:: CHAPTER – I ::

THE ROLE OF AGRICULTURE IN ECONOMIC DEVELOPMENT

1.1 INTRODUCTION :

The approach adopted here is to examine the inter-relationship between agricultural and industrial development and to analyse the nature of agriculture role in the process of economic development of a country.

Agriculture supplies food and the raw materials for industry. Thus agriculture must generate export surpluses in order to earn the foreign exchange with which to finance import of capital goods and certain kinds of industrial raw materials. Agriculture is also a supplier of production factors such as capital and labour. Hence, a well known agricultural economist. Theodore W.Schultz, like other international economists, asserts, "There is no longer any room for doubt whether agriculture can be powerful engine of economic growth."[1]

Economic development is measured in terms of an increase in the economy's real national income over a long period of time.

According to Okun and Richardson, economic development is "a sustained, secular improvement in material well being, which we may consider to be reflected in an increasing flow of goods and services."[2]

There are two special features of agriculture in the development process.

i) In virtually all underdevelop economies agriculture is an existing industry of major proportion. Typically, some 40 to 60% of the national income is produced in agriculture and from 50 to 80% of the labour force engaged in agriculture production.

ii) While contributing to economic growth the agricultural sector undergoes a secular decline relative to other sectors.[3]

Economic development is the final goal of every underdeveloped country. Agriculture contributes substantially in its attainment. The greater the efficiency of agricultural sector the more will be the economic development. In fact economic development and agricultural development are interdependent.

Usually, the traditional agricultural sector is not efficient to contribute to the economic development. It is true that traditional agriculture does not contribute to uplifting of the economy. But it should be recognised that modernised agriculture can make a large contribution to the development of the developing countries. For example, Isreal in the near East, Japan in the far East, Denmark in Europe and Mexico in latin America have modernised their agriculture. Food supplies in these countries have become abundant, incomes have risen rapidly and a smaller proportion of the increasing incomes in these countries is being spent on food. An over all economic development of these countries can rightly be attributed to the transformation of agriculture. Hence in order to have faster economic development modernisation of traditional agriculture is necessary.

1.2 AGRICULTURE AND OVERALL ECONOMIC DEVELOPMENT :

Now-a days there seems to be a good deal of awareness on the part of the development economists in the developing countries that the various issues involved in the process of economic development can not be considered in terms of a false dichotomy of agricultural V/S industrial development. It has also been increasingly relaized that the process of planned economic development should proceed hand in hand in both agricultural and non agricultural sector of the economy. It is important to note that agriculture makes substantial contribution to the process of overall economic development of the developing countries.

Johnston and Mellore mention the most important ways in which increased agricultural production and productivity contribute to overall economic growth which are as follows :

i) 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 exports of agricultural products may be one of the most promising means of increasing incomes and foreign exchange earnings particularly in the earlier stage 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 over head investment and expansion of secondary industry, and

v) Rising net cash incomes of the farming population may be important as a stimulus to industrial expansion.[4]

1.3 PROVIDING INCREASED FOOD SUPPLIES :

The process of economic development in the developing countries is generally associated with rising demand for food. Demand for food is a derived demand determined essentially by the growth of population and of per capital incomes.

An increase in the net output of agriculture itself represents a rise in a country's G.N.P., A marked advance of food supplies is central in the chain of economic development.[5] A rapid growth of agriculture productivity is important as it enables food supplies to be available at relatively lower prices. The nonagricultural sector then requires less of it's income to purchase food, so increasing the effective demand for the output of the non agricultural sector. This in turn increases the profitability of an expanded output in the non agriculture sector and encourages entrepreneurs to invest there. Concurrently, expansion of the non agricultural sector will increase the availability of job opportunities in that sector, both for the urban population and the labour relased from rural areas. Furthermore, relatively declining food costs imply higher real incomes, thus reducing the pressure to increase wage earnings. This maintains or increase the profitability of investment in non agricultural sector. Lower food prices also reduce political discontent.

The above pattern is critical for countries in the early stages of development, because the process of economic development, in the developing countries is generally associated with rising demand determined essentially by the growth of population and of per capita incomes.

Growth of demand for food is of major economic significance in the developing countries for a number of reasons.

First, underdeveloped or less developed countries are characterised by high rates of population growth ranging from 1 1/2 to 3% per annum. In India, the rate of growth of population has been 2.5 percent per ammum since the planned economic development began in the year 1950-1951. Besides the decline in the death rate has been very steep owing to the improvement in knowledge and techniques in the field of public health facilities. This, in combination with the slow decline in birth rates has resulted in higher rates of natural increase in population substantially in a shorter span. The task of providing adequate food supplies to rapidly increasing population before these countries is therefore, a formidable one.

Secondly, as development proceeds and the rate of economic growth is accelerated it is presumed that per capita income rises. The income elasticity of demand for Food in less developed countries is higher than in developed countries. "In countries where the real per capita income is low and the majority of people have consumption levels that are less than the minimum required for decent human living, the income elasticity of demand for food would not be less than unity as long as consumption of food remains below the subsistence level."[6]

The income elasticity of demand for farm foods in the less developed countries varies from 0.6 to 0.9 as against 0.2 to 0.3 in the highly developed countries such as Western European countries, the united States and Canada. In the words of Johnston and Mellor," This is a simple consequence of the dominant position of food as a wage goods in lower income countries when 50 to 60 percent of the total consumption expenditure is devoted to food compared with 20 to 30 percent in developed economies."[7] The income elasticity of demand for food worked for India seems to have been in the range of 0.7 to 0.8. Therefore a given rate of increase in per capita income and a given rate of population growth have a considerably stronger impact on the demand for farm good than in economically advanced countries.

1.4 AGRICULTURE AND SUPPLY OF LABOUR :

Industrial development requires a substantial and steady increase in man power to facilitate expansion of output. There are three potential sources of this increased labour for the industrial sector, natural population increase, immigration and the farm population. But agriculture plays the most important role to release labour force heeded by the new and expending industries. In U.D.C. Majority of the labour force of the country is engaged in agriculture. For example, in India according to 1981 census figures 72.8 percent of working population is engaged in agriculture as compared to 72.0 percent in 1971.

Agriculture will be able to release labour for employment in other sector of the economy if there is under employment in agriculture. At least in the earlier stages of economic development, the agricultural sector has to realease an increasing proportion of labour force required for rapidly expanding secondary and tertiary sectors. The transfer of man power from agriculture to the other sectors of the economy is faciliatated by the marginal productivity of labour being zero in the agricultural sector. That is agricultural sector alone contributes the essential factor of production, labour, without affecting adversely the total agricultural output under the existing techniques of production.

With economic development, agricultural technology also improves so that lesser number of worker's is required to be engaged in agricultural activity. This also make it possible to release labour force for employment out side the agricultural sector.

In economically advanced countries like U.K., U.S.A., and Sweeden the additional labour required for the relatively more rapid expansion of economic activity in the favoured accupation or industries has been obtained mainly from agricultural sources.[8]

In India, however, considering the rate at which industrial development is expected to take place in the next fifteen years or so, it would not be necessary to transfer any additional manpower from agriculture. This is so because of two factors, viz. the existence at present of a large number of unemployed in the urban areas and the relatively fast rate of population growth noticed in the last two decades in the urban areas.[9]

1.5 AGRICULTURE AND SUPPLY OF CAPITAL :

It should, however, be noted that a mere transfer of under employed man power from the agriculture to the industry would not help accelerate the process or rapid industrialisation and raise percapita income. Nor is the transfer of surplus man power from the exclusively pressurised agricultural sector possible without an adequate provision of capital in the industrial sector. It is therefore required that the transfer of man power to other sectors should go hand in hand with increasing supply of capital. In fact an adequate provision of capital is a sine qua non of development of industries and consequent absorption of surplus man power by the industries in the other two sectors of the economies.

The developing countries which are making determined efforts to achieve economic progress and sustain it through development of industries are faced with formidable requirements of capital to finance to creation and expansion of manufacturing sector, for socio economic over head investment such as transportation, communication, education and other public utilities.

The agricultural sector, as the only major existing industry may therefore be regarded as a source of capital for over all economic growth. This presumption is strong specially during the early stages of economic growth in as much as, reinvestment of profits, historically the major source of capital accumulation, can not be significant so long as the industrial sector forms a very small segment of the economy.[10]

There are three ways in which the farm sector contributes to industrial capital formation.

I) Increased agricultural productivity benefits, the non _ agricultural sector through lower food prices, enlarging its real income and so providing the means for increased saving and capital accumulation in the Urban sector.

II) Increased output may generate higher level of farm income, part of which may be saved, These savings may be utilized in financing the growth of the non _ agricultural sector. This contribution becomes less important in the later stage of development becaouse as growth proceeds the relatibe share of a country's savings derived from agricultural becomes smaller.

III) The third contribution to capital formation occurs if the Government imposes a compulsory transfer of funds from agriculture for the benefits of other sectors, deriving more tax revenue from agriculture than the cost of public services to that sector, the difference being spent by the Government the benefits of the other industrial sector. This contribution was large in the early stage of development of developed countries.

"Tax revenue from agriculture thus provided a large part of the funds that the Japanese government used in fostering development by constructing" model factories by subsidizing the creation of merchant marine and industry, and by strategic investments in over head capital such as rail roads, education and research.[11]

It should be recognised aht agriculturecan and should play a strategic role in contributing to the capital requirements of economic development.

1.6 AGRICULTURE AND EXPORT :

Underdeveloped countries must often buy capital goods and technical know how from presently advanced countries. To be able to trade with these more advanced countries the poorer nations must develop the products in which they have a comparative advantage, typically natural resources based industries.

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 developments efforts. Development of production of exports crops has a advantage in catering to an existing market, and an individual country that accounts for only a small fraction of worlds exports faces a fairly elastic demand schedule. In view of the urgent need for enlarged foreign exchange earning and the lack of alternative opportunities, substantial expansion of agricultural export production is frequently a rational policy even though the world supply demand situation for a commodity in unfavourable.

One of the rewards of the structural transformation associated with economic growth is the greater flexibility of a diversified economy. Of much greater immediate importance, however, is the fact that for most of the underdeveloped countries the introduction or expanded production of agricultural exports crops can and should play a strategic role in providing enlarged supplies of foreign exchange.

1.7 AGRICULTURE AND DEMAND FOR INDUSTRIAL GOODS :

The simplifying assumption of the two sector growth model is that expansion of the capitalist (i.e. industrial) sector is limited only by shortage of capital. Given this assumption, an increase in rural net cash income is not a stimulus to rapid industrialisation but an obstacle to the expansion of the industrial sector. As Arthur W.Lewis further points out, "Anything which raises the productivity of the subsistance sector (average product per person) will raise real wages in the industrial sector and therefore will reduce the capitalist surplus and the rate of capital accumulation unless, it, at the same time more than correspondingly moves the terms of trade against the subsistence sector."[12] But here it should be remembered that investment decisions may in fact be influenced not only by the availability of capital but also by demand conditions (i.e. market) and estimates of the future profitability of additions to productive capacity.

Lewis himself emphasised in his report on "Industrilisation at the Gold coast" that increased rural purchasing power is a valuable stimulus to industrial development. Nurkse has given the concise statement of the problem." The trouble is this there is not a sufficient market for manufactured goods in a country where peasants, farm labourers and their families comperising typically two thirds and four fifths of the population are too poor to buy any factory products or anything in addition to the little they already buy. There is a lack of real purchasing power, reflecting the low productivity in agriculture".[13] From this it seems that there is a great need for extending the rural market for manufactured goods. Without an enlarged rural market for manufactured goods there shall be no incentive for investment in the non agricultural sector.

It is therefore, expected that in the initial stages of economic development, it is the agricultural sector that is expected to trigger off development in the secondary and tertiary sectors of the developing economies. After reacting a certain stage of economic development, a need for concurrent growth in the agricultural and non agricultural sectors arises. The economy needs both an agricultural base and an industrial base, these are not in conflict but are really complementary and beyond a certain initial stage of development the growth of one conditions and facilitiates the growth of the other.[14]

To conclude rising income with farmers thus acts both ways : It provides rural saving and rural purchasing power to buy new industrial goods which can help economic development.

1.8 PROGRESS OF AGRICULTURE SINCE 1950 A RESUME[15]

1.8.1 INTRODUCTION :

In the Indian conditions with a very back ward agriculture, and an overwhelming number of small and poor farmers, a grown cum welfare promoting policy is the most desirable thing to wish for. But it was something that was conspicuous by its absence during the British rule. And when such a one was devised after independence, it remained for many years weak in some of the its components, and grossly inadequate in the implementation of its key parts. The policy for future, as laid down in various documents and reflected in the priorities and programmes of the current plan is a distinct departure from and in a sense an improvement over the past.

On the eve of the first plan, agriculture was in a hopless and deplorable condition. Our farmers were generally in heavy debt to the village money lenders. They had neither the money nor the knowledge to use proper equipment, goods seeds and chemical manures. Except in certain areas, they were dependent upon rainfall and upon the vegaries of the monsoons. Productivity of land as well as or labour had been declining and was the lowest in the world. In spite of the fact that nearly 70 percent of our working population was engaged in cultivation, the country had come to depend very heavily on imports of food grains to satisfy the minimum requirements of the people.

1.8.2 <u>PROGRESS OF AGRICLUTRE</u> :

In every five year plan, the planning commission fixed specific targets for each crop and for different commodity groups, such as foodgrains, oil seeds, sugar etc. The planning commission also specified the various programmes for increasing agricultural production such as irrigation, soil conservation, farming and land reclamation, supply of fartilisers and manures, better ploughs and improved agricultural implements adoption of scientific practices etc.

From the Third plan, the greates emphasis was laid on intensive Agricultural district programmes (I.A.D.P.) and Highyielding varieties programme (HYVP), multiple cropping raising the yield of major commercial crops etc.

1.8.2(A) AGRICULTURAL PRODUCTION :

i) In the 30 year period between 1950-1951 and 1981-1982, production of food grains increased by 1.46 percent, production of oil seeds more than doubled, sugarcane production rose by 234 percent cotton production by 169 percent and jute by more than 200 percent. Between 1960-1961 and 1981-1982 the index number of area had gone up by 7 percent only, but production has risen by 40 percent and yield per hectare by 27 percent.

1.8.2(B) AGRICULTURAL INPUTS :

In any appraisal of the agricultural situation in India since 1950-1951 one should not overlook the vigorous efforts that have beem made by the Government to import a scientific termper to Indian agriculture.

For instance, the irrigated area increased from 22.6 million hectares at the begining of the first plan to 60 million hectares in 1982-1983. During the same period, the consumption of fertilisers had increased by nearly 21 times. Soil conservation programmes covered a total of 8 million acreas during the first three plans. The fourth plan added nearly 16 million hectares under the HYP programmes for foddgrains; and the first four years if the fifth plan added another 11 million hectares.

The progress in agriculture since 1961 and particularly after the new agricultural strategy introduced during the Third plan has been due to the technological and scientific changes in Indian agriculture.

Despite all these development programmes, the overall rate of growth of agricultural output has been just 2.8 percent during the fourth plan. Unfavourable weather conditions were a major factor for the unsatisfactory agricultural output since 1971-1972.

1.8.2(C) ASSESSMENT OF AGRICULTURAL POLICY :

A review of agricultural policy reveals that but for the first plan, in which are allocation to agriculture was of the order of Rs. 601 crores i.e. 31 percent of total, in all the subsequent plans it was of the order of about 20 percent. Since the first plan did not allot and funds to the development of basic and heavy industry in the public sector the share of agriculture was high.

An impression was created towards the end of the first plan that even with a lower proportation of investment in agriculture, it would be possible to maintain a rate of growth of agricultural production sufficient to meet the higher demand for food and agricultural raw materials concomitant with the process of development. The mahalanobis model which formed the basis of the second plan did not appreciate the difference between the technological and organisational aspects of agricultural production in contrast with manufacturing production. The simple two sector model divided the economy into capital goods and consumer goods. The consumer goods sector included all these commodities which were provided by manufacture and agriculture. This lack of realisation that production in agriculture required not only technological change but also institutional reform was responsible for the absence of an in depth analysis of the factors contributing to agricultural development.

Dr. B.S.Sidhu penetrating analysis mentions : " The real culprit probably was the weather which made the first plan a " politicians temporary triumph and a planners disoster". The tragedy was that the cuphoria of success prevented a hard look at agriculture and when the second plan programmes were designed it was still not clear that was needed to spend agricultural development. Therefore, the situation was not that the money made available to agriculture was less but that what was available was misallocated."

During the first decade of planning (1950–1951 to 1960–1961), the main emphasis was on extension of irrigation and land reform. The government reconciled itself to the fact that it was not possible to push forth progressive land reforms and thus shifted its emphasis during the second decade of planning (1960-1961 to 1970-1971) to technological change, eyphemistically described as green revolution. But green revolution succeeded only in wheat rice as also other crops did not show perceptible improvement in production.

To sum up, it may be stated that technological change is not a substitute for institutional change in agriculture. It is only a fusion of technological and institutional change that can optimise the process of agricultural growth from the point of view of maximising production as well as distributive justice. It is also important to create non agricultural employment in the rural sector so that those who cannot be provided land in the program of redistribution and provided "Work" to eke out living. Thus the process of agricultural transformation should not only emphasize higher growth rate in agriculture but should also stress the need for a decentralised industrial pattern of growth with greater emphasis on labour intensive technology. It is this integrated approach which can help to solve the problem of rural poverty, disguised unemployment and also foster higher levels of agricultural production.

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