Chapter - III

Methods and Materials
CHAPTER – III

METHODS AND MATERIALS

This chapter outlines the methods of research work of the present study including analytical procedures adopted for the analysis of data. This chapter includes overview of the approach used in conducting the research. The first section gives the profile of the study area. The second section commences with the methods and materials.

3.1. PROFILE ABOUT THE STUDY AREA

“INDIA is the cradle of the human race, the birthplace of human speech, the mother of history, the grandmother of legend and the great grandmother of tradition. Our most valuable and most instructive materials in the history of man are treasured up in India only.”—Mark Twain

India, located in South Asia is a large country that ranks second in the world in terms of population and seventh in terms of geographical area. Its civilization is very old dating back to at least 5000 years. Its greatly diversified land includes various types of forests, broad plains, large coastlines, tallest mountains and deserts. The people belong to different ethnic groups and religions and they speak several languages. When Columbus and Vascoda Gama were attempting to explore new sea routes, India was among the richest countries in the world. It became one of the poorest in the world by the end of the colonial era in 1947 when India became independent. India has a
democratic and federal system of government with 29 states and 6 union territories. Like most other colonies, India greatly lagged behind economically and socially compared to the developed world. Periodic estimates of national income available since mid-nineteenth century indicate that the per capita income virtually stagnated in India till independence when world income grew several fold due to industrial and technological revolution. A large mass of the population was living in abysmal conditions. The national government formed after independence placed priority on ‘economic growth with social justice’. A mixed economy model with a major role for the state in industrial production was adopted with an emphasis on import substitution strategy. While this policy helped to lay the foundation for industrialization and technological change, national income growth remained low at about 3-4 per cent per annum for several decades. The outward oriented Asian countries grew much faster during this period by taking advantage of post-war expansion in international trade and investment flows. Finally, in the wake of a balance of payments crisis in 1991, Indian policy makers initiated a process of wide ranging economic reforms to shift to a more market friendly trade and industrial policy regime. India was a latecomer to economic liberalization. The economic reform process has been steady but gradual because of a need for wide consultation and broad consensus so necessary in a democratic society. The process of consultation and debate has contributed to non-reversal of policies even under different political parties that have formed the government after the reforms. Whether and to what extent India has achieved the stated objective of higher growth and
faster poverty removal during the post-reform period has been a matter of intense debate. These developments make India an interesting research study for examining issues of intersectoral linkages and sectoral performance.

3.1.1. Key Statistics of Indian Economy

Some key current statistics of India are given in Table 3.1 by way of introduction. India’s population crossed one billion when the last century ended and another 8 million have been added by 2007. A large part of India is very densely populated with an average of 355.6 persons per square kilometer. The level of living as reflected in purchasing power of an average Indian is roughly one third of world average and one tenth of the developed high-income countries. India lags behind the developed countries in several other dimensions like education and health. About a third of its population of age 7 years and above is illiterate with large male-female and urban-rural gaps in literacy rates. Sex ratio is low at 933 females per thousand males. India has a large number of people who have been socially deprived for centuries due to historical discrimination and isolation from the mainstream of society. They have been classified as scheduled caste (SC) and scheduled tribes (ST) in the Indian constitution and account for 16 and 8 per cent of the total population respectively. By and large, they are at the bottom of the social ladder. The constitution has provisions for positive discrimination in favour of such groups in terms of reservation in government jobs and educational institutions. In recent years, reservation has been extended to include other backward classes (OBC).
| **Table - 3.1**  
**Key Current Statistics of India** |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Population</strong></td>
<td>Million</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Geographical Area</strong></td>
<td>Million Square Km.</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Density of Population</strong></td>
<td>Per Square Km.</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Gross National Income (GNI)</strong></td>
<td>US$ billion</td>
<td>2007</td>
</tr>
<tr>
<td><strong>GNI per capita,</strong></td>
<td>(current US$)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>GNI, PPP</strong></td>
<td>(current international $) (billions)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Gross Domestic Product (GDP)</strong></td>
<td>Million current US$</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Growth rate of GDP at constant prices</strong></td>
<td>% p.a.</td>
<td>2007</td>
</tr>
<tr>
<td><strong>GDP Percapita</strong></td>
<td>Current US$</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Urbanization Rate</strong></td>
<td>% of Total Population</td>
<td>2001</td>
</tr>
<tr>
<td><strong>Literacy Rate</strong></td>
<td>% of population of age 7+years</td>
<td>2001</td>
</tr>
<tr>
<td><strong>Male –female gap in literacy</strong></td>
<td>Percentage of points</td>
<td>2001</td>
</tr>
<tr>
<td><strong>Population growth rate</strong></td>
<td>% p.a.</td>
<td>2005-2010</td>
</tr>
<tr>
<td><strong>Sex Ratio</strong></td>
<td>Men per 1000 women</td>
<td>2008</td>
</tr>
<tr>
<td><strong>Scheduled Caste Population</strong></td>
<td>% of Total Population</td>
<td>2001</td>
</tr>
<tr>
<td><strong>Scheduled Tribe Population</strong></td>
<td>% of Total Population</td>
<td>2001</td>
</tr>
<tr>
<td><strong>Foreign direct investment, net inflows</strong></td>
<td>(current US$) (billions)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>GDP</strong></td>
<td>(current US$) (billions)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>GDP growth</strong></td>
<td>(annual %)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Inflation, GDP deflator</strong></td>
<td>(annual %)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Agriculture, value added</strong></td>
<td>(% of GDP)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Industry, value added</strong></td>
<td>(% of GDP)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Services, etc., value added</strong></td>
<td>(% of GDP)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Exports of goods and services</strong></td>
<td>(% of GDP)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Imports of goods and services</strong></td>
<td>(% of GDP)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Gross capital formation</strong></td>
<td>(% of GDP)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Revenue, excluding grants</strong></td>
<td>(% of GDP)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Exports of goods and services</strong></td>
<td>(% of GDP)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Imports of goods and services</strong></td>
<td>(% of GDP)</td>
<td>2007</td>
</tr>
<tr>
<td><strong>Gross capital formation</strong></td>
<td>(% of GDP)</td>
<td>2007</td>
</tr>
</tbody>
</table>

Since India has a large proportion of the world’s poor and illiterates, its progress in the spheres of poverty, education and health in the coming decade will considerably influence achievement of the Millennium Development Goals of the United Nations.

India has been one of the best performers in the world economy. India’s economy has been one of the stars of global economics in recent years, growing to 9.2 percent in 2006-07 and 9.6 percent in 2005-06. Growth had been supported by market reforms, huge inflows of FDI, rising foreign exchange reserves, both an IT and real estate boom, and a flourishing capital market.

In the past two decades, India has been making sustained progress on a scale, size and pace that is unprecedented in its own history. A low-income country with mass poverty at the time of Independence in 1947, India now has a diminishing pool of very poor people and is poised to cross the threshold to join the ranks of the world’s middle-income countries. Over these past 63 years, the country has been successful on a number of fronts:

- It has maintained electoral democracy
- Reduced absolute poverty by more than half
- Dramatically improved literacy
- Vastly improved health conditions
- Become one of the world’s fastest growing economies with average growth rates of 9% over the past four years
• Emerged as a global player in information technology, business process outsourcing, telecommunications, and pharmaceuticals.

With a population of more than 1.1 billion, second most populous nation, after China. Real Gross Domestic Product (GDP) grew 5.7 percent annually during the 1990s and accelerated to 6.4 percent annually during 2000-08, making India the second fastest growing major economy in the world during each period. India's economy, as measured by GDP, is Asia's third largest, after Japan and China.

3.1.1. Population Density

India, land of unity in diversity, is situated roughly between 8° north and 37° north latitude. This vast land occupying 2.4% of total area of world is the second largest nation in terms of population size. India has population of 1.1 billion, which is 16% of total world population. With current rate of population growth (2.11% approx) India will soon replace China as the most populous nation of the world. According to the Census conducted in 2001, India had total population of 1,028,610,328 out of which population of male were 532,156,772 as against 496,453,556 female. Among major states, West Bengal is still the most thickly populated state with a population density of 903 in 2001. Bihar is now the second highest densely populated state pushing Kerala to the third place.
Table - 3.2

Population growth trend in India

<table>
<thead>
<tr>
<th>Census year</th>
<th>Population (in million)</th>
<th>Absolute Change (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>361.09</td>
<td>42.43</td>
</tr>
<tr>
<td>1961</td>
<td>439.23</td>
<td>78.14</td>
</tr>
<tr>
<td>1971</td>
<td>548.16</td>
<td>108.93</td>
</tr>
<tr>
<td>1981</td>
<td>683.33</td>
<td>135.17</td>
</tr>
<tr>
<td>1991</td>
<td>843.93</td>
<td>160.6</td>
</tr>
<tr>
<td>2001</td>
<td>1129.90</td>
<td>285.97</td>
</tr>
</tbody>
</table>

Source: Census of India, 2001

Table 3.2 gives the selected indicators of population growth in the inter-censal period from 1951 to 2001. During the period the population was increased to 361.09 million to 1028.61 million.

3.1.2. Sex Ratio

Sex ratio, defined, as the number of females per thousand males is an important social indicator to measure the extent of prevailing equality between males and females in a society at a given point of time. The sex ratio from 1901-2001 is given in the table 3.3.
### Table - 3.3

**Sex Ratio**

<table>
<thead>
<tr>
<th>Census Year</th>
<th>Sex Ratio (Female per 1,000 males)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1901</td>
<td>972</td>
</tr>
<tr>
<td>1911</td>
<td>964</td>
</tr>
<tr>
<td>1921</td>
<td>955</td>
</tr>
<tr>
<td>1931</td>
<td>950</td>
</tr>
<tr>
<td>1941</td>
<td>945</td>
</tr>
<tr>
<td>1951</td>
<td>946</td>
</tr>
<tr>
<td>1961</td>
<td>941</td>
</tr>
<tr>
<td>1971</td>
<td>930</td>
</tr>
<tr>
<td>1981</td>
<td>934</td>
</tr>
<tr>
<td>1991</td>
<td>926</td>
</tr>
<tr>
<td>2001</td>
<td>933</td>
</tr>
</tbody>
</table>

**Source:** *Central Statistical Organization*

The sex ratio in the country had always remained unfavorable to females. It was 972 at the beginning of the 20th century and thereafter showed continuous decline. During the period 2001 it declined to 933.

### 3.1.3. Literacy

For 2001 census, a person aged seven and above, who can both read and write with understanding in any language is treated as literate. A person who can only read but cannot write is not literate. In the censuses prior to 1991, children below five years of age were necessarily treated as illiterates.
The results of 2001 census reveal that there has been an increase in literacy in the country. The literacy rate in the country is 64.84 percent, 75.26 for male and 53.67 for females. The steady improvement in literacy is apparent from the table.

The percentage of literate people out of the total population of the country is known as the literacy rate of that nation. In India literacy rate is 65 percent as per 2001 census. But this rate is not uniform and may vary according to region, religion and gender. Urban literacy rate is much more than rural, male literacy rate is higher than female literacy rate. The table 3.4 illustrates the point:

### Table - 3.4

**Progress of Literacy Rate**

<table>
<thead>
<tr>
<th>Census Year</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>27.16</td>
<td>8.86</td>
</tr>
<tr>
<td>1961</td>
<td>40.40</td>
<td>15.35</td>
</tr>
<tr>
<td>1971</td>
<td>45.96</td>
<td>21.97</td>
</tr>
<tr>
<td>1981</td>
<td>56.38</td>
<td>29.76</td>
</tr>
<tr>
<td>1991</td>
<td>64.13</td>
<td>39.29</td>
</tr>
<tr>
<td>2001</td>
<td>75.26</td>
<td>53.67</td>
</tr>
</tbody>
</table>

**Source:** Central Statistical Organization

Tables 3.4 indicate a very significant increase for both males and females particularly during the 1990s. As of 2001 census, almost two-thirds of India’s population is now literate, the male literacy rate has risen to three-
fourths while females’ literacy rate indicates that more than half the female population in the country is now literate, that is, has the ability to read and write with understanding. The results of 2001 census reveal that there has been an increase in literacy in the country. The literacy rate in the country is 75.26 percent for male and 53.67 percent for females. The steady improvement in literacy is apparent from the table

3.1.4. Growth Performance

The rate of growth of the economy is the most commonly used measure of overall performance and it is appropriate to begin with this indicator. Up to about the mid-seventies, India’s trend growth rate of GDP ignoring yearly fluctuations seemed firmly anchored at about 3.5 percent per year, unforgottably characterized by the late professor Raj Krishna as “The Hindu rate of growth”. There is clear evidence that the economy broke through this constraint some time in the mid-seventies. The growth rate over the past ten years or so averages about 4.5 percent and this is an average over a period in which growth was accelerating. The underlying growth rate of the economy in the mid-eighties is nearer 5 percent per year.

3.1.5. Production

India has become the world's largest producer across a range of commodities due to its favorable agro-climatic conditions and rich natural resource base. India is the largest producer of coconuts, mangoes, bananas,
milk and dairy products, cashew nuts, pulses, ginger, turmeric and black pepper. It is also the second largest producer of rice, wheat, sugar, cotton, fruits.

3.1.6. Sectors of Indian Economy

There are three major sectors of Indian Economy. They are,

1. Agriculture
2. Industry
3. Service

The economy has been growing at an average growth rate of 8.8 percent in the last four fiscal years (2003-04 to 2006-07), with the 2006-07-growth rate of 9.6 percent being the highest in the last 18 years. Significantly, the industrial and service sectors have been contributing a major part of this growth, suggesting the structural transformation under way in the Indian economy. According to data for the financial year 2006-2007, the share of services, industry, and agriculture in India's GDP is 61 percent, 21 percent, and 18.5 percent respectively.

3.1.7. Agricultural Sector

Agriculture in India has a long history dating back to ten thousand years. Today, India ranks second worldwide in farm output. Agriculture and allied sectors like forestry and logging accounted for 16.5 and 15.6 per cent of Gross Domestic Product (GDP of India) during 2007-08 and 2008-09 respectively,
employed 60 percent of the total workforce and despite a steady decline of its share in the GDP, is still the largest economic sector and plays a significant role in the overall socio-economic development of India.

The agricultural output, however, depends on monsoon, as nearly 55.7 per cent of area sown is dependent on rainfall. An all time record in production of food grains of 233.88 million tonnes is estimated in 2008-09 as per 4th Advance Estimates. This is about 13.10 million tonnes more than last year's production of food grains. The production of rice is estimated at 99.15 million tonnes which is about 2.46 million tonnes more, production of wheat is estimated at 80.58 million tonnes which is 2.01 million tonnes more, production of coarse cereals is estimated at 39.48 million tonnes which is 1.27 million tonnes more and production of pulses is estimated at 14.66 million tonnes which is about 0.99 lakh tonnes more than the production during 2007-08. The sugarcane production is estimated at 2712.54 lakh tonnes which is about 769.34 lakh tonnes less than the production during 2007-08. Cotton production is estimated at 231.56 lakh bales (of 170 kg. each), which are 27.28 lakh bales more than the production during 2007-08. Jute production during 2008-09 is estimated at 104.07 lakh bales (of 180 kg each), which is about 8.04 lakh bales less than the production during 2007-08.

The total area coverage under food grains in 2008-09 has been reported as 123.22 million hectares against 124.07 million hectares in 2007-08. The area under rice is estimated at 453.52 lakh hectares, which is a significantly higher
about 1437 lakh hectare. However, the area coverage under wheat during 2008-09 estimated at 278.77 lakh hectares is slightly lower by around 1.62 lakh hectares. The total area coverage under coarse cereals during 2008-09 is estimated at 276.17 lakh hectares which is slightly lower by 8.64 lakh hectares compared to 2007-08. The increase in Minimum Support Price (MSP) in 2008-09 over 2007-08 amongst cereals has ranged between 8.0 per cent wheat to 52.6 per cent (ragi). The percentage increase in case of paddy (common) is 31.8 per cent. In case of pulses, the increase has ranged between 8.1 per cent (gram) and 48.2 per cent (urad and moong).

### 3.1.8. Indian Agriculture in recent Years

In the last four years India has been experiencing fluctuating food grains production but it has never witnessed such a steep fall as in 2002-03 when decline in food grains production is apprehended to be anywhere between 13-14%. Exports in Agricultural commodities like rice, coffee, raw cotton, cashew, pulses and fruits recorded substantial pick up in the wake of strong demand reflecting potential of Indian agriculture.

### 3.1.9. Industrial Sector

Industrial development plays a crucial role in India's development strategy. It aims at achieving various socio-economic objectives such as reducing debt burden, promoting foreign direct investment (FDI) inflow, enhancing self-reliant production and distribution as well as diversifying and
modernizing the existing economic set up. The industrial base has been widely expanded, covering broadly the entire range of consumer, intermediate and capital goods. It has made considerable achievement in terms of output and employment. The Government of India has been undertaking several policy measures and incentives, from time to time, in order to promote rapid industrialization in the country. The major step in this direction has been the announcement of Industrial Policy Resolution, initially passed in 1948 and then in 1956 and thereafter in 1991. Such industrial policies have been designed to accelerate the development process in the Indian industry. Their broad objectives are to:-

- Maintain a sustained growth in productivity
- Enhance gainful employment
- Achieve optimal utilization of human resources
- Attain international competitiveness and to transform India into a major partner and player in the global arena.

**Pandit Jawaharlal Nehru** laid the foundations of modern India. His vision and determination have left a lasting impression on every facet of national endeavor since Independence. It is due to his initiative that India now has a strong and diversified industrial base and is a major industrial nation of the world. The goals and objectives set out for the nation by Pandit Nehru on the eve of Independence, namely, the rapid agricultural and industrial development of our country, rapid expansion of opportunities for gainful
employment, progressive reduction of social and economic disparities, removal of poverty and attainment of self-reliance remain as valid today as at the time Pandit Nehru first set them out before the nation. Any industrial policy must contribute to the realization of these goals and objectives at an accelerated pace. The present statement of industrial policy is inspired by these very concerns, and represents a renewed initiative towards consolidating the gains of national reconstruction at this crucial stage.

Major industries include textiles, chemicals, food processing, steel, transport equipment, cement, mining, petroleum, machinery, software. Index of industrial production, is used to measure the overall industrial growth rate.

3.1.10. The contribution of the Industrial Sector to India’s GDP

The industrial sector is one of the main sectors that contribute to the Indian GDP. The country ranks fourteenth in the factory output in the world. The industrial sector is made up of manufacturing, mining and quarrying, and electricity, water supply, and gas sectors. The industrial sector accounts for around 27.6 percent of India’s GDP and it employs over 17 percent of the total workforce in the country. The growth rate of the Industrial sector in India’s GDP came to around 5.2 percent in 2002-2003. In this year, within India’s GDP, the mining and quarrying sector contributed 4.4 percent, the electricity, water supply, and gas sector contributed 2.8 percent, and the manufacturing sector contributed around 5.7 percent.
The growth rate of the Industry Sector in India GDP came to around 6.6 percent in 2003-2004 and in this year, the electricity, water supply, and gas sector contributed 4.8 percent, the mining and quarrying sector contributed 5.3 percent, and the manufacturing sector contributed 7.1 percent in India GDP. Industry Growth Rate in India GDP came to 7.4 percent in 2004-2005, with the manufacturing sector contributing 8.1 percent, the mining and quarrying sector contributing 5.8 percent, and the water supply, electricity and gas sector contributing 4.3 percent in India GDP.

Industry Growth Rate in India GDP came to 7.6 percent in 2005-2006. In this year, the mining and quarrying sector contributed 0.9 percent, the manufacturing sector contributed 9.0 percent, and the water supply, gas, and electricity sector contributed 4.3 percent. The growth rate of the Industrial Sector finally came to 9.8 percent in 2006-2007.

The industrial growth in December 2008 was 1.0 per cent for mining, -2.5 per cent for manufacturing and 1.6 percent for the electricity sector. The revised annual growth for April-December 2008-09 for mining was 3.0 per cent, for manufacturing was 3.3 per cent and 2.7 per cent for the electricity sectors. There was lesser growth in capital goods and basic goods in December 2008.

3.1.11. Service Sector

The services sector has been at the forefront of the rapid growth of the Indian economy, contributing nearly 63 per cent of the GDP in 2007-08. The
sector has come to play an increasingly dominant role in the economy accounting for 59.6 per cent of the overall average growth in GDP in the last eight years between 2000-01 and 2007-08.

Service sector is the lifeline for the social economic growth of a country. It is today the largest and fastest growing sector globally contributing more to the global output and employing more people than any other sector.

The real reason for the growth of the service sector is due to the increase in urbanization, privatization and more demand for intermediate and final consumer services. Availability of quality services is vital for the well being of the economy.

3.1.12. Employment

Employment in simple words can be defined as an occupation by which a person can earn his living. And for a country like India, employment has become one of the major challenges of the current economy. Therefore, emphasis is given to providing more employment opportunities, which in turn reflects economic growth of the country.

Employment was treated as the major subject in Five-Year plans and many changes emerged out of this commission to improve the economic background of the Indian population. Regular surveys are conducted once in five years to keep track of estimated working population in the country.
3.1.13. India’s Foreign Trade

India's foreign trade has expanded rapidly following the sweeping trade policy and exchange rate reforms during 1991-93. India's total trade has expanded more than seven-fold from $46 billion in 1990-91 (April-March fiscal year) to about $320 billion in 2006-07. During this period, both exports and imports grew at about 13 percent annually in U.S. dollar terms, with exports reaching $128 billion in 2006-07 and imports reaching $191 billion. Despite this expansion, India's share of world trade remains small, rising from 0.5 percent in 1990 to 1.1 percent in 2005.

The growth of India's foreign trade since the reforms of 1991-93 has contributed to the strengthening of India's balance of payments and foreign exchange reserve positions. In 1990, prior to the reforms, India's foreign exchange reserves were $5.8 billion—the equivalent of just two and a half months of imports. In 2007, reserves reached more than $270 billion—equivalent to one and a half years of imports—providing Indian policymakers with significantly more flexibility in adjusting domestic and trade policies.

India's agricultural trade has also expanded rapidly since the early 1990s, with agricultural imports growing 12 percent annually during 1990-2007 and exports rising 9 percent annually. Agricultural imports grew from $1.1 billion in 1990 to $6.9 billion in 2007, while exports grew from $3.1 billion to $14.4 billion in the same period. Agricultural products account for about 11 percent of India’s total exports and 4 percent of total imports in 2007.
3.1.14. Foreign Direct Investment

Foreign Direct Investment (FDI) is now recognized as an important driver of growth in the country. Government is, therefore, making all efforts to attract and facilitate FDI and investment from Non Resident (NRIs) including Overseas Corporate Bodies (OCBs), which are predominantly owned by them, to complement and supplement domestic investment. India is now ushering in the second generation reforms aimed at further and faster integration of Indian economy with the global economy.

As the fourth-largest economy in the world in PPP terms, India is a preferred destination for foreign direct investments (FDI); India has strength in telecommunication, information technology and other significant areas such as auto components, chemicals, apparels, pharmaceuticals, and jewellery. Despite a surge in foreign investments, rigid FDI policies resulted in a significant hindrance. However, due to some positive economic reforms aimed at deregulating the economy and stimulating foreign investment, India has positioned itself as one of the front-runners of the rapidly growing Asia Pacific Region. India has a large pool of skilled managerial and technical expertise. The size of the middle-class population stands at 300 million and represents a growing consumer market.

In July 2009, the inflow of foreign direct investment (FDI) was US$ 3.5 billion according to Mr. Anand Sharma, the Commerce and Industry Minister.
Foreign direct investment is freely allowed in all sectors including the services sector, except a few sectors where the existing and notified sectoral policy does not permit FDI beyond a ceiling.

Over the years, FDI inflow in the country is increasing. However, India has tremendous potential for absorbing greater flow of FDI in the coming years. Serious efforts are being made to attract greater inflow of FDI in the country by taking several actions both on policy and implementation front.

3.1.15. Saving and Investment

Another significant feature of the growth process has been the consistently increasing saving and investment rate. While the gross saving rate as a proportion of GDP has increased from 23.5 percent in 2001-02 to 34.8 percent in 2006-07, the investment rate reflected as the gross capital formation as a proportion of GDP has increased from 22.8 percent in 2001-02 to 35.9 percent in 2006-07.

3.1.16. Per capita Income

Along the significant acceleration in the growth rate of Indian economy, India’s per capita income has increased at a rapid pace, exceeding an earlier forecast made by Goldman Saches BRIC report which estimated India’s per capita to touch US $ 800 by 2010 and US$ 1149 by 2015.

Per capita income has increased from US$ 460 in 2000-02 to almost double to US$ 797 by the end of 2006-07. In 2007-08, India’s per capita
income is estimated to be over US$ 825.07, according to the advance estimates of the CSO. Further, India’s per capita income will be in US$ 4000 by 2025. This growth rate will consequently propel India into the middle-income category.

3.1.17. Some Highlights of India

Reflecting the favorable prospects of growth rate of Indian economy, the orders received by Indian companies have increased by a whopping 68.6 percent to 32.48 billion during January – October 2007 Compared to in the same period last year.

- India is among the five countries sharing 50 percent of the world production or GDP.
- India’s National Stock Exchange (NSE) ranks first in the stock futures and second in index future trade in the world.
- Twenty Indian firms have made it to, the list of Boston consulting Group’s 100 New Global Challenger Giants list.
- According to a study by the McKinsey, Global Institute (MGI), India’s consumer market will be the World’s fifth largest (from twelfth) in the world by 2025.
- The number of Companies incorporated has increased at an annual average of 55,000 companies in the last two years to 865,000 from 712,000 companies at the end of 2005.
• Four Indians and seven Indian Micro finance companies make it to the Forbes list of Top 10 World’s Wealthiest CEOs World’s Top 50 Micro finance Institutions respectively.
• India has the most number of private equity (PE) funds operating among the BRIC markets.

3.2. METHODS AND MATERIALS

The present study has been undertaken by the researcher after conducting literature survey in different sectors of the economy. The study scientifically conducted based on secondary data of agricultural sector industrial sector and service sector respectively. Being a economic study the researcher has conducted literature survey based on the objectives of the present study. To have scientific inferences the researcher employed 57 years secondary data. The data pertaining to population growth, area of production yield of food grains, gross insured area, gross capital formation in agricultural sector, contribution of agricultural sector real GDP at factor cost at construct prices, contribution of industrial sectors real GDP at factor cost and contribution of service sector of real GDP at factors cost have been analysed with the help of empirical data.

We used secondary data from 1950 to 2007 to illustrate the testing of unit root hypothesis with structural changes and linkage between the three sectors. In statistics and econometrics, an augmented Dickey–Fuller test (ADF) is a test for a unit root in a time series sample for a larger and more complicated
set of time series models. A model that includes a constant and a time trend is estimated using 57 years sample of three sectors and yields the DF$_t$ statistic.

During the last five and half decades, the methods of estimation of economic relationships and modeling fluctuations in sectoral growth have been subjected to fundamental changes. The method of estimation of the standard regression model, Ordinary Least Square (OLS) method, is based on the hypothesis that the means and variances of these variables being tested are constant over the time with decade wise. Variables whose means and variances change over time are known as non-stationary or unit root variables. Therefore, incorporating non-stationary or unit root variables in estimating the regression equations using OLS method give leading inferences on sectoral changes between the three sectors.

Input-output is conceptually simple. Its extension to a model of equilibrium in the national economy is also relatively simple and attractive but requires great skill and high-quality data. Despite the clear ability of the input-output model to depict and analyze the dependence of one sector on another. Here we also use I-O model for analyzing the linkages between the three sectors i.e., demand linkage and production linkage and so on. In addition to these statistical data, has researcher has also used other related data which are contributing to sectoral growth of different sectors.

To find out scientific inferences from the collected data the researcher has also used subsectors empirical information.
3.2.1. Sources of Data

The study is based on secondary data. For analyzing the objectives of this research study the data can be collected from various sources. Use of existing literature has been made to support the factual data. The data collected from Central Statistical Organization, National Sample Survey Organization, RBI Bulletin, Various issues of Economic Surveys, Reports from Ministry of Planning Commission, Reports from Ministry of Agriculture, Ministry of Industries, Ministry of Tourism, Economic Appraisal, Statistical Hand Book, various reports, research surveys, periodical magazines, Department of Statistics and other governments organizational journals and articles, electronic sources. The analysis presented in this study is based entirely on data drawn from CSO’s National Accounts Statistics (NAS), 1999-00 base year series. NAS 2006 and 2007 and 1999-00 base year back series, between themselves cover the entire period, 1951-2007 and it is from these that data both at current prices as well as constant prices (1999-00) are taken for this study.

3.2.2. Period of the Study

The period of the study covered 1950-51 to 2006-07 because Indian Economy attained impressive growth since Independence and India followed a mixed economy model after its independence. The Five-Year Plans initiated since 1951 provided the basic framework for the economic development strategy of the country. It is a universally acknowledged fact the after independence India is on a growth path with a significant element of
consistency and fundamental strength to boost the intersectoral growth. The period of study referred to the sector pertains to 1999-2000 as the base year. This period starts from First Five year plan and end to Tenth Five year plan.

3.2.3. Statistical Tools used

To test the hypotheses on the basis of objectives of the study analysis of data has been done. Different percentage analysis and also Regression Estimation, ADF test, Input Output Analysis has been done to study the intersectoral linkages in economic growth in India.

3.2.4. Framework of Analysis

In the study objective wise analysis of data has been also the data were collected, analyzed and interpreted with the statistical tool like chi-square, ANOVA, Multiple Regression, correlation were used to bring out the reliable results at the appropriate places. This study is mainly analyzing the intersectoral relationship among the three sectors agriculture, industry and services. Multiple linear regression model of the following type has been estimated.

1. Regression between area and production
   a. Prediction : area
   b. Dependent variable : production

2. Regression between area and yield
   a. Predictors : area
   b. Dependent variable : yield
3. Regression between GDP and Agriculture and Allied sector
   a. Predictors : Agriculture
   b. Dependent Variable : GDP

4. Regression between GDP and Industry
   a. Predictors : Industry
   b. Dependent Variable : GDP

5. Regression between GDP and Services
   a. Independent Variable is services

6. Regression between FTA and FEE in (Rs.)
   a. Predictors : (Constant) FTA
   b. Dependent Variables : FEE.