CHAPTER II

ROLE OF AGRICULTURE IN ECONOMIC DEVELOPMENT IN GENERAL AND IN THE STATE ECONOMY OF KARNATAKA

The present chapter has been divided into two sections. In the first section, the role of the agricultural sector in economic development from an analytical point of view is observed. The second section discusses the role of agriculture in the economy of Karnataka.

Section I:

Agriculture plays a dominant role in the over-all development of economy of a country, and particularly so in a developing country like India. Speedy agricultural development helps the process of economic growth in backward areas in many respects. Agricultural development means higher levels of production of food and other farm products, higher income and better standard of living for farm families. Agricultural development, thus conceived, holds out benefits, not to farmers alone. When the agriculture sector grows, the impact of its development is felt in other sectors of the economy, and it accelerates the over-all economic development. Thus, Joseph S. Davis opined that "Agriculture is the foundation of manufacture and commerce". Further Davis glorifies

the value of agriculture by stating the words of Bernard M Baruch i.e. "... The cities are but the branches of the tree of national life, the roots of which go deeply into the land. We all flourish of decline with the farmer". 2 Added to this, Davis shares the valuable views of Sir Robert B Greig who states - "... But agricultural wealth, the capacity to produce every year the food and clothing without which life ends, is and always has been the one great permanent industry, the one which is the foundation of all national or indeed, of world wealth". 3 Without the help of agriculture, it is very difficult to develop a country's economy and maintain stability. The development of the agricultural sector is a sine qua non for the growth of the economy.

In a developing economy agriculture is the most important sector in terms of contribution to Gross National Product, labour absorption and provision of livelihood to the population. Its share in the total output is well over 40 per cent in the developing economies. 4

Whatever may be the increase or decrease in the agricultural output, it will have a relative impact on the level of National Product. Looking back to Indian experiences, it can be seen that the fluctuations in agricultural production

2. Ibid., p. 4.
3. Ibid., p. 4.
have led to similar fluctuations in the level of National income. "Despite the increase in income in mining and large scale manufacturing sectors in 1965-66 compared to 1964-65, the index number of national income has decreased from 120.1 in 1964-65 to 113.3 in 1965-66. It is mainly because of decrease in the index number of income from agriculture and allied sectors from 110.9 to 94.5 during the same period". 5

Well known economists and several international organisations have sufficiently attempted to categorise the contributions of agriculture. Simon Kuznets 6 lists three important ways through which agriculture can assist economic development. In the first place, agriculture makes a product contribution by increasing the supply of food. Secondly, agriculture makes a market contribution through its trade contacts with other sectors. Thirdly, agriculture makes a factor contribution by releasing labour force for non-agricultural sector. Johnston and Mellor 7 classify the contribution of agriculture for economic development under five heads:

Economic development is characterised by a substantial increase in the demand for agricultural products, and failure to expand food supplies in pace with the growth of demand can seriously impede economic growth; (ii) Expansion of agricultural products may be one of the most promising means of increasing income and foreign exchange earnings, particularly in the earlier stages of development; (iii) The labour force for manufacturing and other expanding sectors of the economy must be drawn mainly from agriculture; (iv) Agriculture, as the dominant sector of an underdeveloped economy, can and should make a net contribution to the capital required for overhead investment and expansion of secondary industry; and (v) Rising net cash incomes of the farm population may be important as a stimulus to industrial expansion. Kindleberger points out the following important contributions of the agricultural sector: (i) It can provide labour to industry, (ii) It can furnish demand for industrial output, it can provide savings for use in industry, (iii) It contributes taxes to the Government, (iv) Agriculture earns foreign exchange through exports, and (v) It provides food for industrial workers. The Food and Agricultural Organisation of the United Nations has classified the contributions of agriculture for economic development as follows: Firstly, agriculture

supplies food and raw materials, secondly, agriculture earns foreign exchange, thirdly, agriculture provides finance and labour, finally, agriculture serves as a source of market for industrial products. It would be worth mentioning here that the overall economic development is possible only if agriculture is strengthened in possible ways at all levels. However, if it is traditional, it cannot be expected to make a significant breakthrough in the process of economic development. The succeeding paragraphs of this chapter attempt to highlight the Kuznet's classification of the contributions of agriculture to economic development.

(1) Product Contribution:

The most important role played by agricultural sector to economic development is product contribution. Increase in agricultural production has various good effects on the growing economy of the country. The first and the foremost thing is the supply of food that agriculture makes available as basic necessity of life. Disguised in many forms, and offered in many ways, depending upon income levels, cultures, and socio-economic set-ups, food items of various types like cereals, pulses, vegetables, milk etc., have provided sustenance to life on this earth. Therefore, it is expected that the agricultural sector produces that quantity of food that would at least be reasonably sufficient to feed the agricultural and non-agricultural population. The demand for food from the non-farm sector steadily increases and it is the
increased farm production that meets this growing demand for food, failing which it adversely affects the economy as a whole. "If food supplies fail to expand in pace with the growth of demand the result is likely to be a substantial rise in food prices leading to political discontent and pressure on wage rates with consequent adverse effects on industrial profits, investment and economic growth\(^1\)\(^0\) As a consequence of this, "food imports must be increased, at the expense of diverting scarce foreign exchange resources from the import of the capital goods needed for industrialization".\(^1\)\(^1\) Thus it is an established fact that food is a basic requirement which is required by the teeming millions.

Viewed from another angle, the importance of agriculture is greatly noticed particularly in developing countries, as a means of excess food production or agricultural surplus. Essentially agricultural surplus means the physical quantity of food production by which the total food production exceeds the total food consumption of the farm population. Smooth development of the country's economy largely depends upon this surplus. Higher the surplus, more will be the foreign exchange and smoother will be the development. Thus "until underdeveloped countries succeed in achieving and sustaining


a reliable food surplus, they have not fulfilled the fundamental pre-condition for economic development. Therefore, the agricultural surplus becomes a necessity for a total economic development.

Secondly, the significance of agriculture arises from the fact that it has been the source of supply of raw materials to growing industries. Regular supply of cheap raw materials is quite necessary for agro-based industries and other major industries in the initial stages. Cotton and jute textile industries, sugar, vanaspati and plantation—all these depend directly on agriculture. There are many other industries which depend on agriculture in an indirect manner. According to the U.N.O. Estimation in 1958, "Industries dependent on agricultural raw material accounted for 51 per cent of the value added and 64 per cent of the employment in all manufacturing in the under developed countries". Thus without the help of agricultural sector, in the form of raw materials, industrial or non-farm sector cannot function smoothly.

Thirdly, it provides better nutritious food to farm families. However, it is observed that a part of the additional production or income out of it is used by the farmers to meet their consumption needs. The urge for more consumption

is felt in farm families as they constantly experience under nutrition and low level of living. Low level of food production is one of the major reasons for under-nutrition. It is the higher production that improves consumption standards of farm families. One need not have misgivings about this aspect, that higher proportion of production will be consumed by the farmers and therefore little will be the impact on the speed of economic growth. The positive effect of the improvement of nutritional standards of the farm families in the backward and interior regions is often neglected. Better nutrition enables the farmer to improve his labour productivity. He can work for longer hours and devote more time for farm-bed preparation, applying pesticides, plant care, weeding, irrigation and other farm work. While assessing the importance of food and nutrition in developing economies it is pointed out that "If there is a shortage of calories, it is impossible to sustain a high rate of output. Moreover, physical development is impaired by undernutrition and malnutrition during childhood, and reduced disease resistance and lethargy are caused by deficiencies of protein and other essential nutrients in the current diet." 14 Further, Burk and Ezekiel state that "Our concern regarding the low level of food consumption and poor nutritional status of substantial number of people

in the less developed countries is not simply humanitarian. Lack of food and poor nutrition impair people's labour productivity and also affect their psychological attitude and social behaviour in ways calculated to impede agricultural and economic development". From this it is clear that nutritious food is quite necessary for farm families for raising more agricultural output.

✓ Fourthly, it increases the income and raises the purchasing capacity of the farm families. The farm families will thus be in a position to allocate more funds for adopting improved practices, and for making permanent improvements on the farm, which further stimulate agricultural production.

✓ Fifthly, increased production leads to enhancement of export earnings and various beneficial effects on the economy. It helps escape the constraint of low or non-existent demand on account of low income for such goods in exporting countries themselves. The tapping of foreign demand provides a big stimulus to domestic producers. Further, exports generate incomes within the country, which in turn can be used partially for investment. Above all, these exportables fetch foreign exchange, so desperately needed to finance the import of capital goods and technical know-how to modernise the economy.

---

as a whole. Nicholls, while emphasising the role of agriculture in economic development states "the increased supply of agricultural commodities will help the developing country to increase the level of exports and to earn the much needed foreign exchange". 16 Added to this, "Expansion of agricultural exports is likely to be one of the most promising means of increasing incomes and augmenting foreign exchange earnings in a country stepping up its development efforts". 17

Finally, it promotes the status of farm families in rural areas. Due to commercialization of agriculture as productive capacity of the farmers increases, income of the farm families will also increase. Higher income has considerable effect on the farmers living standard and the upgrading of his status in the rural society.

From the above discussion it would be clear that the product contribution by agriculture is an outstanding factor that accelerates the process of economic development. The sum and substance of the agricultural product contribution is further emphasised by Jorgenson: 18 "The critical condition which marks the dividing line between economies caught


in the low level equilibrium trap and economies capable of sustained growth is simply that for sustained growth an agricultural surplus must come into existence and must persist".

(2) Market Contribution:

The role of the agriculture sector through its trade relationship with other sectors is a very important aspect from the view point of all-round development of the economy. As agriculture is constantly modernised, there will be steady increase in production and income, and as a result there will be great demand for industrial products by agriculturists. "The rise in the rural incomes will lead to the development of a market for the industrial goods. Higher incomes lead to a greater and more concentrated rural purchasing power which can bring about an expanded and more diversified consumer demand. Activity is also stimulated in industries supplying agricultural inputs". 19 Ragnar Nurkse 20 has particularly emphasised this dimension of increase in agricultural incomes in enlarging opportunities for profitable investments. Mellor J.W. also states that "A dynamic agricultural sector where incomes are growing is a great source of demand for the products of the non-agricultural

sector. The development of agriculture has almost always been associated with the growing use by the agricultural sector of the farm inputs produced by the industrial sector". 21

Farm families essentially require various types of agricultural inputs viz., fertilizers, pesticides etc. Thus, the production in these industries is greatly increased due to the demand generated by the agricultural sector. In addition, the demand arises in respect of products of the non-agricultural sector. This creates the demand for various types of consumer and capital goods like Biscuits, Jam, Pickles, Papads, Implements, Engines, Transistors, Fans, Tractors, Crushers, Electric appliances and other allied articles. Greater demand for all these goods provides incentive for the development of non-agricultural sector and calls for a never ending strong stimulus to the wheels of industry. Thus, the agricultural sector has a great capacity to contribute to the process of the intersectoral development.

The best example of such intersectoral development is found in Japan. B.F. Johnston 22 cites the following three aspects of interaction associated with concurrent growth of

agriculture and non-farm sectors in the course of Japanese agricultural development: (1) The expansion of market for cash sales of agricultural products as the growing percentage of population came to depend on purchased goods, (2) the enlarged use of purchased inputs by the farmers that reflected in the availability of new and improved inputs as well as the enlarged money income that made such purchases possible, and (3) the growth of non-farm employment opportunities, that was sufficient to absorb the natural increase in labour force and has recently made possible a reduction in the absolute size of farm labour force. Modernization of agricultural sector is therefore a source of inspiration for investment in non-agricultural sector. This factor needs to be given top priority particularly in the backward regions.

Though there are a lot of opportunities of development in backward regions these are poor because of lack of investment opportunities in both sectors.

(3) **Factor Contribution:**

Factor contribution by the agricultural sector is one more equally important aspect to be considered in the development of the country's economy. Agriculture sector acts as a regular supply of labour force to the non-farm sectors. Kindleberger states that "Another important function of agricultural development is to provide workers to the
industry” In most of the underdeveloped countries, the agricultural sector is populus overcrowded therefore, it is a reservoir to the industrial sector. The redundant labour becomes an important resource for industrial development. After their transformation into productive force, it is supposed that they would produce more output than in the agricultural sector. Therefore, this kind of change is of great value to an over populated underdeveloped countries. Several authors: like W.A. Lewis (1954) Ranis and Fei (1961), Jorgenson (1961) and S. Enke (1962) have stressed the significant role of labour contribution by the agricultural sector. In the following paragraph, the popular two sector model of Lewis is summarised.

Lewis states that in the underdeveloped economies there is a situation where supply of labour is unlimited. There are a large number of labourers relatively to capital and natural resources. The marginal physical productivity of

25. Lewis W Arthur, Ibid., 24, pp. 400-449.
labour is therefore negligible, zero or even negative. Thus there is a lot of disguised unemployment in the agricultural sector. If some of these labourers are taken out from the work and transferred to other sectors, the total output will not come down. It remains the same because the Marginal Physical Productivity (MPP) of the surplus labour is negative or zero. Thus Lewis Model is characterised by the existence of two sectors viz., (1) subsistence sector and (2) capitalist sector. He describes the capitalist sector as that part of the economy which uses reproducible capital pays capitalists for the use thereof and employs wage labour for profit making purposes. Further, he describes the subsistence sector of the economy as that which does not use the reproducible capital. Further, he explains that the capitalist sector continuously grows with the advantage of cheap supply of labour from the agricultural sector at a wage level equal to institutional wage prevailing in the subsistence sector. In this way economic development consists mainly in transferring labour from the agricultural sector to non-agricultural sector. Thus, according to Lewis Model, subsistence sector acts as the reservoir of labour and stimulator to overall development of the economy. Even though the labour contribution is one of the major agricultural factors which can be channelised for overall growth, the main problem of smooth development in the underdeveloped economy is not of shortage of labour force, but lack of adequate investment. Private entrepreneurs, particularly local, are not investing in the
non-farm sectors. Added to this, there is dearth of capital in these economies. Therefore, whatever investment that the Government makes in this sector is not sufficient for the process of economic development in underdeveloped countries like ours. Thus labour contribution from subsistence sector depends on the opportunities in the capitalist sector i.e., level of additional investment made and the type of technology used (adopted) in that sector.

Added to this, the factor contribution by the agricultural sector greatly adds for providing the capital for the industrial sector. Regular and sufficient capital is a pre-condition for industrialization. The subsistence sector provides resources to the capitalist sector in the following ways: (1) Individual farm families can invest in non-farm sector, (2) Government in the country can impose various taxes on the agricultural sector which often provides a better infrastructure for non-farm sector, and (3) the level of real income can be raised to provide more profits in the high saving sector of the economy by rendering terms of trade more favourable to industry.29

Thus, the growth of agriculture will lead to an increase in the level of agricultural income. This being a source of saving of revenue to the Government, results in

capital formation. The agricultural savings can be mobilized by direct and indirect means to finance development. Savings thus accumulated by the agriculturists serve as a key factor in capital formation in both agriculture and non-agriculture sectors.

Taxation is another important weapon of mobilizing resources for capital formation. By imposing taxes, directly or indirectly, revenue of the Government could be increased. Taxation on farm families, at least in the initial years, reduces the expenditure on consumer goods but it is inevitable on the part of the policymakers. It is observed that this type of policy was adopted by the Japanese Government during 1880 to 1920. Agricultural production during this period was considerably increased, and this induced the Government to impose heavy taxes on agriculture in the form of land tax, which was considered as a major source of revenue. As a result of taxation huge capital accumulation took place but the levels of living of the farm families did not increase much. 30.

The above mentioned discussion highlights the factor contribution by the agricultural sector. But some of the organised studies have not emphasised the positive aspects

---

of the factor contribution by the agricultural sector. In this connection, mention of the FAO study may be made "There is, in fact, some evidence that in recent years the rate of increase of agricultural productivity in many developing countries has been insufficient to provide a surplus for investment in the industrial sector. . . . , a recent survey by the United Nations Economic Commission for Asia and the Far East concludes that: the current high population density in developing countries and the high rate of population growth make it impossible for a moderate improvement in agricultural productivity to do more than meet the increase in consumption demand, leaving very little saving for re-investment in agriculture and still less for industry.\(^3\)

Mellor while substantiating his view regarding the contribution, points out that the capacity of the sector to contribute to capital formation is underestimated as National Income estimates understates rural incomes.\(^3\) He argues that though a large proportion of rural population (very small holders of land and landless labourers) live on the verge of subsistence, "Substantial proportion of the income in rural area is in the hands of persons whose income is well above the average. Substantial aggregate capacity for capital contribution lies with these people."\(^3\)

\(^3\) Food and Agricultural Organization. Op.cit., 9, p.8

\(^3\) Mellor J W., Op.cit., 21, p.84.

\(^3\) Mellor J W., Op.cit., 21, p.84.
The third type of factor contribution to the economy by the agricultural sector is generation of new entrepreneurial class in rural areas. As advancement takes place in the agricultural sector, productivity, income and investment base of the farmers increases. When the farm income increases it will be possible for farmers to send their children for higher education in various fields. With specialised personnel or technically trained manpower, agriculturists can invest sufficient capital and exploit all available resources in an efficient manner. This type of investment on education is quite necessary, particularly in a country like ours. It is seen in our country that the farmer's income in recent years has increased due to technological change, but surprisingly various local resources, both natural resources and manpower resources are not utilized and sometimes, misutilized or under-utilized.

To sum-up, it would be appropriate to quote Simon Kuznets, who states that "if agriculture itself grows it makes a product contribution; if it trades with others, it renders a market contribution; if it transfers resources to other sectors, these resources being productive it makes a factor contribution".  

In a nutshell, the above discussion clearly indicates the most vital role of agricultural sector in promoting the

over all growth of an under developed economy. Tables in the appendix 2.1 and 2.2 illustrate contribution of agriculture sector towards industrial development and inter dependence of agriculture and industry respectively.

Section - II:
Role of Agriculture in the Economy of Karnataka:

The succeeding study highlights the role of agriculture in the Karnataka State economy as a whole. The State's economy is primarily oriented towards agriculture. The present work considers two relative roles of the agricultural sector in the economy of Karnataka. They are:

(i) Contribution of agricultural sector to the net domestic product of the State, and

(ii) Share of agriculture in the total employment of labour force in the State economy.

The other relative contributions like contribution of agriculture in capital formation, contribution towards providing food and raw materials to non-farm sector, export earnings etc., are not considered, for lack of information. In the following paragraphs, the two roles of agriculture in the State economy are discussed.

The relevant data for this purpose are available from 1956-57 to 1977-78 and these are taken from the
Agriculture forms the backbone of the State economy and inspite of concerted industrialization during the last three decades, agriculture occupies a place of pride. Being the largest sector in the State, agriculture is the main source of livelihood for over 70 per cent of the population in the State.

(1) Contribution of Agriculture Towards State Income:

The estimated percentages of the State income originating in the major sectors show that agriculture is the largest single contribution to the net domestic product of the State. In other words, contribution by agriculture sector to the net State domestic product plays a dominant role in the Karnataka economy. The figures of net State domestic product from 1956-57 to 1977-78 are shown in the table No. 2.1.

The primary sector comprising of agriculture, animal husbandry, forestry and fishery contributed 47.8 per cent (at current prices) of the total net domestic product of the State in 1956-57 and the same has increased to 68.1 per cent in 1973-74. The net increase in the contribution during this period is nearly 20.3 per cent. Thus, the relative share of agriculture in the net State domestic product has been remarkable between 1956-57 to 1973-74. Later the declining trend is observed in the contribution made by the agriculture sector towards the net domestic product of the State. For

---

<table>
<thead>
<tr>
<th>Year</th>
<th>Net State Domestic Products (Rs. in Crores)</th>
<th>Percentage Change over previous Year</th>
<th>Contribution to net State Domestic Product by agriculture*</th>
<th>Percentage of Col.B as Col.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1956-57</td>
<td>559.50</td>
<td>-</td>
<td>267.16</td>
<td>47.8</td>
</tr>
<tr>
<td>1957-58</td>
<td>591.55</td>
<td>+5.72</td>
<td>285.57</td>
<td>+6.89</td>
</tr>
<tr>
<td>1958-59</td>
<td>651.40</td>
<td>+10.11</td>
<td>314.86</td>
<td>+10.29</td>
</tr>
<tr>
<td>1959-60</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1960-61</td>
<td>671.08</td>
<td>+3.04</td>
<td>407.51</td>
<td>+29.42</td>
</tr>
<tr>
<td>1961-62</td>
<td>712.24</td>
<td>+6.13</td>
<td>410.14</td>
<td>+0.64</td>
</tr>
<tr>
<td>1962-63</td>
<td>748.63</td>
<td>+5.10</td>
<td>428.69</td>
<td>+4.52</td>
</tr>
<tr>
<td>1963-64</td>
<td>875.76</td>
<td>+16.98</td>
<td>540.00</td>
<td>+25.96</td>
</tr>
<tr>
<td>1964-65</td>
<td>979.85</td>
<td>+11.88</td>
<td>587.03</td>
<td>+8.71</td>
</tr>
<tr>
<td>1965-66</td>
<td>1,011.81</td>
<td>+3.26</td>
<td>601.72</td>
<td>+2.50</td>
</tr>
<tr>
<td>1966-67</td>
<td>1,122.04</td>
<td>+10.89</td>
<td>680.95</td>
<td>+13.16</td>
</tr>
<tr>
<td>1967-68</td>
<td>1,240.74</td>
<td>+10.57</td>
<td>769.86</td>
<td>+13.05</td>
</tr>
<tr>
<td>1968-69</td>
<td>1,360.79</td>
<td>+9.63</td>
<td>858.10</td>
<td>+11.46</td>
</tr>
<tr>
<td>1969-70</td>
<td>1,426.22</td>
<td>+4.85</td>
<td>891.71</td>
<td>+3.91</td>
</tr>
<tr>
<td>1970-71</td>
<td>1,566.40</td>
<td>+9.82</td>
<td>987.69</td>
<td>+10.76</td>
</tr>
<tr>
<td>1971-72</td>
<td>1,632.12</td>
<td>+4.19</td>
<td>1,011.21</td>
<td>+2.38</td>
</tr>
<tr>
<td>1972-73</td>
<td>1,818.56</td>
<td>+11.42</td>
<td>1,154.40</td>
<td>+14.16</td>
</tr>
<tr>
<td>1973-74</td>
<td>2,231.65</td>
<td>+22.71</td>
<td>1,520.73</td>
<td>+31.73</td>
</tr>
<tr>
<td>1974-75</td>
<td>3,384.72</td>
<td>+51.66</td>
<td>2,015.00</td>
<td>+32.50</td>
</tr>
<tr>
<td>1975-76</td>
<td>3,220.49</td>
<td>-4.85</td>
<td>1,681.59</td>
<td>-16.59</td>
</tr>
<tr>
<td>1976-77</td>
<td>3,282.22</td>
<td>+1.92</td>
<td>1,510.80</td>
<td>-10.15</td>
</tr>
<tr>
<td>1977-78</td>
<td>3,809.03</td>
<td>+16.02</td>
<td>1,951.15</td>
<td>+29.20</td>
</tr>
</tbody>
</table>


* Agriculture Includes Animal Husbandry, Forestry and Fishery
NA. Figures for 1959-60 are not available.
example, the share of agriculture has declined from 68.1 per cent in 1973-74 to 51.2 per cent in 1977-78.

From the above discussion, three points can be inferred: firstly, agriculture contributes a high share of the net domestic product of the State; secondly, the share of agriculture in net domestic product of the State has been decreasing steadily; and thirdly, there are fluctuations in the contribution made by the agriculture sector towards the State income.

The above discussion clearly shows that, there is a declining trend (only after 1973-74) in the contribution of the agriculture sector towards the net domestic product of the State. As a general rule, the more advanced the stage of economic development, the higher is the proportion of income originating in the secondary and tertiary activities. A declining share of agriculture in the national income is often regarded as an indicator of economic development".36

For this type of trend, Karnataka State is not an exception. Even then, the agriculture sector is enjoying a major share in the net State domestic product.

(2) **Share of Agriculture in the Total Employment:**

The spectacular role of agriculture in the State economy is judged from the angle of the share of agriculture

in the labour force of the State. Table 2.2 indicates the distribution of the labour force between the primary and secondary sector.

It is not surprising that in the State economy, with agriculture as the dominant activity, the main source of livelihood is agriculture itself. Nearly seven out of every ten persons in Karnataka depend on agriculture. Table 2.2 reveals that the bulk of the working population is claimed by the agricultural sector, that is, cultivators and agricultural labourers. In recent years, the relative share of agriculture in the labour force has been steadily declining. For example, the share of agriculture in the labour force was 68.9 per cent in 1951 and declined to 65.1 per cent in 1981. During 30 years, there is 3.8 per cent decrease in the relative share of agriculture in the labour force. But this declining trend is found only in the case of actual cultivators. Further, there has been a fall in the number of cultivators from 5,806.7 thousand in 1961 to 5,222.0 in 1981, showing a fall of 10.0 per cent in 20 years. On the other hand, the number of agricultural labourers has considerably increased from 1,341.4 thousand in 1951 to 3,655.1 thousand in 1981, showing the rise of 172.5 per cent in 30 years. The total labour force (including agriculture and non-agriculture) has also increased from 6,611.9 thousand to 13,650.4 thousand during the above said period, showing the increase of 108.0 per cent in 30 years. But one distinguishing feature is that the pressure of labour force in agricultural sector has increased in recent years.
### Table - 2.2

**Distribution of Labour Force in Karnataka**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Labour Force in the State (in '000')</th>
<th>Labour Force in the Agriculture (in '000')</th>
<th>Col. No. E as Percentage of Col. No. B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Cultivators</td>
<td>Agricultural</td>
</tr>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>1951</td>
<td>+</td>
<td>6,611.9</td>
<td>3,219.7</td>
</tr>
<tr>
<td>1961</td>
<td>+</td>
<td>10,726.3</td>
<td>5,806.7</td>
</tr>
<tr>
<td>1971</td>
<td>+</td>
<td>10,179.1</td>
<td>4,072.8</td>
</tr>
<tr>
<td>1981</td>
<td>-</td>
<td>13,650.4</td>
<td>5,222.0</td>
</tr>
</tbody>
</table>

**Source:**

Thus it is obvious that agriculture is the single largest absorber of the labour force in the State economy. Other sectors, secondary and tertiary, have absorbed only limited labour force in the Karnataka economy. The distribution of labour in primary, secondary and tertiary categories of occupations has been considered as an indicator of economic development. Dr. Colin Clark rightly remarks that "a high proportion of the total labour force engaged in agriculture and associated forms of employment is to be found only in economically underdeveloped communities." This statement is not only applicable to Karnataka but to almost all the States of India.

In conclusion, it can be said that agriculture is a major sector in respect of providing large scale employment to workers in the State economy.

It can be concluded that, from the viewpoint of the relative role of agriculture to the net State domestic product and total employment in the State economy, the agriculture sector forms the backbone of the Karnataka economy. It accounts for about 65 per cent of the total employment and contribute about 51 per cent of the net state domestic product in the State economy.

Appendix to Chapter --II: General Background of the State of Karnataka

Karnataka State occupies a unique position in the Deccan plateau. It is described as one of the model States in the Indian union in respect of Art, Culture, Religion, Climate, Temperature, Administration, Political Stability and in the field of implementing various new economic programmes. The State of Karnataka which was ruled by the Satavahanas (300 B.C.) and various other Kings down to the Wodeyar dynasty (1946), has witnessed all-round advancement in the field of agriculture, commerce, education and art. In fact, Karnataka is the first State to generate electricity, establish a steel mill, construct huge irrigation dams, build railways, establish a university, commercial bank, provide drainage in cities and undertake other various economic programmes.

The state is situated in the Western part of the Deccan peninsula of the Indian Union and lies between 11.5° and 19° North latitudes and 74° and 78° East longitudes. It is bounded by the Maharashtra state in the North and by Arabian Sea in the West. Its Southern and Eastern boundaries are surrounded by Kerala, Madras and Andhra Pradesh States. 38

Karnataka at present with 5.9 per cent of the total geographical area of the country is the eighth largest State in the Indian union. It has a total geographical area of 191.78 lakh hectares, but land utilization statistics of 1977-78 indicate it to be 190.64 lakh hectares. Of this total area nearly 15.3 per cent is under forests. The land not available for cultivation is 9.9 per cent. The other uncultivable land and fallow land is 26.4 per cent. The net area sown is 52 per cent, which is well above the all India average level.

The State is divided into four physical regions, namely (1) The Malnad Region, (2) The Coastal Region, (3) The Northern Region and (4) Southern Mallad.

The Malnad is the name given to the hilly region of the Western Ghats. It is a region of hills and dales of primeval forests and rivers, mountains and waterfalls. The soils of Malnad are of average fertility. The major crops grown in Malnad are rice, coffee and coconut.

The Coastal region is situated between the Western Ghats and Arabian Sea. It is a different terrain full of rivers, creeks, peaks and hills. Soils of the region are fertile.

The Northern Maidan region lies to the east of Malnad and stretches to the northern and eastern boundary of the State. The region is termed as "lower erosion surface". The soils of the region are very fertile. The major crops are jawar, wheat and cotton.

The southern Maidan is known as "higher erosion surface". The soils are red and fertile. The major crops that are grown in this area are rice and ragi.

Administrative Divisions:

The State is divided into 19 districts for the purposes of administration and these 19 districts of the State fall into four administrative divisions, namely, Bangalore, Belgaum, Gulbarga and Mysore.

Climate:

Karnataka State is situated in the Tropical Zone. From this fact it follows that the State has high temperatures throughout the year. But the Monsoon has a profound influence. Hence, its climate is described as a Tropical Monsoon climate. In the greater part of the State, summers are warm and winters are cool. But there is a regional variation in the temperatures. The Coastal region has mean monthly temperatures of 24°C to 31°C all the year round. In Malnad, the mean monthly temperature varies between 18°C and 24°C. Temperature is very high in Northern Region i.e., 28°C to 33°C.
Rainfall:

Karnataka State gets its rainfall from the monsoons, especially the south west monsoon. The annual average rainfall in the State is about 1,562.8 mms (1980). However, there is regional variation in the distribution of annual rainfall. It is highest in Dakshin Kannada (4,339 mms) and it is lowest in Bijapur (439 mms). Other districts such as Raichur (489 mms), Bellary (520 mms) and Chitradurga (614 mms) had rainfalls during the year 1980.

Soil Types:

The soil types of Karnataka can be broadly classified into four categories, viz., (i) Black soils, (ii) Red soils, (iii) Laterite soils and (iv) Alluvial soils. The black soils are predominant in Raichur, Bijapur, Dharwad and Bellary. Red Soils are found in Tumkur, Kolar, Bangalore and Mysore. Red Soils are comparatively richer than black soils. Laterite soils are found in Dakshin Kannada, Uttar Kannada, Chickmagalur, Shimoga and Kodagu. These soils are acidic in nature and are deficient in lime and other nutrients. Alluvial soils are confined to the narrow coastal plain and are rich in organic matter.

River System:

The drainage of the State is seasonal in character, since it is fed by the monsoon rains. The important river systems of the State are the Krishna and its tributaries in the North, and the Cauvery and its tributaries in the South. The Krishna river is the second largest basin in Peninsular India and first largest basin in the State. The important tributaries of the Krishna are Bhima, Don, Ghataprabha, Tungabhadra and Malaprabha. These rivers drain the northern region of the State. Most of the Northern districts in the State are economically backward, hence the development of the region largely depends upon the proper utilization of the water resources of the Krishna and its tributaries. The Cauvery is the second largest basin in the State. The Cauvery with its seven tributaries drains the Southern part of the State. Unlike in the northern region rivers, the Southern region water resources are fully exploited and they form the economic life-blood of the region.

Mineral Wealth:

In mineral wealth, Karnataka is one of the leading States in the country. It is the major gold producing State in the Indian Union. The other minerals of industrial importance are iron ore, corundum, emery, granite, bauxite, limestone and clay. The State is very rich in iron ore deposits and the major portion of this is being exported at present.
Crop Pattern:

Out of the gross cropped area of 8,363 thousand hectares in 1980-81, food crops occupied an area of 6,168 thousand hectares, or 73.7 per cent, and non-food crops share 2,195 thousand hectares or 26.3 per cent. Cereals alone account for 58.0 per cent of the total area under crops. The main cereals grown are jawar, paddy, ragi, bajra and wheat. Sugarcane occupies a smaller area. Pulses account for only 15.2 per cent of the total area under crops. Under non-food crops, cotton and groundnut are important and account for 27.7 per cent. The area under vegetables and fruits is also small.

Demographic Features:

Karnataka is the eighth largest State in the country in respect of population. According to 1981 census, the total population is 3,70,43,451 and which was only 2,92,99,014 in 1971. The population of Karnataka State is close to that of Iran (3,74,30,000) or Republic of Korea (3,91,40,000) or Spain (3,70,77,000) and greater than that of Canada (2,36,88,000) or Ethiopia (3,17,80,000) or Burma (3,35,90,000) or Poland (3,52,27,000).

43. Government of India, Ibid., 42, p. 50.
(i) **Pressure on land:**

Taking into account the total area of the State (191.78 lakh hectares) and population according to 1981 Census reports, density of population works out to be 193 per sq.kilometer. However, there is considerable regional variation in this respect among the districts of the State. Bangalore district claims the highest density with 615 persons per sq kilometer. While Uttar Kannada district has the lowest density with 103 persons per sq kilometer. Thus the range of variation between these two extreme cases is 511 per sq kilometer and is quite considerable.44

(ii) **Rural-Urban Composition:**

Of the total population nearly 71.1 per cent (i.e., 2,63,32,348 people) live in 27,028 villages, while 28.9 per cent (i.e., 1,07,11,103 people) live in 250 towns and cities (1981 Census). In 1971, the Rural and Urban population were 75.5 per cent and 24.5 per cent respectively. The urban population has increased from 7.12 million in 1971 to 10.71 million in 1981.

(iii) **Sex Ratio:**

In 1981, the sex-ratio in Karnataka was 963 females per 1,000 males as against 935 females per 1,000 males for the all India level.45

---

44. Government of India. Ibid., 42, p.55.
(iv) **Literacy:**

Of the 37,043,451 persons in the State, 14,228,947 persons are literate, which means that 38.41 per cent of the total population is literate. Of the total literates 91,771,677 were males and 50,57,270 were females. 46

(v) **Growth Rate of Population:**

Table 2.3 reveals the growth in the total population of Karnataka from 1901 to 1981.

\[
\text{Table 2.3}
\]

Growth of Population in Karnataka

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Population Growth (1901 to 1981)</th>
<th>Decadal Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Population</td>
<td>Crude</td>
</tr>
<tr>
<td>1901</td>
<td>1,30,54,754</td>
<td>-</td>
</tr>
<tr>
<td>1911</td>
<td>1,35,25,251</td>
<td>+ 3.60</td>
</tr>
<tr>
<td>1921</td>
<td>1,33,77,599</td>
<td>- 1.09</td>
</tr>
<tr>
<td>1931</td>
<td>1,46,32,992</td>
<td>+ 9.34</td>
</tr>
<tr>
<td>1941</td>
<td>1,62,55,368</td>
<td>+11.09</td>
</tr>
<tr>
<td>1951</td>
<td>1,94,01,956</td>
<td>+19.36</td>
</tr>
<tr>
<td>1961</td>
<td>2,35,86,772</td>
<td>+21.57</td>
</tr>
<tr>
<td>1971</td>
<td>2,92,99,014</td>
<td>+24.22</td>
</tr>
<tr>
<td>1981</td>
<td>3,70,43,451</td>
<td>+26.43</td>
</tr>
</tbody>
</table>


The population in the State has increased from 15.05 millions in 1901 to 57.04 millions in 1981, showing an overall increase of 183.75 per cent since 1901. The history of population growth in the State can be divided into two broad periods. The first period is 1901 to 1921 and second period is from 1921 to 1981. From Table 2.3, it becomes clear that the growth rate during first period is very insignificant whereas during second period, it is phenomenal. The State's growth rate during the decade 1971-81 is 26.43 per cent. This increase is slightly higher than the increase of 24.22 per cent during the decade 1961-71.
## Indicating Growth-stimulating Effects of Agricultural Development

### Contribution through Growth Stimulating Effects of Agricultural Development

| (a) Product contribution by way of increased production of food and raw materials for agro-based industries: |
| 1) Food supply to meet the growing needs of non-farm population. |
| 2) Supply of abundant raw materials for industries |
| 3) Higher incomes for farm families |
| 4) Increased exports |
| 5) Better nutrition standard and productivity of labour |
| 6) High standards of living, and better status for the farmers. |

| (b) Market Contribution: |
| 1) Expanding rural market for consumer goods. |
| 2) Increased demand potential for farm inputs of industrial origin, such as fertilizer, pesticides, agricultural machinery etc. |

| (c) Factor Contribution: |
| 1) Releasing labour force for non-farm occupations |
| 2) Supply of capital for investment in non-farm sector. |
| 3) Contributing new entrepreneurs to exploit economic opportunities in the country side. |
Interdependence of Agriculture and Industry

1. Provides food for the industrial workers and their families. A sustained supply of food from agricultural sector is a necessary condition for stability in the industrial sector.

2. Animal husbandry provides the necessary goods to urban areas. The industrial sector has widened the markets for agricultural goods.

3. Agriculture provides raw materials for industrial development. Industries like oil, sugar, jute and cotton textiles and tobacco rely heavily on the agricultural sector. Also raw materials required by manufacturing industries like leather and leather manufactures, woollen, paper and newsprint, rubber and other wood based industries came substantially from the agricultural sector.

4. The growth of processing and servicing industries has helped agriculture considerably.
5. Agriculture has helped considerably the growth of small scale industries in rural centres by providing land, the basic input of development.

6. The development of processing industries is vastly dependent on the availability of goods in an adequate quantity.

6. The expanded rural market has enabled certain industries to increase their production.

7. Industry helps in the creation of economic and social overheads in the form of irrigation facilities, power generators, electrification, roads, transportation and communication etc.