectively. District-level data about the source of household income show that, in the case of manual casual labour, the highest rate is in Malappuram (65.05 per cent) and the lowest rate is in Pathanamthitta (31.71 per cent). In the case of cultivation, the highest rate is in Idukki (32.49 per cent) and the lowest rate is in Alappuzha (4.86 per cent). In Kerala, the factors such as land reforms, the spread of education, and health care, decentralization, pension schemes, public distribution system, Kudumbashree programmes and the implementation of the Plan schemes have played an effective role in reducing the poverty ratio in rural and urban areas. Even

though Kerala is better off than most other States in India in terms of average poverty estimates, there are still several pockets of deprivation in the State. Poverty in Kerala is mainly concentrated in some social categories and groups such as SCs, STs, fisher-folk, potters and artisans. It points to the need for actions focused on these groups under different central and State schemes and redesigning livelihood programmes in these areas to eliminate absolute poverty from the State. The SC development department, ST development department and the fisheries department are implementing several poverty reduction/ livelihood programmes for uplifting people in these communities. Though the extent of poverty has been reduced, focused action to alleviate deprivation among marginalized sections is the urgent task of the State.

5.9. Unemployment in Kerala

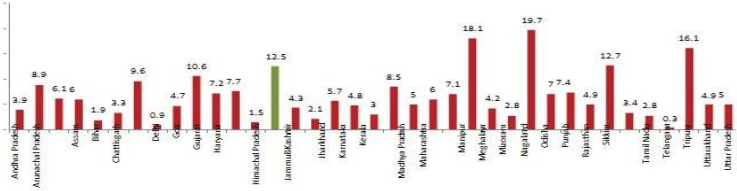
The World Employment and Social Outlook Report, 2018, published by International Labour Organisation (ILO) has stated that India's unemployment rate in 2018 will remain at 3.5 per cent, while that of China would edge up from 4.7 per cent to 4.8 per cent. However, 77 per cent of employment in India would remain 'vulnerable' against just 33 per cent in China from 2017 to 2019. Vulnerable employment includes the self-employed or those working in family-run establishments often characterised by inadequate earnings, low productivity and difficult conditions of work that undermine workers' rights for a decent life. It is pertinent to note that while the overall unemployment rate in India would hover around 3.4 per cent to 3.5 per cent in 2017-19, the unemployment among the youth (12-24 age group) comprising 28 per cent of the total

population is predicted to increase from 10 per cent in 2014 to 10.7 per cent in 2019. Unemployment among a large portion of the active labour force has been the most serious socio-economic problem of Kerala and job creation has emerged as one of the foremost issues in the State. The incidence of unemployment in the State is nearly two times the all-India average. This problem is more serious among the educated who are unable to utilise their skill and knowledge they have acquired for effecting qualitative changes in the economy and society. The Government has been formulating appropriate policies to utilise the skilled human power which is the most abundant resource in the State. According to the 5th Annual Employment Unemployment Survey 2015-16, conducted by Ministry of Labour and Employment, GoI, among the major States, Kerala has the highest Unemployment Rate (UR) of 12.5 per cent as against the all India level of 5 per cent. Among all States, only small States like Sikkim, Tripura and Himachal Pradesh have a higher unemployment rate than Kerala.

As per Usual Principal Status (UPS) approach, the lowest unemployment rate of 0.3 per cent is estimated in Daman and Diu (UT). Among the States, the lowest unemployment rate is estimated in Gujarat (0.9 per cent). The other major States, which have lower UR than the all India average (5 per cent) are Karnataka (1.5 per cent), Chattisgarh (1.9 per cent), Maharashtra (2.1 per cent), Andhra Pradesh (3.9 per cent), TamilNadu (4.2 per cent), Madhya Pradesh (4.3 per cent) and West Bengal (4.9 per cent). The unemployment rate, defined as a proportion of the number unemployed to the total labour force (15−60), is measured in terms of Usual Status, Weekly Status and Daily Status. While usual activity status implies regular unemployment, both weekly and daily status represent

seasonal/temporary unemployment. The male and female unemployment rate in Kerala in rural and urban areas as measured by different approaches. In all three approaches, unemployment in Kerala is found to be generally three to four times the all India average. The Unemployment Rate (UR) of Kerala under UPS approach is 9.8 percent which is a more authentic figure as it is prepared with more scientific basis on a large sample size by NSSO. Female unemployment, particularly in rural areas, is a matter of concern in Kerala. However, the female Labour Force Participation Rate (LFPR) in Kerala is estimated at 30.8 percent which is higher than the all India level of 23.7 per cent. As per the survey of Employment and Unemployment Situation in India, (NSS 68th Round), area-wise data shows that the UR is higher in rural areas as compared to urban areas. Productive employment of youth is an essential factor for economic development. In Kerala, the youth account for around 23 per cent of the State's population. As per the survey report, the UR among the youth in Kerala is much higher as compared to that of the overall population and it reveals the severity of the unemployment problem among the youth in Kerala. The UR of the youth is 21.7 percent for rural areas and 18.0 per cent for urban areas. Similarly, the UR among the female youth is also much higher than that of the male youth. Area-wise UR data shows that 47.4 percent of the female is unemployed in a rural area as against the male of 9.7 percent (Figure.5.12). Youth unemployment is prevalent in Kerala because young people lack adequate skills, work experience etc. in emerging areas. In order to face the challenges, the ongoing programmes for skill development and employment generation are to be made effective use of to equip the youth for finding better employment opportunities.

Figure 5.12 Unemployment rate in major States in India, Usual Principal Status Approach, in per cent



Kerala has been facing many challenges in the labour sector in terms of unemployment and underemployment, low rate of productive employment creation, inadequate levels of skill creation and training, low level of labour force participation and lesser worker-population ratio. On the whole, the State needs to create additional employment opportunities and employment-intensive growth and for which the labour force has to move from low-value-added to high-value-added activities.

In Kerala from the decade of 1970's onwards there has been a rapid rise in the labour supply because of the increase in the number of women seeking wage employment. Thus, though the supply of work seekers increased, the demand for them did not increase. As a consequence there was an alarming increase in unemployment rate from time to time. The unemployment problem in Kerala is not only about educational unemployment of the general category but it is also unemployment of skilled, professional, semi skilled, and unskilled workers. The unemployment among the educated in Kerala has assumed alarming proportions and that this is particularly acute among women who have passed their secondary school examinations. The peculiar socio-economic factors such as the overriding preference for regular employment rather than self-employment that have contributed to the extremely high incidence of

educated unemployment in Kerala. One important feature of Kerala Economy, is the out migration of labour force particularly to Gulf region and inflow of huge remittances into the State. Huge out migration, is because of lack of employment opportunity with in the State.

Unemployment Rate and Work Participation Rate.

Unemployment rate is defined as the percentage of unemployed persons in the total labour force. The work participation rate defined as the percentage of workers to the total population. These two rates provide an idea about the participation of population in economic activities.

Unemployment and under employment among workers in traditional sectors are indeed of major concerns. One of the most important groups of such workers is the traditional agricultural workers. According to the 2001 Census, the number of agricultural workers in Kerala was around 16.20 lakhs and this is more than twice the number of cultivators (7.20 lakhs) and more than four times the number in the household industry (3.70 lakhs). Close to three- fourth of workers in the household industry is in rural areas and nearly half of them are female workers. Both rural and urban female unemployment rate increased dramatically during the last five years. The pace of Employment growth rate in Kerala has been very low over the years.

Key indicators of employment and unemployment pertaining to Kerala, released recently by the National Sample Survey Office (NSSO), show the number of unemployed having come down in the State during 2005-2010. The results of the 66th round of survey by the NSSO indicated that rural unemployment had come down from 15.8 per cent in 2004- 05 to 9 per cent in

2009-10. In the urban areas, it came down from 19.9 per cent in 2004-05 to 8.3 per cent in 2009-10. In the rural areas, 8.3 per cent of the grownup male population was unemployed as per the 2004-05 sample survey. This proportion diminished to 3.8 per cent as per the 2009-10 sample survey. And in the urban areas, the unemployment rate among men decreased from 9 per cent to 3.4 per cent during the five-year period, Dr. Isaac said. Among rural women, the unemployment rate decreased from 30.9 per cent to 21 per cent and among urban women, from 42.9 per cent to 19.8 per cent during the same period. The employment participation, which was 34.3 per cent in the rural areas in the State in 2004-05, increased to 35.3 per cent in 2009-10. It increased from 32.9 per cent to 34.4 per cent during the same period in the urban areas. However, while employment participation in the State was 54.4 per cent in the case of men, it was only 17.5 per cent in the case of women, according to the latest sample survey results. The fall in unemployment is attributed the vibrant functioning of the Kudumbasree movement, national employment guarantee scheme, and the stress given to traditional industries and paddy cultivation.

Unemployment increased due to several factors such as low rate of economic growth and the slow growth of the organized sector. The unemployment rate is increasing in both rural and urban areas in Kerala. As the economy developed, the demand for unskilled and less skilled labour seems to have declined. On the other hand, the demand for skilled labour, on account of technological development and upgradation and changes in the organisation of work, has begun to increase. At the same time the overall rate of growth in employment got decelerated by more than the rate of deceleration of workforce. There has been

marginal progress in organized sector employment since 2006. Similarly, unorganized sector employment also increased. One of the reasons may be attributed to the poverty alleviation and employment generation programmes like NREGS.

Employment Exchanges

The Employment Department and the Industrial Training Department play a complementary role in providing employment to the un employed registered labour force in the State. The former under take skill training to make the man power marketable and the latter looks after the needs of the work seekers. All categories of employment seekers above the age of 14 are allowed to register in the Employment Exchanges. According to the Employment Directorate 43.28 lakhs of employment seekers are there in the Live Register of Employment Exchanges as on 30.06.2010 of which 25.474 lakhs are females. The Employment Department through 96 institutions and Local self government departments provide placement service, vocational guidance, employment market information, self-employment guidance, unemployment assistance and self- employment schemes for the registered unemployed.

In Kerala, the total number of work seekers in 2007 was 39.88 lakh. The number of jobseekers increased to 41.44 lakh in 2008, again to 43 lakh in 2009 and up to 43.287 lakh in June 2010. The number of general work seekers slightly increased from 41.34 lakhs in 2009 to 41.67 lakhs up to June 2010. Whereas the registered number of professional and technical workers decreased from 1.65 lakhs to 1.61 lakh in 2010. The number of work seekers below SSLC slightly increased from 6.21 lakhs in 2008 to 6.23 lakhs in 2009. As on June 2010 the

number decreased to 6 lakhs. The total number of work seekers who possess SSLC and above increased from 36.76 lakhs in 2009 to 37.28 lakhs in 175June 2010. The percentage of work seekers below SSLC to the total work seekers is showing a decreasing trend and the percentage of work seekers who possess SSLC and above is increasing. The number of PDC or HSC qualified candidates marginally declined from 7.076 in 2009 to 7.07 lakh in June 2010. There was an increase in the registration of graduates and decrease in the registration of post graduates with the employment exchanges. While the number of registered graduates increased from 2.39 lakh to 2.46 lakh, the number of post graduates decreased from 0.53 lakh to 0.44 lakh. Of the total employment seekers in 2010, 13.87 percent are below SSLC, 63.04 percent are SSLC, 16.34 percent PDC or equivalent, 5.70 percent graduates and 1.04 percent postgraduates. The number of professional and technical work seekers in 2009 was 1.65 lakhs. This number slightly decreased 1.61 lakhs in June 2010. The share of employment seekers with professional and technical qualifications shows that more than 90 percent of the technical and professional employment seekers are ITI and Diploma holders in engineering. The job seekers with engineering degree decreased from 9495 in 2009 to 6965 in June 2010. Engineering diploma holders who had registered their names in employment exchanges decreased from 36181 in 2009 to 34653 in 2010. The ITI/ NTC Certificate holders seeking employment increased from 0.96 lakhs in 2009 to 1.02 lakhs in 2010. The number of medical graduates who had registered their names in the employment exchanges decreased from 2420 in 2009 to 1885 in 2010. The number of veterinary graduate work seekers has decreased from 602 in 2009 to 345 in 2010. The number of job seeking agricultural graduates has decreased from 581 in 2009 to 361 in

2010. Women outnumber men seeking employment through employment exchanges. This position is reflected in all the 14 districts of Kerala. Out of the total number of 41.90 lakhs work seekers in March 2010, women number 24.72 lakhs (58.99%).

Thiruvananthapuram District ranks first in the number of work seekers in both general and professional categories. As on 31.3.2010, the total number of work seekers in Thiruvananthapuram District is 6.06 lakhs of which 3.73 lakhs are women and 2.32 lakhs are men. The second largest number of work seekers is from Kollam district. There are 4.21 lakhs job seekers in Kollam District in March 2010, out of which 2.50 lakhs are women and 1.71 lakhs are men. The lowest number of work seekers is in Wayanad preceded by Kasaragod District. In Wayanad, there are 0.88 lakh work seekers, whereas in Kasaragod the number is 0.98 lakhs in March 2010.

Unemployment Allowance Scheme (UAS)

Unemployment Allowance Scheme is an important Social Security Scheme of the Government of Kerala, started in 1982. The scheme is for providing a monthly allowance to the registered unemployed. As per the revised norms, an eligible candidate can submit his application to the concerned Local Body. The number of beneficiaries up to March 2010 is 2.836 lakh persons and the disbursed amount is ` 4096.654 lakh.

Employment Generation Programmes

Kerala State Self Employment Scheme for Registered Unemployment (KESRU) - KESRU has been there since March 1999. Unemployed persons in the Live Register of Employment Exchanges, within the age group of 21 to 50 years, with annual family income below as ` 40,000/- and personal monthly income below ` 500/- are eligible for

assistance. Bank loan up to ` 1,00,000/- and Government subsidy of 20% of the loan amount is provided as assistance. The amount disbursed to 327 beneficiaries was `45.04 lakh and ` 236.866 lakh was disbursed to 1337 beneficiaries up to March 2010.

Saranya: This new Self Employment Scheme is for uplifting the most backward and segregated women in the State like widows, divorced deserted, spinsters and unwedded mothers belonging to the Scheduled Tribe Community. The women should be in the age group of 18 to 55 years and their annual family income should not exceed Rs. One lakh. The beneficiaries will be given a loan amount of ` 50,000/- with 50% or a maximum subsidy of ` 25,000/-. The beneficiaries of this scheme should have valid registration in any of the employment Exchanges in the State of Kerala.

In Kerala total placement through Employment Exchanges had been increasing from 2005 to 2008 and decreasing from 2008 to 2010. Total placement declined to 7040 in June 2010 from 15612 in 2009. Monthly average number of persons using employment exchange also decreased from 325 to 250. During the last decade, the flow of migrant workers from Kerala to far away states for seeking job was most common. Now it is a fact that a large number of labourers are coming into our state, especially in the field of construction, for their livelihood. The migrant workers are coming from various states like West Bengal, Bihar, Chhattisgarh, Jharkhand etc.

Labour Welfare in Kerala

Kerala is a model state for labour welfare measures. About 28 Labour Welfare Fund Boards are functioning in Kerala under

different departments. Out of this, 16 are under the control of Labour Department.

5.10. State Finance of Kerala

Government finances influence economic development in several ways. Firstly, government revenue, expenditures and budget deficit affect consumption, savings and investment and distribution of wealth and income in an economy. Secondly, fiscal policy has to be prudent to avoid balance of payments crises, external debt crisis and prolonged recession. Thirdly, size of fiscal deficits determines both the external (current account deficits, capital flight, and external debts) and internal (real interest rates, private investment, and inflation) macroeconomic imbalances. Fourthly, fiscal implications are important determinants of the success of measures such as financial liberalization, currency devaluation, price deregulation, and trade reform. Fifthly, the method of revenue mobilization adopted by the government can substantially affect economic efficiency. For instance, reliance on ad hoc revenue mobilization measures makes revenue systems complex and distortionary, thereby affecting economic progress. Finally, the quality of government expenditure represented by higher budgetary spending on productive capital investments can positively influence economic development of a country.

India has a federal form of government comprising central/national, state and local governments. Both central and state governments have expenditure responsibilities and revenue sources. Considering macroeconomic stability, scale economies and national importance, the following major functions are assigned to the centre: Currency, foreign

exchange, insurance, stock exchanges, defence, external affairs, railways, posts and telecommunication, national highways, shipping and air transport, and atomic energy. The major functions assigned to the states are: public order, police, health, relief of the disabled and unemployed, agriculture, irrigation, land rights, fisheries, water supply/storage, trade and commerce within the state and cooperative societies. All other services that are not included in centre and state lists are included in the Concurrent List. The Indian Constitution also assigns tax powers to the centre and states separately to perform their functions. Progressive and broad-based taxes, taxes with inter-state base and taxes for which all-India uniformity in rates is desirable to facilitate industry/trade are generally vested with the centre while location- specific taxes and taxes related to local consumption are with the states. The major state taxes are: taxes on the sale or purchase of goods (i.e., value added tax), motor vehicle tax, electricity duty, land revenue, excise on alcoholic liquors, opium, hemp and other narcotics, stamp duty, and registration fees.

In this framework of economic governance, maintenance of fiscal discipline at the state- level is significant due to the following three major reasons: First, to ensure India's macroeconomic stability, prudent fiscal management is needed both at the central and state government levels. Fiscal profligacy even at one layer of government may cause macroeconomic instability. Second, as per Constitutional assignment of expenditure/functional responsibilities between the centre and the states, the primary responsibility of funding essential social and economic services such as education, health, sanitation, agriculture, irrigation and transport is in the hands of the state governments. The importance of the states in

the public expenditure management in India can be gauged from the fact that state governments contribute around 60 per cent of the total public expenditure incurred in India. Therefore, it becomes important for the states to be financially sound enough to spend adequate amounts on human resources and physical infrastructure development of the country. Third, in order for India to achieve the goal of higher economic growth rate consistently over a longer period, all states need to grow to their full potential. Since private sector investment, which is essential for economic growth, exhibit the tendency to flow to those states that manage to create an enabling business environment such as better law and order situation and the provision for adequate and quality physical and social infrastructure, it is imperative for the states to enhance public investment in such fields. Hence, it becomes essential for the states to keep their fiscal house in order.

However, state finances are one of the major 'unreformed parts' of the Indian economy even after two decades of economic liberalisation experience. The fiscal anatomy of the states continues to be plagued by numerous structural deficiencies. They include high budgetary deficits and debt, unhealthy expenditure pattern, limited resource base and adoption of populist fiscal measures. This is despite the initiation of a series of fiscal reform measures at the state- level aimed at achieving fiscal sustainability through restructuring of expenditure and tax policies. The state of Kerala is no exception to this general trend. The fiscal edifice of Kerala has been diagnosed with several cracks. They mainly include continued high levels of fiscal and revenue deficits, low levels of public spending on capital works, utilisation of borrowed funds more to fund revenue expenditure, mounting debt

liabilities, higher interest payment burden and falling own revenue mobilisation efforts. To highlight the state's precarious financial situation, the state government has recently brought out a White Paper on State Finance, which warned that Kerala is heading for a financial crisis owing to a failure both on expenditure control and resource mobilisation. Such a situation calls for a detailed study on the fiscal management of Kerala and identification of corrective measures to keep the fiscal house in order.

Analysis of Fiscal Imbalances

The key measure of fiscal imbalance in the case of India, including for the states, is the fiscal deficit. It is defined as the total expenditure of the government minus all non-borrowed receipts. It indicates the dependence of the government on borrowings and therefore the vulnerability of government finances. It is sometimes referred to as the public sector borrowing requirement (in national accounts). The fiscal deficit of states is financed through market borrowings, loans from the Centre, special securities issued to NSSF, small savings, loans from financial institutions, reserve funds, loans from RBI (ways & means advances, overdrafts) and other deposits and advances.

However it includes interest payments and hence does not truly reflect the current state of fiscal management. In order to assess the fiscal practices of the current period, it is important to study the primary deficit which is defined as the fiscal deficit excluding interest payments. The third key deficit indicator is the revenue deficit that indicates the deficit created by the government from its current activities. This is akin to government savings. Prudent fiscal management requires

revenue deficit to be zero as the government should not be borrowing funds to finances its current or revenue expenditure. However a small amount of revenue or fiscal deficit may be tolerable under the argument that the government is borrowing to finance asset creation. But in the case of a worrisome debt situation, even the primary or fiscal balance may be required to show up as surplus. Therefore it becomes pertinent to examine whether the level of debt is sustainable or not.

Debt

While the debt situation has been worsening for all the comparison states, Kerala's debt-GDP ratio is the third highest after Andhra Pradesh and Rajasthan. It is noteworthy that Kerala's neighbouring states of Tamil Nadu and Karnataka have been able to control their debt at around 20 per cent of GDP while Kerala's debt level at over 32 percent of GDP is far above the 14th Finance Commission's recommended level of 25 per cent.

The debt-GDP ratio of Kerala in comparison with the average for 13 major states of India (other than Kerala) shows that after peaking at 36.14 percent at the turn of the millennium, the debt ratio has been coming down over the years even though it remains high at 27.36 percent in the latest year of analysis. This remains above the 14th Finance Commission's recommended limit. Indeed the debt ratio was either lower or at par with the 13 major states in the previous decades but is currently (at 27.36 percent) considerably higher than that of the other major states (at 23 percent).

Interest Payments

One of the major consequences of having a high debt ratio is the outflow in terms of interest payments. The 14th Finance

Commission recommended that interest payments should be less than or equal to 10 per cent of the revenue receipts in order to qualify for enhanced borrowing limit. The interest payments as percentage of revenue receipts (IP/RR) for Kerala alongside that of the 6 comparison states and the average for 13 major states respectively shows that Kerala's interest payments out of its current income has been rising across the three phases but so has been the case for most of the comparison states except for Karnataka. However, Kerala's IP/RR in the third phase of growth (at 20.2 percent) is the next highest only to Gujarat (20.8 percent). Within the third phase, Kerala's IP/RR has been coming down but stands at 15 per cent in 2016-17 which is considerably higher than the average figure for 13 major states (12.7 per cent).

This phenomenon is of serious concern since Kerala, unlike some other states with high IP/RR such as Gujarat does not provide enough for capital expenditure to sustain this high level of interest payments. For instance, Gujarat's capital outlay as percentage of total expenditure is over 20 per cent for the last 5 years whereas it is only 7 per cent for Kerala. Therefore, while Gujarat can look forward to generating higher growth and engendering greater revenues, Kerala may not be able to afford the rising interest burden. Finally, such high outflows on account of interest payments is bound to squeeze out the space for productive government spending over the next few years.

Key deficit indicators

Table.5.33 shows the behaviour of gross fiscal deficit and revenue deficit (both expressed as percentages of GSDP) over the three phases alongside the figures for the comparisons states. Gross fiscal deficit of Kerala has been the second highest

next only to Rajasthan in the second and third phases. However, as Kerala's gross fiscal deficit is not higher than that of 13 major states by a considerable margin. In 2016-17 the figure stands at 3.03 per cent which is slightly higher than the 3 percent mandated by the 14th Finance Commission while 2.99 percent is the average for the other states. But, what is of more serious concern is the quality of the deficit that can be assessed by the revenue deficit. The revenue deficit for Kerala shot up in the second phase along with the comparison states. However, the comparison states managed to bring down their revenue deficit in the third phase of accelerated growth while Kerala's revenue deficit remained above 2 percent during the same period. In fact, the average figure for the major states indicates a revenue balance in 2016-17 while Kerala's revenue deficit remains rather high at 1.50 percent. Clearly, there is scope of much improvement in the quality of the state's finances.

Table.5.33

Gross Fiscal Deficit & Revenue Deficit (% of GSDP):

Kerala vs 13 Major States (at five year intervals)

Year	Gross Fiscal Deficit		Revenue Deficit	
	Kerala	Other States	Kerala	Other States
1980 - 1981	4.20	3.97	0.65	-1.34
1985 - 1986	4.30	4.09	0.98	-0.32
1990 - 1991	5.67	4.87	2.99	1.38
1995 - 1996	3.36	3.43	1.04	1.25
2000 - 2001	5.34	5.17	4.33	3.12
2005 - 2006	3.06	2.77	2.29	0.22
2010 - 2011	2.93	2.43	1.39	0.13
2016 - 2017	3.03	2.99	1.50	0.00

Source: Economic Review

Decomposition of Gross Fiscal Deficit

Tables 5.34 and 5.35 show the decomposition of fiscal deficit into revenue deficit, capital outlays and net lending (all as percentages of GFD). From Table.5.34 it appears that capital outlays have dominated in the first phase for all the states but revenue deficit started gaining prominence in the second phase. However in the third phase all states except Kerala have tried to make course correction and increased the share of capital outlays in gross fiscal deficit. For Kerala this increase was only marginal from 32.4 per cent in the second phase to 34.7 per cent in the third phase whereas for all the other states except Maharashtra the increase was by 20- 50 per cent. In fact for Karnataka the share of capital outlays is as high as 117 per cent in the third phase.

Table.5.34

Phase-wise Average of Composition of GFD - Revenue Deficit, Capital Outlay & Net Lending (% of total): Kerala vs Comparison States

States	Revenue Deficit	Capital Outlay	Net Lending						
	1980- 81 to 1986- 87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to2001-02	2002-03 to2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002- 03 to 2015- 16
Kerala	-11.19	50.40	54.08	91.49	32.41	34.73	19.76	16.13	10.39
Andhra Pradesh	-12.14	27.19	3.00	89.52	52.23	88.70	22.59	20.59	14.82
Gujarat	-10.61	31.52	0.60	69.50	55.76	97.33	46.81	12.74	2.46
Karnataka	-25.68	22.99	-22.74	75.67	65.59	117.01	49.93	11.43	7.83
Maharashtra	-8.15	27.61	51.50	67.90	58.98	44.37	40.39	13.42	4.43
Rajasthan	-6.08	28.61	9.66	79.48	63.64	85.53	26.54	7.76	-0.85

Tamil Nadu	-31.93	60.79	-3.82	46.46	32.21	94.05	85.46	7.00	10.15

Source: Economic Review

Consider the comparison of Kerala with the average for 13 states shown in Table.5.35. In 2016-17, the share of capital outlays for Kerala was 47.86 per cent compared to 86.87 per cent for the average of 13 states. On the other hand the share of revenue deficit for Kerala was 49.48 per cent when the average for 13 states was -0.86 per cent. This lop sided composition of fiscal deficit can have serious consequences for capital formation in the state and its long term productivity and growth.

Table.5.35.

Phase-wise Average of Composition of GFD - Revenue Deficit, Capital Outlay & Net Lending (% of total): Kerala vs 13 Major States (at five year intervals)

Year	Revenue Deficit		Capital Outlay		Net Lending	
	Kerala	Other States	Kerala	Other States	Kerala	Other States
1980 1981	-15.56	-34.08	67.78	79.26	16.67	54.84
1985 1986	-22.91	-13.62	63.78	72.37	13.31	41.24
1990 1991	-52.82	23.16	32.04	53.61	15.14	23.26
1995 1996	-30.93	33.03	40.38	53.43	25.79	13.54
2000 2001	-81.15	58.70	14.88	36.64	3.97	4.66
2005 2006	-74.82	-44.79	19.54	153.49	5.64	-8.66
2010 2011	-47.48	-47.92	43.47	134.42	9.31	14.21
2016 2017	-49.48	-0.86	47.86	86.87	_	_

Source: Economic Review

Revenue expenditure and receipts

Further insights on the quality of finances can be obtained by examining the trends in revenue expenditure and revenue receipts as percentages of GSDP (Tables.5.36 and 5.37). It is clear from Table.5.36 that since the second phase, revenue receipts slipped behind revenue expenditure especially for Kerala and Andhra Pradesh. While in the first phase revenue expenditure for Kerala was 16.75 per cent of GDP and revenue receipts was 16.48 of GDP – a gap of just 27 basis points, in the third phase revenue expenditure was 14.02 per cent of GDP and revenue receipts was 11.71 of GDP – a gap of 2.69 per cent.

Table.5. 36.
Phase-wise Average of Revenue Expenditure & Revenue Receipts (% of GSDP):
Kerala vs Comparison States

States	Revenue Expenditure			Revenue Receipts		
	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17
Kerala	16.75	17.14	14.02	16.48	14.71	11.71
Andhra Pradesh	16.32	15.50	14.17	16.34	14.49	12.97
Gujarat	12.82	15.23	10.75	13.22	13.46	10.47
Karnataka	15.82	15.95	13.14	16.25	15.09	13.55
Maharashtra	13.70	12.89	10.61	13.83	11.93	10.07
Rajasthan	15.92	17.27	15.16	16.19	15.54	14.40
Tamil Nadu	15.44	16.22	12.62	16.27	14.23	12.32

Source: Economic Review

Table.5.37 shows that since the mid-nineties Kerala's revenue receipts as well as revenue expenditure (as percentages of GDP) have been lower than the average figures for 13 states. However in recent times Kerala's revenue expenditure (as percentage of GDP) has exceeded the average figure for 13 states. If the state has to bring down its outstanding liabilities then it is clear that the growth in revenue expenditure has to slow down. Otherwise the government will not be able to reduce its outstanding liabilities fast enough.

Table.5.37.

Revenue Expenditure & Revenue Receipts (% of GSDP): Kerala vs 13 Major States (at five year intervals)

Year	Revenue Receipts		Revenue Expenditure	
	Kerala	Other States	Kerala	Other States
1980 - 1981	14.94	15.73	15.58	14.39
1985 - 1986	18.23	16.98	19.22	16.66
1990 - 1991	17.04	17.19	20.04	18.57
1995 - 1996	13.99	14.00	15.03	15.25
2000 - 2001	12.02	13.38	16.35	16.50
2005 - 2006	11.18	14.21	13.46	14.43
2010 - 2011	11.75	13.86	13.14	13.85
2016 - 2017	12.75	13.33	14.17	13.50

Source: Economic Review

Composition of Outstanding Liabilities

Finally we investigate what is responsible for the high debt levels of Kerala. Tables.5.38 and 5.39 show the outstanding liabilities and guarantees as percentage of GSDP. Total internal debt has shot up in the third phase in all the comparison states along with Kerala (Table.5.38). Loans from banks and financial institutions have also increased for all the states. Loans and advances from the Centre have steadily declined over the three

phases. However what is remarkable about Kerala is the huge Provident funds component of outstanding liabilities. Table.5.38 shows that the share of provident funds in total outstanding liabilities is close to 30 per cent over the second and third phases while internal debt has increased over this period coinciding with a decline in loans and advances from the Centre. This is in complete contrast with all the comparison states where the share of provident funds has either come down (except in case of Rajasthan where it has remained at 20 per cent but still significantly lower than Kerala's case). With an ageing population in Kerala this is one item that could threaten fiscal stability in the years to come.

Table.5.38.

Phase-wise Average of Composition of Outstanding Liabilities (% Share in total):Kerala vs Comparison States

States	Total Internal Debt			Loans from Banks and FIs			Loans and Advances from Centre			Provident Funds		
	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2015 - 16	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2015 - 16	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2015 - 16	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2015 - 16
Kerala	21.08	24.77	55.51	0.00	3.24	6.34	59.06	38.98	9.44	19.86	30.72	29.70
Andhra Pradesh	21.05	26.01	64.65	0.00	2.84	5.14	72.11	53.63	15.71	6.84	8.80	6.90
Gujarat	18.14	14.72	68.26	0.00	1.58	3.22	71.01	60.50	11.06	10.85	8.20	4.97
Karnataka	19.92	21.57	54.60	0.00	2.27	2.93	68.19	52.55	15.33	11.89	15.41	13.81
Maharashtra	13.67	11.62	62.57	0.00	1.16	3.50	73.45	57.15	7.01	12.88	9.56	6.60

Rajasthan	19.78	22.89	59.29	0.00	1.90	3.71	69.58	47.64	10.25	10.64	19.85	20.93
Tamil Nadu	23.18	23.78	68.21	0.00	2.69	6.69	69.46	48.96	10.09	7.35	13.12	9.85

Source: Economic Review

Table.5.39 shows that while all other components of outstanding liabilities are lower for Kerala in 2015-16 as compared with the average for the 13 major states, the share of provident funds (25 per cent) is more than twice that of the average for the 13 states (11.32 per cent). Another kind of liability, which is however an off-budget item, is contingent liabilities that takes the form of guarantees extended by the government on loans raised by PSEs or other government bodies. Table 4.9 shows that contingent liabilities as a percentage of GSDP have been coming down over the years yet (at 2.12 per cent) is the highest for Kerala compared to the comparison states.

Table.5.39

Composition of Outstanding Liabilities (% Share in total): Kerala vs 13 Major States (at five year intervals)

Year	Total Internal Debt		Loans from Banks and FIs		Loans and Advances from Centre		Provident Funds	
	Kerala	Other States	Kerala	Other States	Kerala	Other States	Kerala	Other States
1980 - 1981	16.57	20.20	0.00	0.00	65.48	69.34	17.96	10.46
1985 - 1986	16.72	16.23	0.00	0.00	61.78	71.37	21.50	12.40
1990 - 1991	22.88	15.10	2.93	1.73	43.47	56.51	28.32	13.86
1995 - 1996	23.19	17.37	3.49	1.73	39.54	52.46	31.62	16.14
2000 - 2001	28.83	30.33	5.61	4.77	25.41	40.54	38.81	16.36

2005 - 2006	53.50	61.31	7.84	5.45	11.32	14.46	30.99	12.78
2010 - 2011	57.79	64.31	6.46	4.37	7.58	8.75	28.33	12.96
2015 -2016	65.09	69.14	3.12	4.33	5.36	5.93	25.01	11.32

Source: Economic Review

Sustainability Analysis: Indicator based assessment

Having analysed the trends in fiscal imbalances we now move to studying the sustainability of Kerala's state finances. Public debt sustainability refers to sustainability of the government's debt without the threat of a default. Typically a default is a last option or in most cases it is not even an option. Instead the government would drastically change its policies to delay or avoid the default. Therefore public debt sustainability or fiscal sustainability can be defined more generally as a government's ability to carry on with its current fiscal operations without encountering a crisis or drastically changing in policies. Therefore to examine debt sustainability it becomes important to study the growth in the debt and also assess the fiscal balance (especially primary balance) being generated which would worsen or improve the debt situation.

Domar (1944) argued that, debt is sustainable as long as the real growth of the economy remains higher than the real interest rate (the so-called Domar condition). According to Buiter (1985) and Buiter and Patel (1992), fiscal sustainability requires the rate of growth of debt- GDP ratio to be no more than the real interest rate. These studies have culminated in the the widely used Indicator based approach for studying debt sustainability (RBI, 2014). The analysis covers a number of fiscal indicators starting with the popular Domar condition to credit worthiness and liquidity indicators of government finances. The evidence can be described as mixed. For instance,

the comparison of output growth with debt growth and interest rate (Domar condition) shows that Kerala's debt is not unsustainable in view of the high GSDP growth rate in the third phase. The indicators involving primary balance indicate that while primary revenue balance has improved but the primary balance has remained negative.

Indicators 5 and 6 show that debt has grown faster than revenue receipts and own tax revenues. While interest burden appears to be under control (indicator 7) on account of a high rate of GDP growth, indicators 8 to 10 show a significant worsening of the interest payments with respect to revenue expenditure and revenue receipts along with falling revenue receipts (as percentage of GDP).

Table.5.40: Sustainability indicators

	Indicators	Phase I	Phase II	Phase III
		1981-82 to 1986-87	1987-88 to 2001-02	2002-03 to 2015-16
1	Rate of Growth of GDP (G) should be greater than Rate of Growth of Debt (D); G – D > 0	-5.07	-1.11	1.24
2	Real Output Growth (g) should be higher than Real Rate of Interest (r); g – r > 0	6.68	7.73	8.81
3	Primary Balance should be in surplus; PB > 0	-2.14	-1.90	-1.19
4	Primary Revenue Balance (PRB = RD - IP) should be in surplus	-1.21	-0.19	0.07
5	Debt to revenue receipts ratio should decline over time	1.58	2.17	2.77

6	Debt to own tax revenue ratio should decline over time	3.02	3.53	4.26
7	Interest Burden Defined by Interest Payments (IP) to GDP ratio should decline over time	0.01	0.03	0.02
8	Interest Payments (IP) as a per cent of Revenue Expenditure (RE) should decline over time.	0.09	0.15	0.17
9	Interest Payments (IP) as a per cent of Revenue Receipts (RR) should decline over time.	0.09	0.18	0.21
10	Revenue Receipts (RR) as a percent to GDP should increase over time.	0.16	0.15	0.12

Expenditure Management

Government expenditure is needed in an economy due to the following main reasons (Greene 2011).

Provision of public goods: Public goods are the ones which (a) cannot be bundled out to individual consumers (b) are consumed without reducing the size of the good available and (c) do not generate profits. They could ideally be supplied only by the government. Some of the examples of public goods are public health and education, police and fire services, public museums and national defence.

To tackle economic slowdown: At times of general economic slowdown the private sector would show a tendency to cut down its investment activity. In such circumstances, the government could venture into additional spending, called

countercyclical fiscal policy, to enable the economy grow out of tough time.

Regulation: In a market economy government, as a neutral institution, has an important role to play to regulate the private businesses and to smooth out the inherent conflicts of interest between private businesses by way of establishing a robust regulatory framework consisting of regulatory authorities and dispute resolution mechanisms, which could guide the operation of the private sector.

Income redistribution: In a market economy not all the sections in the society would benefit from the operation of the private sector as the later functions with profit motivation. This would cause inequality in income and neglect of vulnerable sections of society from the economic development process. Government can address this concern by way of spending on essential public services such as health, education and social welfare and of creating a social safety net for the poor and vulnerable.

Evidence across the globe suggests that the size of government expenditure depends heavily on the size of the public revenue mobilized through tax and non-tax sources. That is, higher the willingness of the taxpayers to pay taxes, larger the size of government expenditure. Suitable examples of such a trend are Denmark, France, and Sweden. Another factor determining the level of government expenditure is the income level of the country. In general, it is found that government expenditure in high income countries exceeds that in low income countries mainly due to higher public revenue in the former.

Types of government expenditure

Government expenditure can be categorized under two headings namely economic and functional. The economic

classification comprises two sub-divisions: Current expenditure and Capital expenditure. Current expenditure refers to expenditure incurred on day-to-day functioning of govt. Examples are expenses on wages and salaries of government employees, purchase of goods and services by government for its use, interest payments, grants to SNGs and non-profit institutions, subsidies pensions and military outlays (excluding spending on military bases). Expenditures which are incurred on asset creation are called capital expenditure. It includes spending on fixed capital formation such as public buildings, infrastructure and military installations excluding weapons; facilities supporting the expansion of private businesses; grants for capital formation; investments in shares of government concerns and loans given by national government to SNGs for the purpose of capital formation.

The purpose of functional classification of government expenditure is to group government spending under various programme/functional areas such as health, education, family welfare, housing, agriculture, irrigation, rural development, energy and transportation. Functional classifications vary from country to country on the basis of the nature of government programs in each country.

Composition and growth of expenditure in Kerala:

A significant part of Kerala's total public expenditure consists of current expenditures. Its share in total expenditure has increased over the years from 78.13 per cent in 1980-81 to a peak of 90.33 per cent in 2000-01 and then declined to 86.43 per cent in 2016-17 (Figure 5.13). Concomitantly, the share of capital expenditure and capital outlay declined over the years. However, starting from 2005-06, the share of capital

expenditure and capital outlay in Kerala's total expenditure has witnessed an upward trend against downward trend earlier. As percentage of GSDP as well, capital outlay has increased notably from 0.60 per cent in 2005-06 to 1.45 per cent in 2016-17 (Figure 5.14).

Figure.5.13.Composition of Expenditure

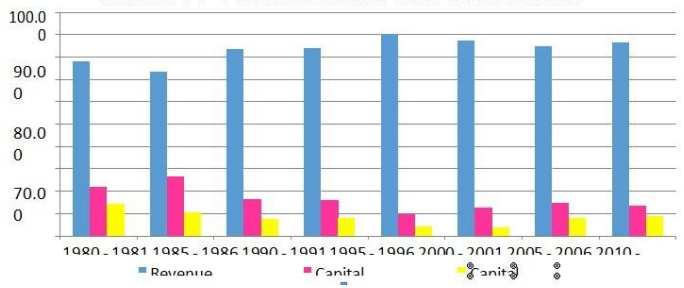
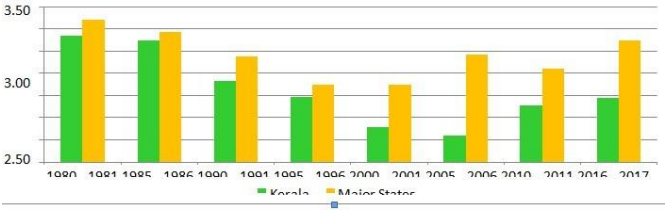


Figure.5.14. Capital Outlay as percentage of GSDP



The fact that only a very small portion of state's overall budgetary resources are allotted for capital formation (capital outlay) do not augur well for the state economy as it is this expenditure that really affects the growth process in an economy. These trends on composition of expenditure were visible in the major states as well, on an average. However, one notable difference is that in Kerala, over the years, the share of current expenditure and capital outlay was higher and lower respectively than the major states as a whole.

The key reason for the higher share of revenue expenditure in Kerala has been the larger expenditure commitment on two

revenue expenditure heads namely salaries and pensions and interest payments (Table 5.41). Today, they constitute around 56 per cent of state's revenue expenditure.

Table.5.41
Expenditure on Salaries and Pensions, Interest Payments and Subsidies in Kerala (As percentage of Revenue Expenditure and GSDP)

Year	As percentage of Revenue Expenditure			As percentage of GSDP		
	Salaries and Pensions	Interest Payments	Subsidies	Salaries and Pensions	Interest Payments	Subsidies
1990 -1991	69.98	12.06	-	14.02	2.42	-
1995 -1996	50.58	15.86	-	7.60	2.38	-
2000 -2001	54.64	19.01	-	8.93	3.11	-
2005 -2006	46.36	20.62	0.81	6.24	2.78	0.11
2010 -2011	48.98	16.41	1.80	6.44	2.16	0.24
2015 -2016	42.95	12.85	-	6.26	1.87	-

Source: State Finances : A Study of Budgets, RBI (Various Issues) (For Salaries, Pensions and Interest Payments) Kerala Public Expenditure Review Committee (Various Reports) (For Subsidies) Note: '-' indicates not available

More importantly, as percentage of revenue expenditure, Kerala had the highest salary and pension burden among the comparable states since the beginning of this decade (Table 5.42). However, the silver lining is that both as percentage of revenue expenditure and state GDP the expenditure on salaries and pensions in Kerala has declined significantly over the

years. Similar trend was witnessed in all the comparable states except Gujarat (see Table 5.42).

Table 5.42: Expenditure on Salaries and Pensions in Kerala and Comparable States

Year	As percentage of Revenue Expenditure						
	Kerala	Andhra Pradesh	Gujarat	Karnataka	Maharashtra	Rajasthan	Tamil Nadu
1990 - 1991	69.98	43.20	20.57	55.15	47.23	_	47.83
1995 - 1996	50.58	43.96	20.04	52.17	49.52	_	45.12
2000 - 2001	54.64	44.89	16.64	52.31	54.30	45.18	51.39
2005 - 2006	46.36	38.57	18.89	44.16	50.02	39.40	41.99
2010 - 2011	48.98	42.08	37.69	43.73	47.84	43.95	48.82
2011 - 2012	54.27	41.95	39.51	36.87	45.57	40.57	46.99
2012 - 2013	49.41	36.86	37.09	43.57	46.98	38.54	41.99
2015 - 2016	42.95	32.54	-	39.06	43.92	-	-

Source: State Finances : A Study of Budgets, RBI (Various Issues) Note: '-' indicates not available

Table 5.42 (Contd.): Expenditure on Salaries and Pensions in Kerala and Comparable States

Year	As percentage of GSDP						
	Kerala	Andhra Pradesh	Gujarat	Karnataka	Maharashtra	Rajasthan	Tamil Nadu
1990 - 1991	14.02	7.13	3.00	6.69	6.42	_	8.61
1995 - 1996	7.60	5.84	2.44	5.41	5.39	_	6.30

2000 - 2001	8.93	7.16	3.30	5.73	8.05	8.24	7.61
2005 - 2006	6.24	5.26	1.97	4.15	5.37	5.96	5.21
2010 - 2011	6.44	5.66	4.15	3.69	4.85	5.83	6.09
2011 - 2012	6.86	5.12	3.83	2.81	4.42	4.99	5.24
2012 - 2013	6.41	4.64	3.57	3.37	4.50	4.95	4.76
2015 - 2016	6.26	2.67	_	3.20	4.42	_	-

Source: State Finances : A Study of Budgets, RBI (Various Issues) Note: '-' indicates not available

Another notable trend has been the fall in the interest payment liabilities in Kerala and all the comparable states from the beginning of the current decade (Table 5.43).

Table 5.43: Expenditure on Interest Payments in Kerala and Comparable States

Year	As percentage of Revenue Expenditure						
	Kerala	Andhra Pradesh	Gujarat	Karnataka	Maharashtra	Rajasthan	Tamil Nadu
1990 - 1991	12.06	10.71	13.02	15.42	10.06	14.33	8.08
1995 - 1996	15.86	14.41	15.15	17.98	11.97	14.81	11.85
2000 - 2001	19.01	16.44	14.21	20.10	13.97	22.21	14.36
2005 - 2006	20.62	20.07	24.12	20.43	17.88	24.23	14.24
2010 - 2011	16.41	12.32	16.76	16.27	14.70	16.42	10.89
2015 - 2016	12.85	0.52	15.99	12.51	13.70	10.80	11.64

Source: State Finances : A Study of Budgets, RBI (Various Issues)

Table 5.43 (Contd.): Expenditure on Interest Payments in Kerala and Comparable States

Year	As percentage of GSDP						
	Kerala	Andhra Pradesh	Gujarat	Karnataka	Maharashtra	Rajasthan	Tamil Nadu
1990-1991	2.42	1.77	1.90	1.87	1.37	2.41	1.45
1995-1996	2.38	1.91	1.85	1.86	1.30	2.61	1.65
2000-2001	3.11	2.62	2.82	2.20	2.07	4.05	2.13
2005-2006	2.78	2.74	2.51	1.92	1.92	3.66	1.77
2010-2011	2.16	1.66	1.85	1.37	1.49	2.18	1.36
2015-2016	1.87	0.04	1.40	1.03	1.38	1.75	1.41

Source: State Finances : A Study of Budgets, RBI (Various Issues)

Subsidies constitute a negligible portion of Kerala's revenue expenditure, though it has increased over the years, particularly in recent times.

Table 5.44 presents the trends in total public expenditure and its components in Kerala and comparable states during the three phases of economic growth trajectory identified in this study. The total public expenditure of Kerala has declined from 20.38 per cent of GSDP during the phase of moderate economic growth (1987-88 to 2001-02) to 16.20 per cent during accelerated economic growth phase (2002-03 to 2016-17). In all the comparable states as well the total public expenditure has declined between the same periods. The drop in the total expenditure in Kerala was second largest (4.18 percentage points) among all the comparable states and was caused by decline in both revenue expenditure and capital expenditure and outlay. In contrast, in all comparable states except Rajasthan

the decline in the total expenditure was not at the cost of capital outlay. Moreover, the capital expenditure and outlay incurred in Kerala during accelerated economic growth phase was lowest among the comparable states.

Table 5.44: Total Expenditure and its Components (As percentage of GSDP)

States	Total Expenditure			Revenue Expenditure			Capital Expenditure			Capital Outlay		
	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-)17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17
Kerala	22.45	20.38	16.20	16.76	17.14	13.97	5.70	3.24	2.23	2.72	1.39	1.06
Andhra Pradesh	20.92	19.29	16.74	16.32	15.50	12.74	4.60	3.78	3.99	2.61	1.73	2.14
Gujarat	18.72	19.14	14.40	12.82	15.23	10.75	5.90	3.90	3.65	2.46	2.06	2.34
Karnataka	22.20	19.59	17.02	15.82	15.95	13.14	6.39	3.64	3.88	2.46	2.06	2.72
Maharashtra	18.16	15.71	13.29	13.70	12.89	10.61	4.47	2.82	2.68	2.15	1.66	1.66
Rajasthan	23.55	22.30	19.75	15.93	17.27	15.16	7.63	5.02	4.59	3.59	2.87	2.51
Tamil Nadu	21.63	18.80	15.94	15.44	16.22	12.62	6.19	2.58	3.32	1.25	0.90	1.85

Source: State Finances : A Study of Budgets, RBI (Various Issues)

Expenditure on Social and Economic Service in Kerala

Tables 5.45, 5.46 and 5.47 present the expenditure under the two functional heads namely social and economic services (excluding as well as including loans and advances) as percentage of state GSDP in Kerala and major states. Over the years Kerala has been spending more on social services than

economic services. The total expenditure on social and economic services (both excluding and including loans and advances) as percentage of GSDP has declined significantly in Kerala over the years (Table 5.45). Similar trend was witnessed in the major states as a whole, particularly in the case of economic services. The expenditure on social services in Kerala has declined from the peak of 11.20 per cent of GSDP (including loans and advances) in 1985-86 to 5.10 per cent in 2016-17. In case of economic services the same has declined from 6.43 per cent in 1980-81 to 3.30 per cent in 2016-17. But, the silver lining is that starting from the second half of the last decade the expenditure on social services has increased in Kerala and major states put together as percentage of GSDP. In case of economic services as well, the total expenditure increased both in Kerala and major states between 2010-11 and 2016-17 (see Table 5.45).

Table 5.45: Total Expenditure* on Social and Economic Services as percentage of GSDP

Year	Social Services				Economic Services			
	Kerala*	Kerala**	Major states*	Major states**	Kerala*	Kerala**	Major states*	Major states**
1980-1981	8.74	8.98	6.00	6.29	5.79	6.43	7.42	9.58
1985-1986	10.92	11.20	7.14	7.34	5.58	6.03	7.53	9.16
1990-1991	9.31	9.56	7.49	7.67	5.23	5.96	7.47	8.77
1995-1996	6.14	6.35	5.77	5.89	4.06	4.79	5.15	5.78
2000-2001	5.84	6.00	6.20	6.39	3.66	3.85	4.94	5.41
2005-2006	4.41	4.48	5.27	5.36	3.21	3.33	4.91	5.27

2010 - 2011	4.77	4.85	5.85	5.96	2.70	2.91	4.56	4.75
2016 - 2017	5.10	5.10	6.79	6.84	3.19	3.30	5.40	5.73
*Excluding Loans & Advances Source: State Finances : A Study of Budgets, RBI (Various Issues)								
** Including Loans and Advances								

An analysis of expenditure incurred on the provision of social and economic services during the various economic growth regimes reveals that, on an average, expenditure on social and economic services (both including and excluding loans) has declined as percentage of GSDP in Kerala and almost all the comparable states during the moderate and high economic growth phases compared with the stagnation phase (Table 5.46 and 5.47). Also, during the high growth phase, the expenditure incurred on economic services in Kerala was lowest. Such a trend is a cause for serious concern since higher economic growth is expected to lead to higher public spending on essential public services due to improved prospects of public revenue mobilisation in a fast growing economy.

Table:5.46.

Total Expenditure on Social and Economic Services as percentage of GSDP (Excluding Loans and Advances)

States	Social Services			Economic Services		
	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17
Kerala	9.13	7.18	4.82	5.45	4.51	2.87
Andhra Pradesh	7.48	6.09	5.00	7.27	6.19	5.25
Gujarat	5.79	5.82	4.72	6.32	6.99	4.21
Karnataka	5.98	6.25	6.20	7.16	6.37	5.76

Maharashtra	4.97	4.80	4.51	6.24	5.22	3.50
Rajasthan	7.46	7.66	6.90	7.14	6.12	5.13
Tamil Nadu	6.89	6.55	5.19	5.66	5.32	3.66

Source: State Finances : A Study of Budgets, RBI (Various Issues)

Table.5.47

Total Expenditure on Social and Economic Services as percentage of GSDP (Including Loans and Advances)

States	Social Services			Economic Services		
	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17
Kerala	9.35	7.42	4.94	6.07	5.07	3.08
Andhra Pradesh	7.66	6.38	5.35	7.88	7.14	5.39
Gujarat	6.06	5.97	4.74	8.01	7.85	4.40
Karnataka	6.24	6.46	6.34	9.03	7.08	5.87
Maharashtra	5.27	4.96	4.56	7.44	5.75	3.70
Rajasthan	7.64	7.73	6.93	8.52	6.90	5.83
Tamil Nadu	7.37	6.91	5.32	8.38	5.99	4.00

Source: State Finances : A Study of Budgets, RBI (Various Issues)

More importantly, the drop in the expenditure on social and economic services was larger during the phase of accelerated economic growth in Kerala and majority of the comparable

states compared with the moderate growth phase. And, in case of Kerala the decline in the expenditure on social services during the accelerated economic growth phase was the highest among the comparable states and was caused by decline in both revenue expenditure and expenditure on capital formation (See Tables 5.47 and 5.48). The decline in the expenditure on economic services in Kerala was also resulted from the decline in revenue expenditure, capital expenditure and capital outlay (Table 5.49). In the comparable states, the expenditure allocation is partly better in the sense that the capital expenditure and outlay on social services has witness sed an increase as a percentage of state GDP during the phase of accelerated economic growth (Table 5.48).

Table 5.48: Composition of Expenditure* on Social Services (As percentage of GSDP)

States	Revenue Expnditure			Capital Expenditure			Capital Outlay		
	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17
Kerala	8.39	7.13	4.68	0.96	0.42	0.26	0.74	0.21	0.14
Andhra Pradesh	7.32	5.96	4.85	0.34	0.42	0.50	0.17	0.13	0.15
Gujarat	5.38	5.45	4.06	0.67	0.53	0.68	0.41	0.37	0.66
Karnataka	5.84	6.07	4.76	0.41	0.38	1.58	0.14	0.17	1.44
Maharashtra	4.82	4.71	4.36	0.45	0.25	0.21	0.15	0.09	0.15
Rajasthan	6.41	6.80	5.89	1.23	0.93	1.04	1.04	0.86	1.01
Tamil Nadu	6.65	6.33	4.62	0.72	0.58	0.69	0.24	0.22	0.56

* Including loans and advances by the state governments Source: State Finances : A Study of Budgets, RBI (Various Issues)

Table 5.49: Composition of Expenditure on Economic Services (As percentage of GSDP)

States	Revenue Expenditure			Capital Expenditure*			Capital Outlay		
	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17
Kerala	3.55	3.36	2.14	2.52	1.76	0.94	1.89	1.15	0.73
Andhra Pradesh	4.89	4.62	3.34	3.00	2.51	2.05	2.38	1.57	1.91
Gujarat	4.30	5.33	2.59	3.71	2.52	1.81	2.02	1.66	1.62
Karnataka	4.92	4.53	3.66	4.12	2.55	2.21	2.25	1.84	2.10
Maharashtra	4.30	3.68	2.04	3.14	2.07	1.67	1.95	1.54	1.47
Rajasthan	4.64	4.18	3.65	3.88	2.72	2.18	2.50	1.94	1.48
Tamil Nadu	4.72	4.70	2.48	3.66	1.29	1.52	0.94	0.62	1.18

* Including loans and advances by the state governments Source: State Finances : A Study of Budgets, RBI (Various Issues)

Tables 5.50 to 5.56 present the expenditure incurred on major individual category of social and economic services as percentage of GSDP under the three economic growth regimes. Over the years, among the comparable states, Kerala has spent more on health and education than any other heads of social and economic services.

Alarmingly, except transport and communications (under economic services), the total expenditure on all the other individual heads namely education, public health, housing (all under social services), agriculture and allied activities, irrigation, industry and minerals (all under economic services)

has declined in Kerala during the phase of accelerated economic growth compared with the period of moderate economic growth. Moreover, the expenditure on education, public health, housing, and agriculture and allied activities has declined during the moderate economic growth phase as well compared with the period of economic stagnation.The decline in the public expenditure under these heads was caused by the fall in all the components of expenditure namely revenue expenditure, capital expenditure and capital outlay. A comparison of Kerala's performance with the comparable states reveals that, compared with the phase of moderate economic growth, the total expenditure on education, public health, agriculture and allied activities, irrigation (except Andhra Pradesh) and industry and minerals (except Maharashtra) has declined as a percentage of GSDP in all the comparable states during the period of accelerated economic growth. However, unlike Kerala, the fall in the total expenditure on two crucial expenditure heads namely education and public health in the comparable states (except Rajasthan in case of education) was not at the cost of capital expenditure and capital outlay.

Table 5.50: Expenditure* on Social Services: Education (As percentage of GSDP)

States	Total Expenditure			Revenue Expenditure			Capital Expenditure*			Capital Outlay		
	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17
Kerala	5.28	4.35	2.71	5.19	4.29	2.69	0.09	0.06	0.03	0.09	0.06	0.03
Andhra Pradesh	3.25	2.74	1.93	3.24	2.75	1.92	0.01	0.02	0.03	0.01	0.02	0.02
Gujarat	2.71	2.96	1.96	2.70	2.94	1.87	0.01	0.02	0.10	0.01	0.02	0.10
Karnataka	3.02	3.24	2.42	3.00	3.22	2.39	0.01	0.02	0.05	0.01	0.02	0.05

Maharashtra	2.53	2.76	2.39	2.52	2.75	2.37	0.01	0.01	0.01	0.01	0.01	0.01
Rajasthan	3.46	3.82	3.14	3.44	3.78	3.13	0.02	0.04	0.02	0.02	0.04	0.02
Tamil Nadu	3.29	3.29	2.20	3.25	3.26	2.15	0.04	0.03	0.05	0.04	0.03	0.05
* Including loans and advances by the state governments Source: State Finances : A Study of Budgets, RBI (Various Issues)												

Table 5.51: Expenditure* on Social Services: Public Health (As percentage of GSDP)

States	Total Expenditure			Revenue Expenditure			Capital Expenditure*			Capital Outlay		
	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17
Kerala	1.96	1.14	0.72	1.45	1.08	0.69	0.51	0.06	0.04	0.51	0.06	0.03
Andhra Pradesh	1.44	0.86	0.53	1.36	0.85	0.51	0.07	0.01	0.03	0.0007	0.0001	0.0001
Gujarat	1.16	0.76	0.49	1.01	0.74	0.40	0.15	0.01	0.09	0.15	0.01	0.09
Karnataka	1.28	0.95	0.56	1.22	0.90	0.50	0.06	0.05	0.06	0.06	0.05	0.06
Maharashtra	1.31	0.66	0.434	1.27	0.63	0.41	0.04	0.02	0.03	0.04	0.02	0.03
Rajasthan	2.32	1.11	0.73	1.62	1.06	0.68	0.70	0.05	0.05	0.70	0.05	0.05
Tamil Nadu	1.71	0.95	0.53	1.55	0.92	0.49	0.10	0.03	0.04	0.10	0.03	0.04
* Including loans and advances by the state governments Source: State Finances : A Study of Budgets, RBI (Various Issues)												

Table 5.52: Expenditure* on Social Services: Housing (As percentage of GSDP)

States	Total Expenditure			Revenue Expenditure			Capital Expenditure*			Capital Outlay		
	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17
Kerala	0.16	0.10	0.07	0.07	0.07	0.04	0.09	0.03	0.04	0.05	0.02	0.01
Andhra Pradesh	0.10	0.17	0.35	0.02	0.06	0.13	0.08	0.10	0.21	0.01	0.01	0.003
Gujarat	0.31	0.24	0.19	0.16	0.16	0.15	0.15	0.08	0.05	0.09	0.05	0.05
Karnataka	0.20	0.21	0.26	0.10	0.15	0.19	0.09	0.06	0.07	0.03	0.02	0.06
Maharashtra	0.24	0.21	0.14	0.15	0.13	0.12	0.09	0.07	0.02	0.04	0.02	0.003
Rajasthan	0.13	0.10	0.03	0.06	0.06	0.02	0.07	0.04	0.02	0.04	0.04	0.01
Tamil Nadu	0.21	0.12	0.20	0.11	0.05	0.11	0.11	0.07	0.10	0.04	0.03	0.08

* Including loans and advances by the state governments Source: State Finances : A Study of Budgets, RBI (Various Issues)

Table 5.53: Expenditure on Economic Services: Agriculture & Allied Activities (As percentage of GSDP)

States	Total Expenditure			Revenue Expenditure			Capital Expenditure*			Capital Outlay		
	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17
Kerala	2.19	1.42	0.82	1.92	1.27	0.76	0.27	0.15	0.06	0.22	0.13	0.06
Andhra Pradesh	2.26	0.80	0.60	1.90	0.75	0.59	0.36	0.05	0.02	0.29	0.02	0.01

Gujarat	1.67	0.92	0.55	1.43	0.75	0.47	0.38	0.21	0.08	0.23	0.17	0.08
Karnataka	2.59	1.34	1.22	2.30	1.27	1.20	0.29	0.05	0.02	0.22	0.03	0.02
Maharashtra	2.74	1.50	0.73	2.38	1.27	0.60	0.46	0.22	0.13	0.37	0.20	0.13
Rajasthan	2.05	1.08	0.68	1.71	0.93	0.61	0.34	0.15	0.07	0.21	0.13	0.06
Tamil Nadu	2.77	1.63	0.79	2.49	1.53	0.62	0.28	0.11	0.17	0.26	0.10	0.16
* Including loans and advances by the state governments Source: State Finances : A Study of Budgets, RBI (Various Issues)												

Table 5.54: Expenditure on Economic Services: Irrigation (As percentage of GSDP)

States	Total Expenditure			Revenue Expenditure			Capital Expenditure*			Capital Outlay		
	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17
Kerala	0.60	0.77	0.24	0.36	0.32	0.13	0.24	0.45	0.11	0.24	0.44	0.11
Andhra Pradesh	1.67	2.19	2.21	1.19	1.15	0.77	0.48	1.04	1.45	0.48	0.98	1.45
Gujarat	1.68	2.57	1.17	1.46	1.48	0.24	0.23	1.13	0.93	0.23	1.10	0.93
Karnataka	1.57	2.14	1.32	1.12	0.81	0.12	0.45	1.33	1.19	0.45	1.28	1.19
Maharashtra	1.10	1.69	1.11	0.82	0.88	0.23	0.28	0.81	0.88	0.28	0.79	0.88
Rajasthan	1.85	2.09	0.80	1.48	1.07	0.42	0.37	1.02	0.38	0.37	0.95	0.38
Tamil Nadu	0.69	0.51	0.31	0.60	0.34	0.17	0.09	0.18	0.14	0.09	0.16	0.14
* Including loans and advances by the state governments Source: State Finances : A Study of Budgets, RBI (Various Issues)												

Table 5.55: Expenditure on Economic Services: Industry and Minerals (As percentage of GSDP)

States	Total Expenditure			Revenue Expenditure			Capital Expenditure*			Capital Outlay		
	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17
Kerala	0.49	0.52	0.21	0.22	0.24	0.11	0.27	0.27	0.10	0.25	0.19	0.07
Andhra Pradesh	0.40	0.33	0.32	0.18	0.18	0.20	0.22	0.15	0.12	0.20	0.13	0.11
Gujarat	0.37	0.35	0.18	0.27	0.25	0.15	0.17	0.15	0.05	0.10	0.10	0.04
Karnataka	0.84	0.59	0.20	0.52	0.48	0.15	0.31	0.11	0.04	0.48	0.40	0.37
Maharashtra	0.09	0.11	0.13	0.04	0.09	0.12	0.04	0.02	0.01	0.04	0.01	0.003
Rajasthan	0.55	0.34	0.07	0.38	0.21	0.05	0.17	0.20	0.01	0.11	0.09	0.01
Tamil Nadu	0.68	0.43	0.20	0.37	0.32	0.15	0.31	0.11	0.04	0.19	0.05	0.01

* Including loans and advances by the state governments Source: State Finances : A Study of Budgets, RBI (Various Issues)

Table 5.56: Expenditure on Economic Services: Transport and Communication (As percentage of GSDP)

States	Total Expenditure			Revenue Expenditure			Capital Expenditure*			Capital Outlay		
	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17	1980-81 to 86-87	1987-88 to 01-02	2002-03 to 16-17
Kerala	0.98	0.78	0.86	0.57	0.41	0.44	0.42	0.37	0.42	0.42	0.37	0.42
Andhra Pradesh	0.67	0.54	0.48	0.45	0.32	0.24	0.22	0.23	0.25	0.22	0.23	0.25
Gujarat	1.13	0.90	0.80	0.76	0.69	0.49	0.37	0.21	0.31	0.37	0.21	0.31
Karnataka	0.80	0.63	0.95	0.48	0.40	0.37	0.32	0.23	0.58	0.32	0.23	0.58

Maharashtra	0.37	0.59	0.49	0.11	0.31	0.25	0.26	0.27	0.24	0.26	0.27	0.24
Rajasthan	1.16	0.75	0.60	0.50	0.45	0.30	0.67	0.30	0.30	0.67	0.30	0.30
Tamil Nadu	0.81	0.59	0.73	0.62	0.37	0.20	0.19	0.23	0.53	0.19	0.23	0.53
* Including loans and advances by the state governments Source: State Finances : A Study of Budgets, RBI (Various Issues)												

Quality of expenditure on social and economic services in Kerala

In addition to the reduced significance of allocation on social and economic services another distressing feature of expenditure pattern in Kerala and comparable states has been the disproportionately larger amounts spend on current expenditures like wages and salaries, subsidies and other transfers within the social and economic services. Consequently, budgetary resources allotted for maintenance of capital assets and creation of new assets within such essential services has declined over time. This fact is brought out clearly in Tables 5.57 and 5.58 showing the revenue expenditure, capital expenditure and capital outlay components of states' allocation on social and economic services.

Current expenditures constituted over 90 per cent of expenditures on social services in Kerala since 1980-81 (Table 5.57). On the other hand, the share of capital expenditure and capital outlay on social services was not only small but also declined consistently till 2000-01. However, starting from 2000-01 the state witnessed an upward movement in the share of capital expenditure and capital outlay on social services. For instance, the capital outlay on social services in Kerala has increased from a mere 1.32 per cent of total expenditure on social services in 2000-01 to 5.10 per cent in 2016-17. Similar

trend was witnessed in case of major states as a whole. However in their case the increase in the share of capital expenditure and capital outlay from 2000-01 was much larger compared to Kerala (see Table 5.57).

Table 5.57: Composition of Expenditure on Social Services (%)

Year	Revenue Expenditure		Capital Expenditure		Capital Outlay	
	Kerala	Major states	Kerala	Major states	Kerala	Major states
1980 - 1981	91.40	90.66	8.60	9.47	5.96	8.20
1985 - 1986	92.15	92.70	7.85	7.35	5.31	8.52
1990 - 1991	94.81	94.12	5.19	6.05	2.61	7.80
1995 - 1996	93.92	93.96	6.08	6.06	2.81	8.09
2000 - 2001	96.09	92.60	3.91	7.49	1.32	10.33
2005 - 2006	96.10	89.75	3.90	10.36	2.17	14.37
2010 - 2011	94.61	90.48	5.39	9.82	3.74	14.41
2016 - 2017	94.86	78.43	5.14	14.79	5.10	NA

Source: State Finances : A Study of Budgets, RBI (Various Issues)

Compared to social services, the quality of expenditure is better in the case of economic services in the sense that the capital expenditure and capital outlay on economic services was much higher than social services both in Kerala and major states put together (Table 5.58). However, until mid-2000s, the share of capital outlay on economic services was falling consistently in Kerala. Since mid-2000s, the share of capital outlay on economic services has increased notably in Kerala from 13.47 per cent of total expenditure on economic services in 2005-06 to 35.24 per cent in 2016-17 (see Table 5.58).

Table 5.58: Composition of Expenditure on Economic Services (%)

Year	Revenue Expenditure	Capital Expenditure	Capital Outlay

	Kerala	Major states	Kerala	Major states	Kerala	Major states
1980-1981	55.50	48.31	44.50	51.69	34.57	28.89
1985-1986	58.75	55.40	41.25	44.60	33.80	26.36
1990-1991	62.48	62.58	37.52	37.42	25.37	22.01
1995-1996	59.39	64.38	40.61	35.62	25.39	24.72
2000-2001	77.84	65.15	22.16	34.85	17.16	26.03
2005-2006	82.69	59.17	17.31	40.83	13.47	34.21
2010-2011	56.78	64.13	43.22	35.87	36.04	32.49
2016-2017	61.44	59.53	38.56	32.78	35.24	31.56

Source: State Finances : A Study of Budgets, RBI (Various Issues)

Indeed the above analysis of quality of expenditure focuses only on components of spending but on the outcomes. While outcomes are not the focus of our report, we made an attempt to analyse the question whether Kerala is overspending on health and education compared to other states in achieving the desired outcomes. The analysis examines whether Kerala spends more than necessary to achieve its education and health outcomes. Such an 'efficiency of spending' analysis reveals that Kerala overspends on achieving literacy. In terms of health, Kerala overspends on tackling infant mortality. This points towards some scope of rationalising social expenditure.

Analysis of Revenues

Governments require revenue for following reasons

- To finance government activities, in particular the provision of essential public services for the citizens.

- To reduce the need for public borrowing to fund government activities.
- To achieve good governance and public financial management. Lower public revenues can cause failure of the state to manage the economy and society.
- To fund the delivery of the Millennium Development Goals.
- To reduce the dependency on aid, in case of developing countries.

Tax revenue instrument can be used to influence the incentives for work, savings, investment, entrepreneurship, and innovation, thereby promoting economic growth. Taxes make the governments accountable to their citizens due to the pressure to deliver public services using the revenue collected.

As per the consensus arrived at the United Nations Financing for Development Summit held in Monterrey in 2002 and reiterated at Doha in 2008, developing countries are committed to improve their overall public revenue mobilisation in return for higher flow of international development assistance.

For sub-national governments (SNGs) in a federal system sufficient revenue from their own sources is needed due to following additional reasons (a) fiscal rules often limits their borrowing capacity.; (b) own revenues reduce the dependence of SNGs on

Evidence show that a healthy tax system represented by higher tax-GDP ratio causes less incidence of conflict (Hendrix 2007). transfers from the higher-level governments; (c) as opposed to grants, own revenue provides greater freedom in deciding the spending priorities of SNGs, particularly on public services and (d) size of grants from the central government is quite often determined by political factors such as pressure of special interest groups and prevailing political alignment.

Sources of government revenue

The major sources of government revenue are taxes, non-tax revenue, transfers and grants. There are two types of taxes namely direct and indirect. The burden of direct taxesfalls directly on the income or assets of physical or legal persons such as corporations and foundations. The best examples of direct taxes are personal income tax, corporate income tax and payroll tax. On the other hand, indirect taxes are levied indirectly on the use of income or assets. Some of the popular examples of indirect taxes are general sales tax, value added tax and excise tax (Greene 2012). Non-tax revenue sources include profits of public sector enterprises, income from government-owned property, land leases or fees tied to the value of natural resources such as coal and oil and administrative or user fees. SNGs receive funds from the national government in two forms: (i) a share of own revenues mobilised by the national government, called transfers and (ii) grant-in-aid. Grants are financial support made in support of some worthy cause or to carry out specific programmes or in return for fulfillment of some conditions.

User or administrative fees are charges imposed by the government on the use of public services and public property by the citizens. General examples are fees on higher education services provided by government run education institutions, tolls for highways and bridges, and entry fees for public parks and museums. User fees are generally imposed to enable the government to recover the cost of publicly provided goods and services and to reduce congestion on public infrastructure (e.g. highway tolls). Total revenue receipts of the states in India consists of own revenue receipts and transfers from central

government. The former comprises states' own tax and non-tax revenues and the latter is the combination of states' share in central taxes and grant-in-aid from the centre.

Performance of revenues in Kerala

The total revenue of Kerala as percentage of GSDP had declined overtime and this was caused by decline in revenues from both own revenue (both tax and non-tax) sources of the state and central transfers. Kerala has been receiving lower central transfers compared with the average level of transfers received by major states. Also, although central transfers as percentage of GSDP has been consistently rising for major states on an average basis since 1995-96, in case of Kerala it has been fluctuating.

The major contributor to states' own revenues is tax revenues. For most part of the period from 1980-81, both own tax revenues and own non-tax revenues of Kerala witnessed a falling trend. For major states as a whole similar trend was witnessed only in case of non-tax revenue. However, two remarkable aspects of Kerala's own revenue mobilisation are notable. First, Kerala's own tax revenue to GSDP ratio was always higher than the average of major states. Second, since the second half of the last decade, own non-tax revenues of Kerala has increased consistently as percentage of GSDP.

As percentage of GSDP, total revenue of Kerala has declined significantly during the phases of moderate and accelerated economic growth and this was due to the decline in both own revenue and central transfers. Similar trend was witnessed in the comparable states as well. However, among all the comparable states, Kerala has witnessed the largest decline in total revenues and own tax revenues to GSDP ratio during the accelerated phase of economic growth. Whereas total revenues

to GSDP ratio fell by 3.15 percentage points in case of own tax revenues. The decline in own revenue to GSDP ratio of Kerala and all the comparable states (except Rajasthan) during the accelerated economic growth phase was contributed by both own tax revenue and own non-tax revenue. Among comparable states, Kerala has witnessed the largest fall in own tax revenues to GSDP ratio during the accelerated phase of economic growth.

Table.5.59 : Total Revenue, Own Revenue and Central Transfers as percentage of GSDP

States	Total Revenue			Own Revenue			Central Transfers		
	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17
Kerala	16.48	14.71	11.57	11.03	10.19	8.54	5.45	4.53	3.12
Andhra Pradesh	16.34	14.49	11.57	10.68	9.50	8.71	5.66	4.99	4.11
Gujarat	13.22	13.46	10.41	9.91	10.68	8.04	3.31	2.79	2.44
Karnataka	16.25	15.09	13.55	11.70	11.02	10.13	4.56	4.07	3.73
Maharashtra	13.83	11.93	10.07	10.83	9.68	8.09	3.00	2.25	2.07
Rajasthan	16.19	15.54	14.40	9.46	8.93	8.83	6.73	6.61	5.95
Tamil Nadu	16.27	14.23	12.32	11.16	10.16	9.04	5.10	4.06	3.37

Source: State Finances : A Study of Budgets, RBI (Various Issues)

Table.5.60: Own Tax Revenue and Own Non-tax Revenue as percentage of GSDP

States	Own Tax Revenue			Own Non-Tax Revenue		
	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17

Kerala	8.58	8.93	7.51	2.45	1.25	0.94
Andhra Pradesh	8.12	7.29	6.74	2.57	2.21	1.62
Gujarat	7.40	8.03	6.62	2.51	2.64	1.35
Karnataka	8.46	9.03	8.67	3.24	1.99	1.14
Maharashtra	7.79	7.47	6.93	3.04	2.21	1.06
Rajasthan	5.96	6.05	6.50	3.51	2.87	1.96
Tamil Nadu	9.42	8.85	7.82	1.75	1.31	0.98

Source: State Finances : A Study of Budgets, RBI (Various Issues)

Composition of own tax revenues in Kerala

States receive their own tax revenues from sales tax/value added tax (VAT), state excise, stamps and registration fees, motor vehicle tax, and other sundry taxes like agricultural income tax, land revenue, profession tax, property tax, electricity duty, and entertainment tax. Over the years, a lion's share (87.52 to 93.03 percent) of revenue received from Kerala's own tax revenue source consisted of taxes on commodities and services (Table.5.61). The remaining portion was contributed mainly by taxes on property and capital transactions. The contribution of tax on income (mainly agricultural income tax) was not only minuscule but also declined. For major states as a whole, similar pattern of own tax revenue mobilisation was evident.

Table.5.61: Composition of Own Tax Revenues

Year	Taxes on Income (Agricultural Income Tax)		Taxes on Property and Capital Transactions		Taxes on Commodities and Services	
	Kerala	Major States*	Kerala	Major States*	Kerala	Major States*
1980 -1981	3.36	0.95	8.66	9.26	87.89	89.79
1985 -1986	2.85	0.99	7.29	9.06	89.86	89.96

1990 1991	-1.79	1.24	10.22	9.84	87.99	88.91
1995 1996	-0.77	0.86	11.39	11.52	87.84	87.61
2000 2001	-0.07	1.28	6.91	9.94	93.03	88.78
2005 2006	-0.06	0.95	12.19	13.07	87.75	85.98
2010 2011	-0.22	0.72	12.26	12.81	87.52	86.47
2016 2017	-0.02	0.58	8.13	12.82	91.85	94.64

* Excluding Kerala Source: State Finances : A Study of Budgets, RBI (Various Issues)

Among the taxes on commodities and services, the major ones in order of their contribution to own tax revenue in Kerala are: sales tax/value added tax (VAT), state excise duties, motor vehicle tax and electricity duty (Table.5.62). Of these, the share of sales tax/VAT, by and large, moved upward overtime. On the other hand, the contribution of state excise duties declined consistently and sharply over the years from 19.38 per cent in 1980-81 to 5.10 per cent in 2016-17. This is in contrast to the trend witnessed in the major states put together. Notably, the contribution of sales tax/VAT to own tax revenues was larger in Kerala by over 10 percentage points in many years compared to the average of major states.

Table.5.62: Taxes on Commodities and Services (As percentage of Own-Tax Revenue)

Year	Sales tax		State Excise		Tax on Vehicles		Taxes and Duties on Electricity	
	Kerala	Major States*	Kerala	Major States*	Kerala	Major States*	Kerala	Major States*
1980 1981	-60.60	57.69	19.38	12.32	5.95	6.22	1.92	4.17

1985-1986	62.75	56.57	14.25	14.45	6.45	6.08	6.33	5.20
1990-1991	66.96	56.49	13.09	16.69	5.53	5.48	2.28	4.67
1995-1996	67.58	53.87	13.28	14.50	6.59	6.54	0.22	4.50
2000-2001	74.01	60.33	11.74	14.00	6.73	6.05	0.25	4.10
2005-2006	71.97	59.20	8.60	11.81	6.43	6.01	0.32	4.16
2010-2011	72.89	59.98	7.82	13.17	6.13	5.31	0.10	3.85
2016-2017	78.55	66.40	5.10	13.46	7.12	5.56	0.48	4.01
* Excluding Kerala Source: State Finances : A Study of Budgets, RBI (Various Issues)								

Within taxes on property and capital transactions, the major contribution has come from stamps and registration fees (Table.5.63). Though the contribution of this tax revenue source to Kerala's own tax revenue was by and large rising since 1980-81, during the first half of the current decade the contribution has declined significantly. This is a major cause for concern because in a state which has been witnessing a property/real estate boom this tax source is expected to contribute meaningfully to state's own revenue resources. Interestingly, no such drop in the contribution of stamps and registration fees was reported in major states as a whole during the same period.

Table.5.63: Taxes on Property and Capital Transactions (As percentage of Own Tax-Revenue)

Year	Land Revenue		Stamps, Registration Fee		Urban Immovable Property	
	Kerala	Major States*	Kerala	Major States*	Kerala	Major States*
1980 - 1981	0.95	2.55	7.68	6.61	0.03	0.10
1985 - 1986	0.80	2.81	6.33	6.19	0.15	0.05
1990 - 1991	0.83	2.69	9.10	7.07	0.29	0.08
1995 - 1996	0.70	2.40	10.46	9.04	0.23	0.08
2000 - 2001	0.67	1.46	5.81	8.41	0.43	0.07
2005 - 2006	0.45	1.50	11.26	11.55	0.48	0.02
2010 - 2011	0.26	1.84	11.75	10.82	0.25	0.16
2016 - 2017	0.41	1.69	7.37	10.92	0.35	0.21
* Excluding Kerala Source: State Finances : A Study of Budgets, RBI (Various Issues)						

Growth of major own tax revenue sources in Kerala

Table.5.64 presents the growth rate of major own tax revenue sources of Kerala and comparable states during the three economic growth phases. It is revealed that except stamps and registration fees, the growth of all major own tax revenue sources namely sales tax/VAT, state excise duties and motor vehicle tax has declined in Kerala during the period of accelerated economic growth compared with the period of economic stagnation. In fact, the growth of revenue from these three taxes has fallen consistently overtime in Kerala. The only other states which witnessed a decline in the growth of revenue from majority of the major own tax handles during the accelerated economic growth phase are Andhra Pradesh and Rajasthan.

Table.5.64: Growth of Major Own Tax Revenue Sources (%)

	Sales tax/VAT			State Excise			Tax on Vehicles		Stamps, Registration Fee			
States	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17	1980-81 to 1986-87	1987-88 to 2001-02	2002-03 to 2016-17
Kerala	16.80	16.74	15.46	12.88	12.35	10.29	19.30	17.67	14.91	12.96	12.22	13.96
Andhra Pradesh	20.08	16.91	12.42	20.19	3.26	9.42	16.83	15.54	7.60	13.15	16.99	10.48
Gujarat	14.01	13.40	17.25	9.45	11.63	10.10	14.31	18.84	10.62	8.72	16.86	18.81
Karnataka	17.85	15.26	16.31	13.85	14.58	16.80	17.74	11.21	16.33	14.20	17.54	14.83
Maharashtra	14.24	13.86	14.30	17.95	14.27	16.75	13.54	14.48	15.75	19.47	23.25	16.81
Rajasthan	16.28	14.84	18.00	34.16	17.39	15.16	38.04	15.54	13.04	14.21	19.68	15.59
Tamil Nadu	15.57	15.22	15.86	49.31	21.41	10.44	10.25	11.10	15.24	16.88	15.43	17.79

Source: State Finances : A Study of Budgets, RBI (Various Issues)

Table 5.65 presents buoyancy of own tax revenue for Kerala and comparable states. With the exception of Gujarat, in all the comparable states buoyancy estimates are less than unity during the phase of accelerated economic growth implying that tax revenue performance of Kerala and majority of the comparable states was not productive or buoyant during the time of high economic growth. Interestingly, the only occasion in which tax buoyancy estimates were greater than unity in all the comparable states was the period of economic stagnation. In three states namely Andhra Pradesh, Karnataka and Tamil

Nadu buoyancy estimates declined consistently over the three phases of economic growth considered in this study.

Table.5.65: Buoyancy of Own Tax Revenue

States	1980-1981 to 1986-1987	1987-1988 to 2001-2002	2002-2003 to 2015-2016
Kerala	1.30	0.88	0.91
Andhra Pradesh	1.49	0.87	0.72
Gujarat	1.08	0.88	1.00
Karnataka	1.19	0.91	0.87
Maharashtra	1.27	0.91	0.94
Rajasthan	1.29	0.92	0.96
Tamil Nadu	1.24	0.95	0.88

Source: State Finances : A Study of Budgets, RBI (Various Issues)

Composition of own non-tax revenues in Kerala

The principal sources of own non-tax revenues of the states are (i) dividends and profits on equity investments in state public sector enterprises (PSEs) and statutory corporations, and interest receipts on loans rendered to the same; (ii) user charges on various social and economic goods/services provided by the states; (iii) royalty on mines and minerals; (iv) forest revenue (both under economic services) and (v) general services (mainly state lotteries). Table.5.66 presents the composition of own non-tax revenues of Kerala and major states as a whole. It is striking that revenue through dividends and profits contribute

virtually nothing to state's exchequer. Such a trend is unwarranted considering the huge amount of budgetary funds of states locked in PSEs and statutory corporations. The only manner public sector units help the states appear to be the payment of interests on loans and advances taken by them from the state government. But this too has declined in Kerala and major states put together overtime. However, in the major states as a whole the share of interest receipts in the total non-tax revenue was far higher than in Kerala (See Table.5.66). Though general services and economic services constituted significant part of own non-tax revenues mobilised in Kerala over the years, a notable trend has been the consistent fall in the share of economic and social services and rise in the share of general services. The share of receipts from economic services decelerated sharply from 60.57 per cent of the non-tax revenue of the state in 1980-81 to 42.46 per cent in 2000-01 to 10.72 per cent in 2016-17 (Table.5.66). In case of social services, the share declined from 16.45 per cent in 1980-81 to 6.01 per cent in 2016-17. On the other hand, the share of general services (i.e. revenue from sale of state lotteries) increased from 13.40 per cent in 1980- 81 to 38.39 per cent in 2000-01 to a whopping 80.49 per cent in 2016-17. Interestingly, the opposite trend was witnessed in major states as a whole, i.e. the share of non-tax revenue from economic and social services have risen over the years. These findings suggest that, compared with the major states as a whole, in Kerala user charges on public goods and services are either fixed at low levels or not revised commensurate with the rising cost of supplying the goods and services.

Table.5.66: Composition of Own Non-Tax Revenue (%)

Year	Interest Receipts		Dividends & Profits		General Services		Social Service		Economic Services	
	Kerala	Major States*	Kerala	Major States*	Kerala	Major States*	Kerala	Major States*	Kerala	Major States*
1980-1981	8.95	33.26	0.63	1.46	13.40	15.97	16.45	8.70	60.57	44.92
1985-1986	17.00	28.94	0.46	1.66	17.63	13.84	18.30	10.14	46.62	48.29
1990-1991	10.26	27.19	1.29	1.93	40.15	19.27	14.89	6.86	33.41	47.15
1995-1996	18.73	29.70	1.08	1.76	25.11	27.19	11.38	5.64	43.69	39.85
2000-2001	5.59	34.08	1.92	5.02	38.39	18.57	11.65	8.02	42.46	40.23
2005-2006	4.95	24.47	1.94	4.07	44.47	20.49	13.30	10.76	35.34	45.07
2010-2011	8.88	20.84	3.91	2.96	49.32	18.05	11.98	13.58	25.91	49.33
2016-2017	1.52	14.90	1.26	2.18	80.49	17.59	6.01	22.18	10.72	78.44

* Excluding Kerala Source: State Finances : A Study of Budgets, RBI (Various Issues)

Fiscal Imbalances: Summary of findings

Kerala's Debt-GDP ratio is the third highest among the comparable states (after Andhra Pradesh and Rajasthan) in the third phase of accelerated growth (2002-03 to 2016-17). It is noteworthy that Kerala's neighbouring states of Tamil Nadu and Karnataka have been able to control their debt at around 20 per cent of GDP while Kerala's average debt level over this phase at over 32 per cent of GDP is far above the 14th Finance Commission's recommended level of 25 per cent. Although the debt ratio has been coming down over the years, it is currently at 27.36 per cent that is considerably higher than the 13 other major states of India for whom the average figure stands at 23 per cent.

One of the major consequences of having a high debt ratio is the outflow in terms of interest payments. Kerala's Interest payments to Revenue receipts ratio in the third phase of growth (at 20.2 per cent) is the next highest only to Gujarat (20.8 per cent). Within the third phase, Kerala's IP/RR has been coming down but at 15 per cent in 2016-17 is considerably higher than the average figure for 13 major states (12.7 per cent).

Kerala's gross fiscal deficit is not too high compared with other states but what is of more serious concern is the quality of the deficit. While the comparison states managed to bring down their revenue deficit in the third phase of accelerated growth, Kerala's revenue deficit remained above 2 per cent. In fact the major states on an average show a revenue balance in 2016-17 while Kerala's revenue deficit remains rather high at 1.50 per cent in the last year. Moving to another measure of the quality of deficit, the share of capital outlays as a percentage of gross fiscal deficit for Kerala was 47.86 per cent compared to 86.87 per cent for the average of 13 states. Kerala's revenue expenditure as percentage of GDP (14.17 per cent in 2016-17)

is higher than the average figure for 13 states (13.50 per cent in 2016-17). Finally with respect to the composition of outstanding liabilities, the share of provident funds for Kerala is close to 30 per cent over the second and third phases. This is in complete contrast with the comparison states where the share of provident funds has mostly come down. While all other components of outstanding liabilities are lower for Kerala in 2015-16 as compared with the average for the 13 major states, the share of provident funds (25 per cent) is more than twice that of the average for the 13 states (11.32 per cent).

Expenditure Management: Summary of findings

A lion's share of public expenditure in Kerala consists of current expenditure. The share of capital expenditure and outlay has declined overtime. Also, over the years, share of capital outlay was lower in Kerala than major states as a whole. The key reason for the higher share of revenue expenditure in Kerala has been the larger expenditure commitment on salaries and pensions and interest payments. Significantly, as percentage of revenue expenditure, at present Kerala has highest salary and pension burden among the comparable states.

The total public expenditure of Kerala has declined overtime as a percentage of state GDP due to cut in both revenue expenditure and capital expenditure and outlay. In contrast, majority of the comparable states curbed total expenditure without compromising on capital outlay. Kerala spends disproportionally more on social services than economic services. As percentage of GSDP, the total expenditure on social and economic services has declined significantly in Kerala overtime, including during the phase of high economic growth from 2002-03. Similar trend was evident among the comparable states and the major states as a whole. However in

Kerala, contrary to the trends in the comparable states, the expenditure on capital formation in the crucial social services has declined both during moderate and accelerated economic growth phases.

As percentage of GSDP the total expenditure incurred by Kerala on several social and economic services namely education, public health, housing, agriculture and allied activities, irrigation, and industry and minerals has declined during the phase of accelerated economic growth. With the exception of housing, similar trend was witnessed in the case of comparable states as well. As regards the expenditure on capital formation in these individual heads, it has declined during the phase of accelerated economic growth in Kerala. In the comparable states as well this trend was registered with the exception of education and public health. The capital expenditure and outlay on education and public health has increased in the comparable states, by and large, during the accelerated economic growth period.

A lion's share of expenditure on social services in Kerala and major states as a whole consists of current expenditures. However, in the case of economic services the share of capital expenditure and capital outlay was much higher both in Kerala and major states put together. Also, since the second half of the last decade the share of capital outlay on economic services has increased significantly in Kerala.

Revenue Performance: Summary of findings

Total revenues of Kerala experienced a declining trend as percentage of state GSDP overtime. All components of revenues of Kerala and comparable states (except own tax revenues in case of Rajasthan) namely own tax revenues, own non-tax revenues and central transfers have declined significantly as percentage of GSDP during the accelerated

economic growth phase compared with the phase of moderate economic growth. This result suggests that relative to states' economic progress and increase in revenue base namely GSDP, the revenue performance of Kerala and comparable states have not improved. This is a serious cause for concern. Among comparable states, as percentage of GSDP, Kerala witnessed largest decline in total revenues and own tax revenues during accelerated economic growth phase.

An analysis of composition of Kerala's own tax revenue reveals that only a handful number of tax handles contribute to public revenue mobilisation in the state meaningfully. They include sales tax/value added tax, state excise duties, motor vehicle tax, and stamps and registration fees. However, the huge drop in the share of state excise duties and stamps and registration fees in the own tax revenues over the years and in the recent past respectively is a serious cause for concern. All major own tax revenue sources namely sales tax/VAT, state excise duties and motor vehicle tax grew at a lower rate in Kerala during the phase of accelerated economic growth compared with the phase of economic stagnation. Moreover, the buoyancy of own tax revenue was lower than the desired level in Kerala during the phase of economic stagnation as well as the phase of accelerated economic growth. Regarding non-tax revenue mobilization, the major concerns facing Kerala are negligible contribution by way of dividends and profits from state public sector enterprises and consistently falling contribution from economic and social services.