

PREFACE

In the curricular structure introduced by this University for students of Post-Graduate degree programme, the opportunity to pursue Post-Graduate course in a subject is introduced by this University is equally available to all learners. Instead of being guided by any presumption about ability level, it would perhaps stand to reason if receptivity of a learner is judged in the course of the learning process. That would be entirely in keeping with the objectives of open education which does not believe in artificial differentiation. I am happy to note that the university has been recently accredited by National Assessment and Accreditation Council of India (NAAC) with grade 'A'.

Keeping this in view, the study materials of the Post-Graduate level in different subjects are being prepared on the basis of a well laid-out syllabus. The course structure combines the best elements in the approved syllabi of Central and State Universities in respective subjects. It has been so designed as to be upgradable with the addition of new information as well as results of fresh thinking and analysis.

The accepted methodology of distance education has been followed in the preparation of these study materials. Co-operation in every form of experienced scholars is indispensable for a work of this kind. We, therefore, owe an enormous debt of gratitude to everyone whose tireless efforts went into the writing, editing, and devising of a proper layout of the materials. Practically speaking, their role amounts to an involvement in 'invisible teaching'. For, whoever makes use of these study materials would virtually derive the benefit of learning under their collective care without each being seen by the other.

The more a learner would seriously pursue these study materials, the easier it will be for him or her to reach out to larger horizons of a subject. Care has also been taken to make the language lucid and presentation attractive so that they may be rated as quality self-learning materials. If anything remains still obscure or difficult to follow, arrangements are there to come to terms with them through the counselling sessions regularly available at the network of study centres set up by the University.

Needless to add, a great deal of these efforts is still experimental—in fact, pioneering in certain areas. Naturally, there is every possibility of some lapse or deficiency here and there. However, these do admit of rectification and further improvement in due course. On the whole, therefore, these study materials are expected to evoke wider appreciation the more they receive serious attention of all concerned.

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**Netaji Subhas
Open University**

**PG : Economics
(PGEC)**

**Course : Agricultural Economics
Course Code : PGEC-17A**

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Unit - 1 □ Agriculture and Economic Development in Historical Perspective

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1.1 Objective

After studying this unit, students will be able to know

- the role of agriculture in economic development
- the pattern of agricultural development in some major countries
- the nature of interdependence between agriculture and industry

1.2 Introduction

Agriculture played a vital role in the economic development of many countries like Great Britain, Japan, Russia, China and to some extent, of India. Different countries have evolved different agricultural institutions for this purpose. While Great Britain introduced enclosure movement for its agricultural development, Japan relied on small farming. Again, Soviet Russia and People's Republic of China introduced socialisation of agriculture and thus ensured state control over agricultural surplus. This surplus foodgrain was used to feed industrial workers. The system also helped mobilise agricultural raw materials needed for industrialisation. Japan mobilised agricultural surplus by raising land rent. England and Western Europe initially tried to industrialise by exploiting the agricultural sector. Later, these countries tried to follow a more or less balanced growth strategy between agriculture and industry. India also followed a more or less similar path. However, agriculture in India is mainly small scale peasant farming, though there are some pockets of capitalist farming. These cases will be discussed in the present unit.

1.3 Role of Agriculture in Economic Development

Agriculture can play a vital role in the process of economic development of a country. This is specially true in the initial phase of economic development. Simon Kuznets argues that agriculture can help an economy for its economic development

in three major ways. He has mentioned three main contributions that agriculture can make towards the development of a less developed economy. These three contributions are :

- (i) The product contribution,
 - (ii) The market contribution and
 - (iii) The factor contribution
- (i) The product contribution :** This contribution of the agricultural sector comes from the fact that total agricultural output is a part of national output. So, if agricultural output rises, other things remaining unchanged, national output of the economy will also rise. This is especially true where the major share of national output comes from the agricultural sector. Now, suppose that the size of population remains the same or rises at a lesser proportion than agricultural output. Then per capita output or income of the people will rise. This will imply higher level of economic development or higher standard of living of the people of the economy.
- (ii) The market contribution :** This contribution of agriculture comes from the fact that a growing agricultural output provides a market for the non-agricultural sector. If the productivity of agricultural sector rises, income of the rural population will rise. Then the demand for industrial goods and other services will also increase. As a result, the market for industrial products and other services will be expanded.
- (iii) The factor contribution :** This contribution of agriculture occurs when a growing agricultural sector adopts labour-saving and capital-using techniques and releases some agricultural labourers for the industrial sector. Again, an expanding agricultural sector supplies food products to the industrial workers. It also provides agricultural raw materials for the industrial sector. Further, the agricultural sector may supply capital also for industrialisation. When the agricultural sector expands, income of the farmers, specially of the large farmers will rise. So, their savings will rise. By lending out of this saving to the industrial sector, the agricultural sector can provide capital to the industrial sector. Again, the government may impose a high tax on agricultural income or a high rent on agricultural land. It may thus collect revenue for

implementing the programmes of industrialisation. This was actually done in Japan where land tax once constituted over 80 per cent of central government's tax revenue. This was utilised for industrial development. Thus, the agricultural sector may contribute capital also for industrialisation.

Thus, we see that if agricultural sector itself expands, it makes a product contribution. If agriculture trades with industry, it provides a market contribution. If the agricultural sector transfer resources to the industry and other sectors, these resources being productive factors, it renders a factor contribution towards economic development of the country.

B. Johnston and J. Mellor have mentioned that there are five main ways in which agriculture can help overall economic growth of a country. In brief, they are as follows :

- (i) During the process of economic development of a country, there is a substantial rise in the demand for agricultural food products and raw materials in that country. If the agricultural sector fails to meet this increased demand, price level will rise. Then the growth process will be jeopardised.
- (ii) If agricultural production rises, a portion of the increased output can be exported. It thus helps earn valuable foreign exchange which is highly needed in an underdeveloped economy to import improved technology from abroad.
- (iii) When the industrial sector expands during the process of economic development, it demands more and more labour. A developing agricultural sector can supply a huge amount of manpower to the industrial sector by using labour-saving and capital-using technique of production. Then, industrial wage will not rise and the volume of surplus will not fall. This surplus can be used for further capital formation. This process of capital formation by using surplus labour has been described by Arthur Lewis (The Lewis model will be discussed in details in Unit-3).
- (iv) Agriculture is generally the dominant sector in an underdeveloped economy. As the major sector of the economy, it can and should make a net contribution to the overhead capital required for investment and expansion of secondary industry.

- (v) Rising cash income of the farm population will expand internal market and it is an important stimulus to industrial expansion.

Thus, the contribution of agriculture in an economy to its economic development may be summarised in the following manner. An expanding agricultural sector

- (i) provides more food to the rapidly expanding population,
- (ii) provides increased demand for industrial products,
- (iii) releases the necessary amount of labour for industrialisation,
- (iv) earns foreign exchange for the import of capital goods and foreign technologies,
- (v) increases rural savings to be mobilised by the state,
- (vi) provides productive employment,
- (vii) provides necessary raw materials for the industrial sector and
- (viii) improves the rural infrastructure.

Thus we see that the agricultural sector of a less developed economy can play a vital role in the process of its economic development. Most of the less developed countries have sufficient resources needed for agricultural development. Hence, such countries should rely on agriculture at least in the initial phase of their economic development.

1.4 Choice between Agriculture and Industry

To make a development plan for a less developed economy, one has to face a very important question : which sector of the economy is to be given priority in the plan? Is it agriculture or industry ? A less developed country does not generally have sufficient resources to develop both agriculture and industry. So, the planning authority has to make a choice between agriculture and industry. It has to give priority to one sector over the other. There has been a lively debate among economists on this issue, i.e., on the priority to be given either to agriculture or to industry. Economists are broadly divided into three camps on this question of choice between agriculture and industry while making a development plan.

In the first group, there are Albert Hirschman and Hans Singer. They are proponents of unbalanced growth strategy. Hence they have advocated the priority of the industrial sector over the agricultural sector in the development plan. According to them, an unbalanced growth strategy should be adopted to get a higher rate of development in a less developed economy. Hence they stressed on the need for developing the industrial sector at a rapid rate compared to the agricultural sector. The main arguments of this group in favour of the industrial sector are as follows :

First, developed countries have industries. Hence the only way to develop is to industrialise. Though this argument is fallacious, it makes a strong appeal to the inhabitants of less developed countries.

Secondly, it is argued that marginal productivity of labour is much higher in industry than in agriculture. So, if a labour is transferred from the agricultural sector to the industrial sector of an economy, this will raise national output of that economy. This is particularly true in a less developed economy where disguised unemployment exists in the agricultural sector.

Thirdly, capital is scarce in less developed countries. This scarce capital should be used in that sector where its return is maximum. This aim will be fulfilled only if this capital is employed in industry as marginal productivity of capital is higher in industry than in agriculture.

Fourthly, as the industrial sector of an economy expands, some external economies can be enjoyed. Industry is generally subject to increasing returns to scale while agriculture is subject to diminishing returns. Further, industrialisation brings about urbanisation. And urban society tends to be dynamic while rural society tends to be stagnant. Hence, to make the society dynamic in thought and action, industrialisation is utmost desired in less developed countries.

Lastly, it is argued that development of agriculture depends on the availability of manufactured inputs, such as, fertilisers and farm machinery. Hence, some level of industrial development is a pre-condition for agricultural development.

Thus, Hirschman, Singer and some other economists favoured the development of industry over agriculture. This is actually called unbalanced growth strategy in development economics. This type of unbalanced development of industry and agriculture was followed in the erstwhile Soviet Union. One of the main advantages

of this type of unbalanced strategy is that economic development can take place within a shorter time period. However, there is a pre-condition for the success of this type of unbalanced development. The pre-condition is that the agricultural sector should be totally controlled by the state. Otherwise, the shortfall in agricultural sector might upset the bold plan for industrial development. This happened to China in 1958 when she adopted the “Great Leap Forward” programme for rapid industrialisation under the leadership of Mao Zedong.

In the second or the opposite camp, there are economists like Simon Kuznets, Gustav Papanek, Theodore Schultz and others. They advocate that the agricultural sector should be given the priority in the planning for economic development. Their arguments may be summarised in the following manner :

First, industrialisation creates demand for labour. This labour should come from the agricultural sector. For that, it is necessary that the agricultural sector is modernised and mechanised. Only then the agricultural sector can release labour force needed for industrial development.

Secondly, less developed countries have little capital. This amount of capital is not sufficient for a programme of rapid industrialisation. The basic argument for developing the agricultural sector is that the agricultural production can be raised with this little capital.

Thirdly, a programme of industrial development on a large scale requires huge managerial and entrepreneurial ability. But underdeveloped countries suffer from the shortage of such factors. However, the agricultural sector does not require such factors for its development.

Fourthly, if the agricultural sector is not developed, the industrial sector will not get the agricultural raw materials needed for its expansion. Without agricultural development, demand for industrial products will not also be created.

Fifthly, if agriculture is diversified, a number of labour-intensive small enterprises will be set up in the rural economy. This will provide further incentive to industrialisation.

Sixthly, if agricultural income rises, it expands the market for industrial products. This market is utmost necessary for industrial development.

Seventhly, if agricultural output rises, supply of food and agricultural raw materials needed for industrial development rises.

In between these two extreme views, there is a **third** group. The main proponents of this third group are Ragnar Nurkse, Arthur Lewis and Tibor Scitovsky. They favour the idea of balanced development of agriculture and industry. They argue that the relationship between agriculture and industry is a two-way relationship. The development of agriculture helps in industrial development, and the development of industry in turn helps in agricultural development. Thus, their relationship is not competitive, rather it is complementary. Hence, both agriculture and industry should be simultaneously given importance in a programme of economic development.

Lesson from history

Historical evidences do support the complementary relation between agriculture and industry. **First** we may mention the experience from Indian five year plans. In the Second Five Year Plan of India, heavy industry was given the top priority and agriculture was relatively neglected. This was done following the Mahalanobis strategy of economic development. As a result of this strategy, demand for agricultural products greatly increased while supply of such products did not rise. This excess demand for agricultural output created inflation which in turn created much troubles for the completion of the second plan.

The **second** evidence may be cited from the experience of the Soviet Union. In the erstwhile USSR, excessive importance was given to heavy industry in order to achieve rapid economic development. As a result, there emerged the famous 'scissors crisis' which represented the rising gap between agricultural price and industrial price. It created much disorganisation in the Soviet economy.

The **third** evidence may be given from the experience of China. In 1958, China adopted the 'Great Leap Forward' programme which was a very ambitious programme of rapid industrialisation introduced by the chairman, Mao Zedong. It was a five year plan (1958–63) of forced agricultural collectivisation and rural industrialisation. It resulted in a sharp contraction in the Chinese economy. Instead of stimulating the country's economy, it resulted in mass starvation and famine. It is estimated that between 30 and 45 million Chinese citizens died due to famine, execution, and forced labour, along with massive economic and environmental destruction.

Concluding remarks

Our historical evidences show that without agricultural development, industrial development is not possible. But at the same time, some industrial development is necessary for agricultural development. Otherwise, agriculture will not get the necessary farm implements, chemical fertilisers, pesticides, insecticides, etc. So, we must admit the complementary relation between agriculture and industry. The process of development should be prepared with harmonious growth of agriculture and industry. In fact, in the most developed countries of today, successful industrialisation has been supported by sustained agricultural development. However, in the initial phase of economic development, the role of agriculture is more important than the role of industry. Agriculture has been compared with the mother of a baby. The role of mother to a baby is more important than its father while it is too young. Similar is the case with economic development. When a less developed country is just on the way of its economic development, the role and importance of agriculture to nourish that infant stage of development is greater than that of industry.

Thus, in a rather fundamental sense, agricultural progress is normally a prerequisite for industrial development. This is quite evident in a closed economy. In such an economy, industrial growth requires the achievement of a rate of increase in agricultural output which is higher than the rate of growth of demand for food. Then the agricultural sector can support industrial growth by (i) releasing a part of its labour force for industrial employment, (ii) meeting the increased demand for food for industrial sector, (iii) creating demand for industrial products, (iv) by supplying rural savings for industrial development and (v) by supplying the major wage good (food) of industrial workers at affordable price.

For an open economy, there is access to international trade. Then the contribution of rising agricultural output to industrial development may be diminished. This is because of the fact that an open economy may find it more economical to import food because its comparative advantage lies in non-food production, some of which it may export in exchange for food. Even in this case also, rising productivity in the food sector is desirable mainly for two reasons. **First**, it may save scarce foreign exchange needed for financing imports of industrial capital. **Secondly**, it contributes to the integration of the dualistic (plantation-peasant) agricultural economy. Further,

if agricultural productivity in the food sector is sufficiently high, the nation may enjoy a food surplus which can be exported and thus foreign exchange may be earned. Thus, whether closed or open economy, increasing agricultural productivity makes important contributions to general economic development. At the same time, industrial-urban development creates conditions much more favourable for agricultural development in the following ways :

First, industrialisation increases the demand for wage-goods of which food is the most important. **Secondly**, it creates more favourable market for agricultural products. It tends to break down the relatively, stagnant subsistence sector of agriculture. **Thirdly**, industrial-urban development stimulates the production of cash crops on a more specialised and efficient basis. **Fourthly**, industrial development encourages the development of agricultural processing industries, and leads to the integration of rural and urban economies. **Fifthly**, industrialisation makes available to agricultural workers a wider range of consumption goods. It raises their level of wants and encourages greater productive effort. Perhaps, the most important contribution of industrial-urban development towards agricultural sector is the more efficient factor markets within agriculture.

Industrialisation creates more productive non-agricultural employment opportunities. It diverts redundant labour from agriculture. It benefits both those who leave and those who remain in agriculture. If the absorption of farm labour into industrial employment proceeds far enough, then farm wage will rise. Then, those who continue to work in agriculture, will try to raise their productivity. Industrial-urban development also creates an intellectual environment. This environment is less tradition-bound than agriculture and is more favourable to the creation of an entrepreneurial class, to the expansion of new skills, to capital formation and technical innovation and to declining birth rates. All these raise productivity in both agriculture and industry.

Thus, rising agricultural productivity and industrial-urban development can help each other and thus contribute to overall economic growth. However, the problem of establishing priorities is very difficult. While economists like Nurkse, Lewis and Scitovsky argue for balanced growth of both agriculture and industry, Hirschman, Leibenstein and Higgins recommended unbalanced growth strategy. Again, economists like Viner, Kahn, Coale and Hoover recommended top priority to food supply.

1.5 Need for Balance between Agriculture and Industry : The Indian Experience

We have said in the previous section that the relationship between agriculture and industry is a complementary one. The development of one sector helps in the development of other. So, there should be a strategy of simultaneous development of both the sectors. Not only that. There should be a proper balance between agriculture and industry in the policy of development planning. Otherwise, various types of problems may arise during the process of economic development. In this context, we may briefly consider the experience of India in her strategy of planning.

In the context of development planning, strategy refers to a basic long-term policy to realise certain objectives. Now, resources in underdeveloped countries are scarce. Hence, development work cannot be started in all the backward sectors in those economies. Leading sectors have to be identified and all resources are to be given to these sectors. This may result in a breakthrough and the economy which has stagnated for a long period may start developing. This type of thinking worked at the back of the minds of planners when India started planning in the year 1950-51. In the earlier phase of planned economic development in India, the main emphasis was on economic growth. Some other objectives, such as, reduction in inequalities of income and wealth, elimination of poverty and creation of employment opportunities were also mentioned as the objectives of planning. However, they were never given a high priority, particularly up to the fourth plan (1969-74). There were three main aspects of the strategy of development in the earlier period : (i) developing a sound base for initiating the process of long-term growth, (ii) a high priority to industrialisation and (iii) emphasis on development of capital goods industries against consumer goods industries. To achieve these goals, an ambitious strategy was adopted in the second plan (1956-61). This plan was based on Mahalanobis strategy in which the main emphasis was on industrialisation. To be more specific, high priority was given to heavy capital goods industries. This decision may have been guided by the experience of different countries. Their experience has clearly shown that unless a country develops iron and steel industry, heavy engineering, machine tools and heavy chemicals industries, it will fail to accelerate the pace of economic development. Relying on this path of economic growth, India adopted the strategy

of 'unbalanced' growth. Growth of consumer goods industries and agriculture was left to market forces. This policy was continued more or less up to the end of the third plan (1965-66).

However, this strategy has its own defects. It often leads to scarcity of essential commodities. This actually happened in the later years of the Second Five Year Plan when scarcity of food developed due to bad harvests. In view of this experience, greater attention was given to agriculture in subsequent plans. However, consumer goods industries continued to retain a secondary place in the strategy of development.

During the Fourth Plan, there was so called green revolution. But it was limited to some small regions and to the crop wheat only. The planners were still sticking to growth-oriented strategy. Similar strategies were also being followed in similar developing countries. Expressing his displeasure at the growth-oriented strategy of planning in these countries, Mahbub-ul Haq remarked, "People could not eat tractors." During this period, studies of Dandekar and Rath, Pranab Bardhan and B. S. Minhas clearly indicated that the benefit of growth had failed to reach the poor, though the government's intention was so. The Fifth Plan accorded the highest priority to removal of poverty for the first time. However, the plan stressed that elimination of poverty required a rising rate of growth of domestic product. Thus, the growth-oriented development strategy of the earlier phase of planning was not discarded altogether.

The real change in strategy came during the Seventh Plan (1985-90). In the opinion of the planners, the demographic perspective provided the starting point of changing the long-term development strategy. Around 12 crore persons were expected to join the labour force during 1985-2000. This required that productive employment must receive the highest priority. However, creation of jobs in social and economic overhead capital and modern manufacturing industries involved investment on a large scale. That was beyond the capability of the Indian economy. Hence the planners intended to create job opportunities in rural areas through development of agriculture, irrigation, rural infrastructure and promotion of village and cottage industries. Thus, the planners pinned their hopes under the Seventh Plan on the prospects of agricultural growth for employment generation. Accordingly the compulsion of job creation on a big scale needed the adoption of an output model. Thus emphasis was given on agricultural output and agricultural growth in the

Seventh Plan. This strategy was termed as Agricultural Development-Led Growth (ADLG) strategy.

However, there was not much new in this strategy of development. About three decades ago, when India had started drifting away from the Mahalanobis strategy of development, ADLG strategy was strongly recommended to India by John W. Mellor. Further, simulations with single-country computable general equilibrium models have also shown that in the low growth world development, the ADLG results in higher rates of economic growth, faster industrialisation, reduced income inequalities, and a less adverse balance of payments. Thus, the major goals of planning of a developing country like India can achieve by maintaining a suitable balance between agriculture and industry.

The State of Indian Agriculture 2011-12 commented, “agriculture has to be kept at the centre of any reforms agenda or planning process, in order to make a significant dent on poverty and malnutrition, and to ensure long-term food security for the poor.” It further comments that achieving 8–9 per cent rate of growth in overall GDP (Gross Domestic Product) may not deliver much in terms of poverty reduction unless ‘agricultural’ growth accelerates. At the same time, ‘growth with inclusiveness’ can be achieved only when agricultural growth accelerates and is also widely shared among people and regions of the country. Thus, in order to achieve the major goals stated in different plans of India, she needs a proper balance between agriculture and industry in her development programme.

Having cited the case of India in details, let us make a general discussion on the problem of balance between agriculture and industry in the development plan of a less developed economy. The principle of balanced agricultural and industrial development appears to be reasonable enough. However, it is not easy to put into practice, particularly in countries which are seeking to launch rather than to sustain economic growth. Economists have fallen into two groups on the question of relative emphasis which agricultural investment should receive. In the first group, there are A.E. Kahn, Jacob Viner and Coale and Hoover. They argue that efforts to increase food supply should receive top priority. This is because of the high demand and great need for additional food or because the highest marginal productivity of capital lies in agriculture.

In the second group, there are economists like Albert Hirschman, Leibenstein

and Higgins. They of course recognise the need for raising agricultural productivity. However, they argue that it can be achieved only by giving a 'big push' industrialisation programme top priority. They claim that this policy will shift labour from agriculture to industry and then labour will be relatively scarce in agriculture. Then agriculture will be mechanised and there will be large-scale farming. This will encourage a rapid rate of industrialisation. They agree that without the emphasis on industrialisation, land consolidation and farm mechanisation could hardly increase the scarcity of labour in agriculture. They believe that without this relative scarcity of labour in agriculture, mechanised farming with high productivity will not be achieved in order to boost the programme of rapid industrialisation.

Of the two opinions, the first one is more acceptable than the second. The second group's position is particularly vulnerable if it is to be used as the basis for short-run economic planning in overpopulated countries. This group seriously underestimates the time, effort and resources required to bring about drastic structural changes in underdeveloped countries. They thus overlooked the short-run potentialities of raising agricultural output with given supplies of land and labour and existing small-scale farming units.

It may be admitted that there is probably no under-developed country which can at any stage afford to concentrate all of its investment on either agriculture or industrial development. However, before a shift of emphasis to the large-scale transfer of farm population into non-farm employment and to labour-saving devices in agriculture, an underdeveloped economy should first succeed in achieving and sustaining a reliable food surplus. Or at least, it should be able to reduce the food deficit to a magnitude which can be covered by non-food exports in the short run. Only after achieving this strength of agriculture, an underdeveloped economy should go for rapid industrialisation. In the next section we shall see the role of agriculture in launching economic development from the history of different countries.

1.6 Agriculture in England and Western Europe

We shall consider the historical role of Agriculture in Western Europe where the Industrial Revolution took place. During 1780–1820, England and the Western European countries initiated a spectacular acceleration of their economic growth.

Various dates during 1780–1850 may be regarded as the take-off periods in these countries. There are however long periods of evolutionary development before this period. While there were many other factors, agricultural conditions at the outset of the Industrial Revolution were certainly favourable for the launching of economic development. By that time Western Europe had enjoyed a long period of agricultural improvements and experimental farming. It had introduced high-yielding new crops, such as the turnip and potato. It had also substantially raised yields of traditional staple crops, for example, wheat. It had also greatly improved the efficiency of livestock production. Further, this rising agricultural productivity was not offset by population increase. The population explosion in Western Europe came after the take off periods. The consequence was the growth of towns, marked improvements in transportation, increasing replacements of feudal agriculture by farming for profit, and the creation of a free rural labour class. The surplus of this labour was now available for alternative non-farm employment.

These changes threatened the traditional socio-political dominance of the landed aristocracy by the rising urban class of merchant capitalists, particularly in England. Then the landed aristocracy became more profit-minded. It gave more impetus to the enclosure movement by which land was consolidated into larger and more efficient holdings. There was much social hardships for those who were forced off the land. However, there were important ameliorating circumstances also. **First**, England's increasingly efficient agriculture was able to provide sufficient cheap food to meet the needs of its rapidly-growing population up to the 1830's. **Secondly**, the new urban masses were rapidly absorbed into the manufacturing sector as export markets for industrial production rapidly expanded. **Thirdly**, with still further population growth, England was able to draw upon the recently settled new countries as a source of cheap food imports. This permitted England both to achieve even greater industrial specialisation and to reallocate its agricultural resources to the most suitable uses. At the same time, the new countries absorbed British emigrants at a large scale. As a result, England did not feel the population pressure at home. Admittedly, increasing agricultural productivity did not act as a major source of funds for the industrial sector of England, but it helped in self-financing of capital formation in the agricultural sector. As a result, the agricultural sector was able to maintain its growth in productivity and efficiency.

England was the first country to experience industrial revolution. Naturally,

England enjoyed the rewards of industrial revolution to a greater extent than other Western European countries. In France, Belgium, Germany and Sweden, the industrial revolution happened at a later stage. Their industrial revolution also depended heavily on rising agricultural productivity. Unlike England, these countries had little land consolidation. Instead, their agriculture progressed in the hands of small scale peasant proprietors. These peasant proprietors achieved a considerable degree of efficiency. Due to this rising agricultural productivity, the agricultural sector of these countries made a considerable contribution to their subsequent industrialisation. At the same time, it received some of the fruits of industrialisation.

1.6.1 Agricultural Revolution in Great Britain

By Great Britain we here mean the United Kingdom of Great Britain and Ireland in the 18th century. From the middle of the 18th century, Great Britain passed through many social and economic changes. These far-reaching changes in agricultural sector have together been termed as Agricultural Revolution and those in industrial sector as Industrial Revolution by the social thinkers. We know that the development of agriculture and industry is interdependent. Great Britain was no exception. The Industrial Revolution got its pace, in many cases, from the agricultural sector. On the other hand, this Industrial Revolution made possible the revolutionary transformation in agriculture. Both the revolutions have some common basic elements. Both have caused so many institutional changes and have themselves been influenced by those changes in turn.

Different changes in agriculture during the 18th century Great Britain have turned the British agriculture into a system of capitalist farming. Huge capital was started to be invested, the use of machinery and tractors increased and consequently, productivity per acre increased considerably. It was a great transformation of the British agriculture. The main features of British agriculture during the 18th century were as follows :

- (i) Rise of capitalism,
- (ii) Improvement in production technique,
- (iii) Revival of enclosure movement,
- (iv) Concentration of land ownership, and
- (v) Abolition of small farmers.

We briefly describe them one by one.

(i) Rise of Capitalism

As in trade and industry, capitalist attitude or profit-motive attitude developed in agriculture during the middle of the 18th century. The landowners began to invest more for the improvement of soil condition and technology. Due to increased capital, prospect of the application of science and technology increased. Machine power began to replace human and animal labour. Large scale farming was started and there developed a competitive situation.

(ii) Changes in technique of production

During the first half of the 18th century, there was two-field or three-field farming system. The main difficulty of this system was that half or one-third of total land was left uncultivated in order to regain fertility of land. It greatly hampered agricultural productivity as total land area under actual cultivation was considerably diminished. This system was abolished and a number of changes was introduced in the second half of the 18th century. These changes were : introduction of machinery, scientific rotation of crops, changes in the technique of animal breeding, application of natural and chemical fertilisers, improvement in the drainage system, etc.

During the 19th century, the development of agricultural production in Great Britain took three forms :

- (a) More improved drainage system,
- (b) Increased application of machines, and
- (c) Extensive use of fertilisers.

(iii) Revival of enclosure movement

The Enclosure Movement in Europe was an attempt to end traditional rights on land. It was accompanied by force, resistance and bloodshed. This movement was one of the most controversial areas of agricultural and economic history in England. In the 18th and 19th centuries, the Enclosure Movement in England was an attempt to take land that had formerly been owned in common by all members of a village. The land was generally available to the public for grazing animals and growing food. The movement aimed to change this commonly owned land to privately owned land, usually with walls, fences or hedges around it. To introduce large scale farming,

small plots of land were brought together. The Parliament provided the inspiration to make this enclosure movement successful, unlike that in the 16th century. The British Parliament passed the General Enclosure Act of 1801 and the Enclosure Act of 1845. These Acts made enclosures of certain lands possible throughout England, Wales, Scotland and Ireland. The British aristocracy started enclosing land arguing that it would allow for raising of crops and animals. Raising of sheep was in great need for their wool. The landed aristocracy of Great Britain claimed that large fields could be cultivated more efficiently than individual plots allotted from common land. The profit could be kept by the aristocrats who now owned the legally confiscated land. Many economic historians claim that the enclosure movement of the 18th century England was the beginning of commercial farming.

(iv) Concentration of land ownership

Another feature of 18th century agricultural revolution of Great Britain was the concentration of land at the hands of few zamindars. This was actually the direct effect of enclosure movement. The small farmers were either forcefully evicted or they sold out their lands. The Lords and Manors purchased them to start large scale farming.

(v) Abolition of small farmers

There were three main economic reasons behind the abolition of small farmers from the British agriculture. **First**, the small farmers could not enjoy the economies of large scale agricultural production. **Secondly**, the plots of small farmers were too small to introduce machine and tractors. **Thirdly**, the small farmers could not successfully compete with the large farmers while purchasing agricultural inputs or selling their products. For these reasons, they sold out their small plots of land and went to towns for factory employment. The Agricultural Revolution of Great Britain thus helped its Industrial Revolution by supplying much-needed labour.

Economic Effects of British Agricultural Revolution

There were some good economic effects of the British Agricultural Revolution. The earlier open field system was not helpful for agricultural development. This wasteful system was abolished. Small plots of land were pooled together and scientific cultivation was started. Land concentrated at the hands of few people. This led to capitalist farming in Great Britain. Agriculture no longer remained a subsistence

farming—it now became a source of profit. Agricultural production increased manifold. It made Great Britain, to some extent, self-sufficient in foodgrains. Thus, agriculture made so called ‘product contribution’ of Simon Kuznets.

Due to agricultural revolution, the number and quality of cattle increased considerably. Further, as a result of the introduction of winter-crops and root-crops, there was marked improvement in the supply and quality of fodder.

For the improvement in agriculture, many new agriculture-based industries began to grow and develop in Great Britain. Examples are flour-mill, bakery, husking mill, etc. Further, due to agricultural development, internal market for industrial products expanded. Agriculture in Great Britain thus made the ‘market contribution’ of Simon Kuznets.

Again, due to increased application of machinery in agriculture, many workers became surplus. These workers (and also the small farmers after selling their lands to the aristocracy) went to the cities for industrial employment. Agriculture thus supplied labour needed for the Industrial Revolution. Again, the profits of the Lords and Manors were invested in newly grown industries. Agriculture thus provided capital also to the industrial sector. Further, some landlords also appeared as entrepreneurs, venturing for new enterprise. Agriculture of Great Britain thus supplied entrepreneurs also to the manufacturing sector. All these are so-called ‘factor contribution’ of Simon Kuznets to the industrial sector.

We know that agriculture and industry are complementary to each other—one’s development relies upon the other. Britain was no exception. There was increased demand for foodgrains for industrial workers during the Industrial Revolution. Had there been no agricultural revolution, inflation would have broken out and it could have retarded the development of Great Britain. Again, had there been no increased demand for food crop and agricultural raw materials from the industrial sector, there would have been no impetus to start large scale mechanised farming. The Industrial Revolution of Great Britain also provided the necessary agricultural appliances and chemical fertilisers for agricultural development. Thus, Agricultural Revolution and Industrial Revolution played a complementary role to each other for the development of Great Britain. We have discussed this issue in greater details in our next section.

1.6.2 Interdependence between Agricultural Revolution and Industrial Revolution in Great Britain

Agricultural Revolution and Industrial Revolution are interdependent—one is complementary to other. We get the attestation of this notion from the experiences of many countries, particularly from the experience of Great Britain. The Agricultural Revolution in England developed such an agricultural infrastructure which had two important effects to accelerate British Industrial Revolution. **First**, a large number of workers entered the expanding industries from the agricultural sector, and **secondly**, agricultural surplus increased due to increased productivity and this eased the supply of raw materials and food-articles to the industrial sector. On the other hand, many machines became available due to Industrial Revolution and new technologies were introduced in the agricultural sector. This helped rise in agricultural productivity. More people could be released for industrial employment. This two-way effect helped each other to grow rapidly. Thus there emerged a 'snow-ball' effect.

During the 17th and the 18th centuries, England followed the advanced agricultural techniques of Holland (Netherlands) and Belgium. These countries evolved these advanced techniques suitable to their sparsely populated economies. England followed those techniques and became the centre of agricultural technologies from as early as 1730's. This supremacy continued up to the middle of the 19th century. There were following types of changes in agricultural technology :

- (a) Gradual decrease in fallow land and regular crop-rotation in place of that;
- (b) Introduction and expansion of new crops,
- (c) Development in traditional agricultural machinery and application of new machines,
- (d) Expansion and development of arable land,
- (e) More and more use of horses in the cultivation of land, and
- (f) Use of selective seeds.

Due to these technology improvements, agricultural productivity in Great Britain increased to a considerable extent and this helped her Industrial Revolution in six main ways. In short they are :

- (i) by initiating a demographic revolution,
- (ii) by raising demand for manufactured consumer goods,
- (iii) by creating demand for products of modern iron and steel industry,
- (iv) by financing industries for its expansion,
- (v) by supplying food and raw materials to the industrial sector, and
- (vi) by supplying labour for the expanding industrial sector.

Further, from the biographies of the entrepreneurs of the first phase of Industrial Revolution (1750–1830), we see that many of them had come from the agricultural sector. Thus, agriculture of Great Britain had supplied entrepreneurship also for the industrial sector. Many entrepreneurs invested their agricultural surplus in industries. Agricultural surplus thus turned into industrial capital. Thus, agriculture financed industry in Great Britain at least in the initial phase of Industrial Revolution.

Every pressure has its counter-pressure—the Industrial Revolution in Great Britain also pulled her agricultural sector up. **First**, during the Industrial Revolution, there had been technological progress in iron industry. This reduced the price of iron which in turn, helped agriculture to expand by making agricultural appliances or machines cheaper. Further, expansion of arable land, land reclamation, permanent development of land, introduction of new machines in agricultural activities, use of iron-ploughs in place of wooden ploughs—all these were highly facilitated by Industrial Revolution. **Secondly**, there were deep changes in agricultural techniques from 1760. These changes were initiated by the introduction of machinery, extensive use of artificial manures, use of high yielding seeds, etc. Without any development of industry, it had never been possible to introduce such things in British agriculture. And then the Agricultural Revolution would have never occurred.

Thirdly, the expanding industrial sector raised the demand for labour. During the second phase of industrial revolution (also known as the Technological Revolution) which occurred from the late 19th century to the early 20th century, this demand for labour rose tremendously due to expansion in railway, iron and coal industry. As a result, there was a shift in labour force from agricultural to industrial sector. The surplus labour in the agricultural sector decreased and there arose a tendency to adopt capital-intensive and labour-saving techniques. This also helped raise agricultural productivity.

Thus, the agriculture and industry in Great Britain helped each other. The theoretical idea that agriculture and industry are interdependent, enjoys strong support from the empirical evidence of Great Britain. Thus, agriculture revolution and industrial revolution in Great Britain helped each other.

1.6.3 Corn Law, Trade Policy and British Agriculture

In the year 1815, the British Parliament, under the influence of the rich landlords, passed a law that there would be no import of foodgrains unless price rose up to 80 shilling per ton. This was known as Corn Law. Further, there were high duties on the import of foodgrains. Thus, the government tried to protect the British agriculture from foreign competition by providing protection.

The Corn Law became most controversial law in the British economic history. During the 17th and 18th centuries, there was almost 'laissez faire' or free trade policy. This policy of *laissez faire* was regarded as the most desirable for the benefit of the British economy. Under the circumstances, the introduction of corn law i.e., the introduction of protective trade policy produced great controversy among the politicians as well as economics. Some arguments were put forward in favour of the Corn Law. In brief, they are as follows :

(i) There were huge investments in agriculture during the 18th and 19th centuries. But if Britain followed the policy of *laissez faire*, there would be huge import of foodgrains and consequently, price of foodgrains in the internal British market would fall. So, the landowners would lose. Thus, to protect the landed gentry, agriculture was provided protection in the name of Corn Law.

(ii) It was feared that if agricultural production further decreased, the economic condition of the agricultural labourers would further deteriorate. There was an agricultural revolution in Great Britain starting from the middle of the 18th century. This paved the way for industrial revolution. If the policy of *laissez faire* led to the reduction in agriculture output, the social instability and tension would further mount up.

(iii) At that time, the need for Corn Law was felt due to political reasons also. Many stressed on the importance of self-sufficiency in food production. If the policy of *laissez faire* was maintained, price of food products would fall and this would act as a disincentive to the farmers and then food production would come down.

However, these arguments did not last long. For the interest of the common people and for the development of industries, protests against Corn Law began to mount up. It was argued that for industrial development, it was necessary to supply cheap food to the industrial workers on the one hand and to supply cheap agricultural raw materials to the industries on the other. If import from abroad was cut off, prices of food and raw materials would increase. This would hamper the growth of industries. Further, David Ricardo showed in his theory of rent that if price of corn increased, rent would rise and landlords would be benefitted. This theory led to a massive up surge against the corn law.

To consider these views, a Committee of Enquiry of Lords and Commons was constituted. It submitted its report in 1821 after a detailed enquiry. The report expressed its diffidence on Corn Law. Thus, movement against Corn Law began to grow in and outside the Parliament. Anti-Corn Law League was established in 1839. The crop failure of 1844 - 45 and the famine in Ireland in 1845 rocked the basis of Corn Law. In 1846, Mr. Peel raised a strong plea in the Parliament to repeal the Corn Law altogether. After a long and heated exchange, Corn Law was repealed in 1846 and free trade in agricultural commodities was introduced in Great Britain.

But again in 1875 there was a strong movement in favour of protective trade policy in Great Britain. After 1875, Britain was faced with a series of depressions, and people became suspicious about the utility of laissez faire policy. Side-by-side, France, Germany, USA and other countries adopted protective trade policy. Great Britain had already lost her supremacy in industrial production. Hence the policy of laissez faire was no longer suitable for Britain. The worst occurred when cheap imports of foodgrains from the USA overflowed the British market. A severe depression in the agricultural sector ensued and that engulfed the whole economy. So, there was a growing demand for protective trade policy under the leadership of Joseph Chamberlin. The proposal was that Britain would provide some concessions in tariffs on the imports from her colonies. In exchange, colonies would waive some tariffs on the imports from Britain. It is known as the policy of imperial preference. This policy became very popular in Great Britain. However, it had one difficulty. Most of the food imports of Britain was from the other countries, not from her colonies. So, according to the policy of imperial preference, price of foodgrains would increase. Hence, the British industrialists tried to oppose the policy. The

conservative party was divided on this issue and Chamberlin had to quit. In the Election Manifesto of 1906, protective trade policy was supported by the Conservative Party. But the verdict of the people went against the Conservative Party. The Liberal Party which believed in laissez faire policy, came to power. Thus, at least up to the First World War, there was the policy of *laissez faire* and free trade in Great Britain.

1.6.4 Agricultural Development in Great Britain after the Repeal of Corn Law in 1846

Corn Law in Great Britain was abolished in the year 1846 and the British agriculture was thrown open to foreign competition. The period from the repeal of Corn Law to the First World War can be divided into two sub-periods : (i) 1850-73 and (ii) 1874-1914.

(i) The period from 1850 to 1873

The period 1850-73 is known as the 'golden age' of British agriculture. This period was characterised by growing profitability, rising trend in prices, intensive cultivation and improved work conditions. Agricultural technique also improved. New methods of drainage and new types of fertilisers were being introduced. There was a great demand for food and raw materials from the expanding industrial sector. This led to the rise in price of agricultural goods and consequently prosperity of the agricultural sector.

However, this golden age (1850–73) did not last long. The main reason was foreign competition. When railways were opened in the colonies, severe competition came from the USA, Australia, Canada, Argentina, etc. They supplied their farm products at cheap rates. The 1870's and 1880's were the years of universal catastrophe for agriculture in Europe mainly due to this foreign competition.

(ii) The period from 1874 to 1914

The last good year was 1874. From early 1875, a recession set in the U.K. There was a fall in arable area and the production of foodgrains fell considerably. The recovery was possible only by shutting out the competitive outside world. However, the government did not adopt the protective policy to save agriculture. It was thought that the fortune of the economy depended on its industry, trade and finance and their development required free trade. Hence, Britain did not give up the policy of *laissez faire*. However, not all British farming collapsed. Cereals and wool suffered but livestock and dairy farming did not.

This depression had economic and social effects. **First**, agricultural occupation became unprofitable. So, arable land was converted into pastures. There was unprecedented fall in agricultural production. Farmers became poor and bankrupt. They migrated to towns. Thus towns and cities in Great Britain became over populated. **Secondly**, although the demand for agricultural labour fell, its supply diminished more rapidly. Hence there was a labour shortage in agriculture.

The depression brought about a change in farming in Great Britain—a change from arable land to that of sheep farming. It brought about a system of dairy farming. The production of fruits, vegetables and dairy products increased while that of wheat and corn decreased. Dairy and poultry farming proved to be more profitable. The quantity of milk, egg, butter and cheese increased considerably.

The Government eventually came forward to help the agricultural sector. But before it did so, there was a fundamental change in British agrarian structure. The old landed aristocracy and gentry abdicated agriculture. Among different government measures, the following steps were important :

- (i) In 1882, the tenants were given the power of selling and leasing the land.
- (ii) Arrangements were made for the revival of small holdings.
- (iii) There were some measures to expand co-operatives, rural credit and technical education.

However, these measures were not satisfactory. In respect of agricultural education only, there was some progress.

The impact of depression on British agriculture was over only after the outbreak of the first world war in 1914. The imports of agricultural commodities were cut down due to shipping shortage. This led to speculative rise in agricultural prices and an unhealthy and artificial boom. The state also abandoned the policy of *laissez faire*. It began to regulate and control different aspects of agricultural activities.

1.7 Agriculture in Eastern Europe and Russia

In this section we shall consider the historical role of agriculture in the relatively less developed region of Europe in the 18th and 19th centuries. Specifically we shall consider the role of agriculture to promote modern capitalistic development in

Eastern Europe and Russia. During 1760's, England was initiating the great Industrial Revolution. On the other hand, Russian agriculture was plagued with the system of serfdom under the Czarist regime. The term 'serf' means an unfree person who, unlike a slave, historically could be sold only with the land to which they were attached. (Wikipedia). The serfs who lived and laboured under the feudal lords, could not leave the farm. They had to perform the works as ordered by the landlord. They were attached to the farms of their landlords. Historians compared the serfs with cattle. About 80 per cent of the Russian population during the 18th century were in bondage. There was virtually no incentive or opportunity for improving agricultural production techniques. The production method in Russian agriculture was rigid and primitive. During the first half of the 18th century, Russia's trade with the West increased. It stimulated new ambitions and desires on the part of the landlords and bureaucracy. Some landlords found that they could cultivate their land more profitably with hired labour than with unwilling serfs. Further, the landlords had some traditional obligations to their serfs. For example, they had the obligation to give bread to the serfs at high cost in years of poor crops. It was a burden to the landlords. So they wanted to liberate the serfs voluntarily. Hence, as landlords began to develop a more capitalistic outlook, the feudal social contract began to weaken. Ultimately the Russian serfs were emancipated in the year 1861. Such agrarian reforms also followed in certain other Eastern European countries (e.g., in Rumania in 1864). The agrarian reforms of the 1860's and after marked a fundamental turning point in many countries of Eastern Europe. This was particularly true in Russia. Russia was a vast country and rich in resources. Hence, she had an enormous economic potential. Even after emancipation, many serfs had to stay in agriculture. This was mainly for two reasons. **First**, there was lack of alternative employment. **Secondly**, they had to meet their collective obligation for land-redemption payments and also the tax burden. These obligations forced peasants to raise more crops for sale. So, exports of grain to Western Europe increased. With this earning, Russia could import capital in huge amounts. Further, the land-redemption bonds issued to the landlords by the government was an important source of capital. All these led to the development of trade, industry and transport. The government also played an active role in the development of railway network and factory construction. Thus, Russia made a considerable economic progress during 1885–1913.

However, in this process of development, peasants were extremely exploited.

The Czarist regime failed to realise the depths of peasant discontent and resentment. With this, the rapid growth of rural population had intensified peasant distress. The government tried to reduce population pressure and it subsidised migration to Siberia and the preparation of land for the new settlers. However, these policies were too little and too late. As a result, the peasants overthrew both the Czar and the moderate government that succeeded him during the World War I. In November, 1917 the Bolshevik Party assumed power in Russia. At the very outset, it abolished land ownership by estate owners, without compensation. However, the peasants did not await official implementation. They distributed among themselves the land and livestock of the estates by direct action. This period of near anarchy was however brought under direct state control. Food was requisitioned forcibly from the peasants, often without compensation. As a result, the peasantry became rebellious. The government was forced to give some concessions to the peasants. The policy of grain confiscation was replaced by a lesser grain tax. At least in 1928, in order to follow a programme of rapid industrialisation, the Soviet government wanted total control on food surplus. It wanted to channel more food to the cities and hence, it introduced collectivisation in the agricultural sector. The wealthier and more efficient *kulak* class was eliminated. Collectivisation enabled the Soviet government to extract large amount of foodgrains from the peasantry at low cost. There was a system of compulsory food collection. The peasants became the residual claimants. Collectivisation also made possible the application of modern techniques and improved farm machinery in agriculture.

However, this system of collectivisation lacked incentives of the peasants. Further, there were coercive measures of control on the collective farms. These were not conducive to maximum efficiency. Hence, Russian collectivisation policy failed to produce expected results. With this control over agricultural surplus, Soviet Russia could import foreign capital and technology needed for her industrialisation. Further, in the collective farms, horses were replaced by tractors and that also saved a considerable amount of grains. Thus, the circumstances of Russian agriculture at the outset of its industrial revolution were more favourable than most of today's over-populated less developed countries.

After the end of the Stalin era (1928 to 5 March, 1953), Khrushchev came to power. He ruefully noted that during 1940–52, agricultural output had increased by

only 10 per cent while industrial production more than doubled. In this period, Russia's population increased much more rapidly than its grain production. The country was more unsuccessful in the area of animal husbandry. Production of meat, milk and egg was still very low. Most livestock numbers were still below the 1928 levels and the quality was also low. Clearly, the efficiency of Soviet agricultural labour was very unsatisfactory. In this connection, we may mention the estimate of Johnston. As per his estimate, in 1955, Soviet Russia had as many tractors and over six times as many farm workers as the United States had in 1940, Russia produced perhaps a third less farm output. Hence we may say that there were so many limitations of collective farming system of the Soviet union. After the break up of the Soviet, if we compare the agricultural productivities of different foodgrains with those of agriculturally developed countries like Argentina, Canada, Germany, U.S.A. and China, we see that Russia lag behind them in this respect.

1.7.1 Russian Agriculture before 1917

For about 400 years before 1917, the Czars ruled over Russia. On November 7, 1917, the Bolshevik Party assumed power and formed Socialist Russia. Before 1917, Russian was an underdeveloped economy. Agriculture was the main occupation of the Russian people and it accounted for about 80 per cent of her population. In this section we shall discuss the condition of Russian agriculture before the November Revolution (or, October Revolution as per Russian calendar) of 1917. It may be suitably discussed under the following heads :

(i) Low productivity in agriculture

Before 1917, Russia was predominantly an agricultural economy. A large part of total population depended on agriculture. Similarly, agriculture contributed the lion's share to national income. Of the total population, about 80 per cent derived their livelihood from agriculture. Though agriculture was the main activity in pre-revolutionary Russia, it was not at all developed. The productivity of agriculture was low and the majority of the people lived in acute poverty.

There were many reasons behind the poor performance of Russian agriculture. The main reason was primitive character of farming technique. At that time, Russian agriculture was based on the three-field system. Under this system, one-third of the total arable land was kept fallow every year. This was done in order to permit the

land to regain fertility. Hence total arable land was greatly diminished. Further, a farmer's holdings were scattered over a wide area. This led to wastage of time and energy of the peasant and his family members who went to work on those plots of land. Further, there was shortage of pasture and fodder. Hence both the quantity and quality of livestock were low. This also resulted in low productivity in agriculture. Another major cause behind low productivity was the chronic deficiency of capital. Tools used were extremely primitive.

Mainly the large farmers (who were called *Kulaks*, meaning 'fist' or man eater) supplied most of the marketed surplus. The middle and small peasants were mainly subsistence farmers. The poor peasants had no reserves and they found it very difficult to maintain their family and to meet taxes particularly in a bad year. Hence they tended to get additional earnings, either by working for wages or by making some domestic handicrafts. Even the majority of the middle peasants found the product of their land insufficient to maintain a family above the subsistence level. The main reason behind all this is the low productivity in agriculture.

(ii) Poor Economic condition of the Russian peasantry

From the above discussion we can easily imagine the economic condition of the peasant life in Russia. As most of the peasants lived in acute poverty, they had lost the morale and initiative to develop. They were a depressed lot. A villager was an inefficient, extravagant and careless person. He was heavily indebted to large peasants. However, he was not sincere and careful enough to reduce it. As a result, amount of loan went on increasing. Interest on loans was as high as 60 per cent per annum. This high debt of small peasants made them bound to large farmers and village money lenders. They had to do many jobs of their creditors at a very low or even no wages.

Before the November Revolution of 1917, there was extreme social differentiation in Russia. 10 per cent of the rich peasants held 35 per cent of the total land. On the other hand, 16 per cent of the poor peasantry had owned only 4 per cent of the total land. Compared to this inequality in the distribution of land ownership, there was even greater inequality in the ownership of livestock and farm equipment. Most of the small peasants did not have any livestock or farm equipment to cultivate the land. Hence there developed a system of *metayage*. Under this system, a small peasant

borrowed horse and farm equipment from the rich Kulak. In exchange, he had to pay a portion of his produce to the lender.

Most of Kulaks i.e., the rich peasants were unkind, stern and unflinching. They exploited the poor peasants in one pretext or the other. They took every opportunity to extract something from the peasants. After the peasant emancipation, the noble community sold out most of their lands. The bourgeois class bought these lands. In this way, the Kulak class originated. These Kulaks hired the poor peasants in their lands. To repay the debts the poor peasants had to sell their crops at low prices during the harvest season to the Kulaks. The small peasants sold their produce to pay taxes also. Most of these sales were distress sales. Naturally, small farmers had to sell their crops at throw away prices. The Kulaks bought them and resold them to the peasants at a much high price during the lean season of agricultural activities. As a result of this dependence and obligation of small peasants to the Kulaks, the small farmers were bound to the Kulaks. In the process, they were further exploited.

On the other hand, there were serfs who were freed from their lords. However, they were held in bondage to the village commune, called *mir*. Most of these serfs were also personally dependent on Kulaks who had given them loans. These Kulaks were harder masters than the noble landlords of the past. The peasants now had to work for at least four days in a week on the farms of the Kulaks. It was more exploitative than during the period of serfdom.

(iii) Emancipation of Serfdom

After 1750, the institution of serfdom was widespread in Russia. During the period 1750-1860, there were three major landowners in Russia. They were : (i) the Czar himself, (ii) the landholding nobility and (iii) the monasteries. The serfs lived and laboured under the feudal lords. They did not have the freedom of movement and were bound to the farm of their master. The serfs could be bought and sold like slaves. During the middle of the eighteenth century, out of a total of 19 million people living in the Russian Empire, about 15 millions were serfs. Thus, about 79 per cent of the total population of Russia lived in bondage during 1750's. The lord imposed such duties on them as he pleased and could inflict any punishment except death. Economic historians have compared these serfs with cattle. During that period of Russia, the position of the lord was determined by the number of serfs in his

capacity. Landlords holding up to 100 serfs were called petty landlords. Those landlords who held 100 to 1000 serfs, were called medium landlords. Great landlords held more than 1000 serfs, sometimes about one lakh serfs.

Apart from being highly exploitative in nature, the institution of serfdom had many shortcomings. Many enlightened people of Russia were averse to this system. Moreover, there were political, social and economic pressures to repeal this system. Hence, in 1816, Alexander II, the then Czar of Russia, emancipated serfs in his country. Further, it was found that landlords could cultivate their land more profitably if they use hired labour in place of serfs. For all these reasons, the Russian serfs were emancipated in 1861. After the promulgation regarding emancipation of serfdom, the peasant ceased to be a serf. He got a legal title and became an independent holder of the land allotted in his favour.

The basic principles of the Emancipation Law were as follows :

- (a) The serfs on private estates were to be left in possession of approximately the same amount of land as they had occupied previously.
- (b) The land was given to the peasants not as private property but only for permanent use on condition that compensation was paid for the land granted to them.
- (c) The state compensated the landlords with interest-bearing bonds.
- (d) The peasants were to pay the capital sum plus interest in annual redemption payments to the state over a period of 49 years.
- (e) The responsibility for the redemption payments of these instalments was on the 'peasant community'. All members of the community were jointly responsible for the payment of the compensation.

Effects of emancipation of serfdom :

It was expected that the emancipation of serfs in Russia would encourage agriculture in the country and usher in a new era in national economy. Of course, the emancipation of serfs provided some relief to them but it did not do a great service to them in practice. **First**, the quantum of land received was not sufficient for following improved technique in agriculture. **Secondly**, the conditions on which the land was granted for use were not liberal and hence peasants were not encouraged

to enhance agricultural production. **Thirdly**, all members of the community were jointly responsible for the compensation payment to the state. As a result, members of the community were not allowed to leave the community without paying their full contribution. So this was another kind of bondage to the land allotted to the peasants. **Fourthly**, the compensation payment was a heavy burden to the poor peasants. **Fifthly**, redemption payment was fixed without taking into consideration the productivity of land. This caused a great discontent among the peasants. Eventually annual payment of compensation was discontinued in 1905.

Thus the effects of emancipation law were not uniform throughout Russia. In the north of the country, agricultural productivity was low. But that factor had not been considered while fixing the quantum of redemption payments. Hence the peasantry were forced into renting more land for additional income. They also searched for new earnings in household industry or in the towns. There was a tendency for the lords to retain valuable lands and distribute poor lands to the peasants. Thus small peasants did not get good plots of land. Towards the end of the nineteenth century, landlords began to sell a good amount of land to urban bourgeoisie, land speculators and rich peasants. This helped to emerge a Kulak (large farmers) class. Amount of land at the hands of the majority farmers was inadequate compared to the size of the population. Hence, poverty in Russia prevailed, if not intensified. Thus, many think that emancipation of serfdom in Russia satisfied peasants' land hunger but did not satisfy their basic needs.

In the initial years of the 20th century, agricultural surplus from the large farmers was increasing. As a result, the agricultural market was expanding. Under its influence, the old feudal village in Russia was rapidly disintegrating. The land of the nobility was being transferred by sale to the rising bourgeoisie. In the village economy, there developed a powerful class of capitalist farmers. They employed hired labour and began to produce for the market. Thus, in Russia subsistence farming yielded its place to commercial farming which started to use more advanced technique of agricultural production. As a result, agricultural surplus for exports and for meeting the needs of a growing industrial sector began to rise in Russia during the starting years of the 20th century.

(iv) Communal land tenure

With the institution of serfdom in Russia during the eighteenth century, side by side there was a communal land tenure system. This system existed and persisted

even after the emancipation of serfdom in 1861. Under the system of communal land tenure, the village commune (*mir*) regulated the allotment of land among peasant families. It also distributed certain collective liabilities laid upon the village as a unit. The members of the *mir* were elected by the villagers. Under the communal land tenure system, members of a village were bound together by common obligation to the state for the payment of taxes.

When land was transferred to the emancipated serfs, the right of ownership was vested in the family as a unit, subject to the powers of supervision of the *mir*. Peasants had to pay compensation to the state. However, the responsibility for the payment of compensation was laid on the peasant community as a whole. All members of the community were jointly responsible for such compensation payment to the state. All land belonged legally to the community and the community had the right of periodical redistribution of land among its members according to the number of members in the peasant household. The communal land tenure system put a joint responsibility for taxes. This put an undue burden on those who had saved some money and property and who were thus known to be able to pay for others.

The *mir* underwent great changes in the early years of the twentieth century. The state wanted to facilitate the speedy development of rich peasants. It was believed that this would bring political stability of the country on the one hand and raise agricultural productivity on the other. Only rise in agricultural productivity would enhance marketed surplus from agriculture which was much needed for expanding industry. Hence, it was decided to create conditions for the liquidation of the community ownership of land enshrined in the system of *mir*. The Stolypin plan of 1905 greatly curtailed the power of *mir*. The Stolypin regulation of 1906 allowed a member of *mir* to sell out his allotment without the consent of *mir*. The rich peasants acquired land as private property and left the village commune. Thus, a hereditary system developed in land ownership and commercial farming was started under the stewardship of large farmers. The dominance of *mir* was lost.

1.7.2 Organisation of Soviet Agriculture/The Programme of Collectivisation

The Background : The Bolshevik Party assumed power in Russia on November 7, 1917. Immediately after the revolution, Lenin declared the government policy. He did not favour immediate and widespread nationalisation. Maurice Dobb

described this policy as controlled or directed capitalism. It lasted from November 1917 to June 1918. But this policy led to syndicalist tendencies and opposition from factory workers, acute civil war, shortage of fuel and raw materials, inflation, etc. Hence a policy of militant or war communism was announced in June 1918. This policy of rapid nationalisation, as the name suggests, lasted only up to March 1921. Lenin himself described it as a temporary measure. War communism as an economic policy failed in its principal task of initiating an economic recovery of Soviet Union. Some of the Soviet leaders ascribed the failures to “too little War Communism”, while some other leaders ascribed the failures to “too much control”. Hence the first group suggested to increase state controls while the second group proposed a ‘tactical retreat’. Lenin led the second group. Thus there came a change in policy. It is diplomatically known as the New Economic Policy (or NEP). It was in force from 1921 to 1928. It was, in short, a policy of the combination of socialism and competitive capitalism. Though diplomatically it was called ‘new’, it was actually the earlier old policy of directed capitalism or state capitalism.

Now, during the years of New Economic Policy (1921–28), there arose a wide inequality between agricultural and industrial prices during 1922–24. It is known as Scissors Crisis—one blade representing industrial price moving up while the other blade representing agricultural price moving down. In a word, terms of trade went against the agricultural sector. Preobrazhensky and the left wing welcomed this inequality for the sake of rapid industrialisation. On the other hand, Bukharin and the right wing wanted equality between agricultural and industrial prices. Stalin (successor of Lenin who died on 21 January, 1924) accepted none of these two options. He realised that the agricultural surplus should be mobilised for rapid and successful industrialisation. For this, he introduced collective farm system. These farms were required to submit a part of their produce to the state. Thus, attempt was made to eliminate kulaks as a class on the one hand and to mobilise agricultural output needed for industrialisation on the other. We shall consider this system of collectivisation in Soviet agriculture.

Collectivisation : Agricultural production in the erstwhile Soviet Union was carried on in two sectors—the socialist sector and the private sector. The socialist sector again included collective and state farms. This sector was most important from the viewpoint of aggregate output while the private sector was insignificant.

Collective farms : In 1929, the policy of eliminating the Kulaks (large farmers) as a class was adopted and it was decided to establish collective farms all over the country. Collectivisation was started on a mass scale in 1929–30 and the process was almost completed by 1935. The main arguments in its favour were briefly as follows :

- (i) economies of scale by amalgamation of small farms,
- (ii) use of agricultural machinery,
- (iii) changing the terms of trade between the state and the peasants, and
- (iv) attaining more effective political control over the peasantry.

The collective farms (Kolkhozy) were large socialist farming enterprises. There were three types of collective farms in the Soviet Union, namely, (a) the Toz, (b) The Artel and (c) The Commune. The Toz was the society for joint land cultivation and its purpose was to organise production on a co-operative basis. Here each member retained his ownership rights to his own share of land and farm implements. The Commune was at the other extreme. Here, the entire capital, livestock, farm implements, etc. were owned by the group as a whole and all members used them collectively. They lived in community dormitories and their food was cooked in community kitchens. Their children were cared for in community nurseries.

Artel was the intermediate between these two systems. Here, most of the production was carried on collectively and most of the means of production were owned by the collective farm. However, some private production was also allowed. Each farmer owned some capital such as livestock and simple tools along with a little land. But he got had a share in the produce of the collective work in which he had participated. He received both a collective and a private income which he and his family could consume as they wished. Artel was thus a compromise between fully communistic and fully individualistic methods of production.

The distribution of the collective farm output conformed to a set of general priorities. In descending order of priorities, these were :

- (i) delivery of state share of output,
- (ii) payment of direct taxes to the state,
- (iii) re-imbursement of production cost, and

- (iv) distribution of residue output among the members according to their labour contribution to production.

The output and other plans, including even the dates of sowing and harvesting, were decided by the state, and handed down to the collective farms. Initially, the collective farms were not permitted to own the tractors and other power-driven machinery. These were supplied by the Machine Tractor Stations (MTS). These MTS were big state enterprises set up to assist the collective farms.

State Farms : A State Farm (Sovkhoz) was the property of the Soviet government and was run by the state as a large scale industrial enterprise. They organised production according to the government plans. Like collective farms, state farms were allowed to use land only for agricultural purposes and were forbidden to hire it or to build industrial enterprise on it.

The workers were paid by the State. Any State Farm worker could get a small plot of land for building a house for himself, also for planting orchard, growing vegetables and other crops. The state provided a long term loan for house building. The government received the entire net production of the State Farms. However, the State Farms failed to show their efficiency in terms of increased output. Some farms were too large to be managed effectively. Many were located in unpopulated regions with inadequate labour force and lack of water supply. For all these reasons, the size of many State Farms was drastically reduced in 1935. A large number of them were transformed into Collective Farms. During the period of the Second World War (1939–45), the condition of State Farms was bad for being over-specialised and less efficient. The cost of production of grain, meat and milk was high. Its main reason was thought to be the inefficiency of the managerial personnel. Poor housing condition and low standard of living of the workers were also responsible for it.

Evaluation of the Collectivisation Programme

The collective farm system helped in rapid development of the Soviet Union in many ways. The **First** may be called the factor contribution (of Simon Kuznets) in the form of increased supply of labour to the industrial sector. Rapid industrialisation requires huge labour. The collective farm system enabled the government to shift surplus labour from agriculture to industry. **Secondly**, this system contributed to the

building up of social overhead construction. There was a statutory obligation of each peasant to render six day's work per year for road construction. **Thirdly**, the collective and state farms made it easy to collect the agricultural surplus by means of compulsory requisitioning. **Fourthly**, the collective farm system kept the income of agricultural population low. Low income of the peasants together with high prices of manufactured consumer goods resulted in a diminished demand for consumer goods. This enabled the Soviet government to curtail investment in consumer goods industries and increase investment in capital goods industries. This helped increase the rate of economic growth.

However, this socialist sector of agriculture created some problems also. The most important among them was low productivity. The motive for personal profit was absent. Some administrative and managerial faults of the government were also responsible for it. Again, low productivity resulted in low income of the peasants. The collective farmers were then forced to devote more labour in their garden plots in order to meet their family needs. They began to neglect their work on collective farms. Another problem was that there was great variation in income and wealth among the farms. This was mainly due to the difference in their size.

Under the circumstances, the Soviet government made some reforms with a view to raising the productivity of agriculture. Following measures are worthy to be mentioned :

- (i) The Collective and State Farms would receive more technical equipment and more repair stations.
- (ii) The State would write off the liabilities of economically backward Collective Farms.
- (iii) There were some changes in prices of agricultural products and in the system of levying income tax on collective farms.

Still, the situation did not improve. Productivity in Soviet agriculture was much lower than that in Western developed nations. Due to this low productivity in agriculture, the standard of living of the common people was low. Further, it created many problems in the implementation of different economic plans. If rapid industrialisation is regarded as the main success of Soviet socialism, then under-developed agriculture should be regarded as its main failure.

Did collectivisation in Soviet agriculture, in fact, help in capital accumulation? Articles by Michael Ellman and James Millar have presented evidence to the contrary. Procurements of agricultural products other than grain declined. The State got less than it expected out of a declining agriculture. Undeniably, workers' living standards declined. However, it is hard to agree that the main burden of capital accumulation fell upon the urban sector. It was mainly the peasants who starved, were deported, toiled on construction sites. But it is certainly arguable that the collectivisation was not only inhuman but also economically counter-productive.

1.7.3 Agricultural Developments (Reforms) in the Soviet Russia in 1950's

After Stalin's death in 1953, Nikita Khrushchev came to power (1953–64). He introduced far-reaching changes in the agricultural sector of Soviet Russia. The Soviet Collective Farms were suffering from some basic weaknesses. Agricultural productivity was very low. Supply of livestock was also very much insufficient. Peasants were paid too little, investment by farms were inadequate. This was mainly due to the fact that procurement prices were very low. Agricultural planning was defective and bureaucratic. Procurement quotas were arbitrarily altered by local officials. These defects were sought to be corrected by Khrushchev. Following measures in the agricultural sector of Soviet Russia were undertaken :

(i) Agricultural prices

There were marked increases in compulsory procurement prices and over-quota delivery prices for grain, potatoes and vegetables, meat and dairy products. At the same time, procurement quotas were reduced. So, a larger proportion of sales to the State took place at the higher quota delivery prices.

(ii) Other concessions to collective farms

The State was now to pay most or all of the transport cost involved in delivering the produce to collecting points. Market charges were reduced. Past debts in cash or fines to the state were written off.

(iii) New policy towards private plots

Tax on produce of private plots was reduced. Basis of taxation was also altered. The tax was now levied on the area of the plot. Peasants were encouraged to acquire livestock. They were promised better pasture facilities. The peasants also benefited from higher prices paid by the State.

(iv) Increased inputs and investments

A large increase was announced in the planned output of tractors and other farm machinery and also in fertiliser. Thus, necessary inputs were made available to the peasants.

(v) Discipline

The power of collective and state farms to compel their members to perform their duties was enhanced. Penalties would include a reduction in the area of private plot.

(vi) Planning, Personnel and MTS (Machine Tractor Stations)

There were instructions of officials to take local conditions into account and to consult the collective farm management. Many qualified agronomists, administrators and other specialists were encouraged or directed in agriculture. The MTS permanent staff were greatly strengthened in quality and number. An effort was also made to simplify the plans handed down to the collective farms. Greater discretion was allowed to the collective farm management.

The net effect of these measures was positive. To get quick results, much emphasis was given on the extension of area of cultivation. Between 1953 and 1956, the area of cultivated land was increased by about 36 million hectares. Much of the new cultivation was undertaken by the State Farms.

Before 1958, collective farms could not own the tractors they needed. They had to depend on the MTS for the services of such machinery. In March 1958, arrangements were made for sale of machinery to the collective farms and the abolition of MTS. During 1950's, collective farms were consolidated. As a result, the number of collective farms decreased while average size of collective farms increased considerably. An important development was to transform many collective farms into State Farms.

Another important change came in 1958. Earlier, the State paid a lower price for compulsory deliveries and a higher price for deliveries above the compulsory quota. In 1958, the state started with a single price, though with regional variations. This price was higher than the previous compulsory price, though a little below the over-quota price. This policy made prices more rational and provided great incentives for collective farms.

Admittedly, the net effect of the incentive measures was positive, but not at all impressive. **First**, agricultural production increased during 1958–65 by 14 per cent as against the target of 70 per cent. The 1958 reform imposed excessive burdens on Kolkhozes (collective farms) which the procurement prices did not fully cover. **Secondly**, after the abolition of MTS, machines were poorly maintained. **Thirdly**, to fulfil agricultural targets, Khrushchev relied more on party organs which had no or little regard for local conditions. Some of these failures were partly responsible for the fall of Khrushchev in October, 1964. His over-ambitious campaigning, his exaggerated promises, his arbitrary methods, his ‘disorganising’ organisations were too much (Alec Nove). Yet he did achieve considerable success, specially in his first three years (1953–56).

1.8 Role of Agriculture in Asian Economic Development

In this section we shall consider the role of agriculture in economic development of three major Asian countries, namely, Japan, China and India.

1.8.1 Agriculture and the Japanese Experience

In the entire annals of world economic development, Japan’s achievements are the most remarkable and impressive in terms of its initial problems. Many think that Japan still offers the best model for Asian economic development, Johnston has estimated that during the thirty years between 1881–90 and 1911–20, Japan’s agricultural output increased by 77 per cent. The area under cultivation during this period increased only by 21 per cent. Yields per acre increased by 46 per cent. During the same period, population increased by 44 per cent while the agricultural labour force decreased by about 14 per cent. These data imply that in about a period of 30 years, per capita food supply in Japan increased by more than 20 per cent. Further, the output per farm worker became more than double (increased by 106 per cent). Japan’s performance in agriculture is particularly remarkable in the context of the prevailing situation in the country. Japan launched its economic development with severe overpopulation. Its per capita income was as low as of today’s Asian countries. The size of land of landholding was also small. The average size of farm unit was only 2–3 acres. Thus, landholdings were highly fragmented. Still, Japan made a remarkable achievement in its agricultural front. How can we explain this achievement?

Johnston attributes this performance of Japanese agriculture mainly to three factors. In brief, they are as follows :

- (i) expanded use of commercial fertilizers,
- (ii) the selective breeding, propagation, and distribution of rice strains which would respond most favourably to heavy application of fertilisers, and
- (iii) improved methods of water and pest control and of cultivating, transplanting and weeding.

Mainly these 3 factors resulted in remarkable increase in agricultural output in Japan. Labour productivity in Japanese agriculture more than doubled (106 per cent between 1881–90 and 1911–20). Per acre yields also increased, as we have mentioned, by 46 per cent. This performance is specially remarkable for the following three reasons :

- (a) The performance was achieved with relatively small direct capital outlay. It was mainly required for purchases of fertilizers.
- (b) The success in agriculture required a minimum social dislocation. It was achieved by largely land-saving methods. These land-saving methods could be effectively applied on the very small farms with huge labour and minimum mechanisation.
- (c) It was made possible by considerable government investment in the social overhead of agricultural research and extension services. By importing foreign agricultural experts, Japan was able to borrow knowledge from advanced countries.

Through establishing its own experiment stations, agricultural schools, seed-propagation farms, and extension services, Japan was able to 'adapt' Western knowledge to its own conditions and social environment. Some writers have tried to belittle the genius of the Japanese people saying it as their 'ability to imitate'. However, this was their 'ability to adapt', not the blind imitation. Japan had been successful to adapt the Western knowledge and technology making them suitable to their own conditions. This has been done by the Japanese population not only in the field of agriculture but also in trade and industry.

However, Japanese agriculture was not a major beneficiary of the nation's economic development. Instead, most of the gains in agricultural productivity were siphoned off by heavy land taxes. This was done in order to finance industrial development. Of course, rural landlords obtained higher rents. But these landlords used much of their increased income to develop small-scale industry in the rural areas. Thus, we see that without prior increase in agricultural productivity, the financing of Japanese industrial development would not have been possible. Further, the rising agricultural productivity contributed to Japanese economic development in other important ways. In particular, we may mention four such important contributions.

- (a) Rising agricultural productivity minimised the need for foreign exchange for food imports.
- (b) The rise in agricultural output kept prices low. It reduced the inflationary pressure which is generally found during the process of industrialisation. It also kept wage rates favourably low relative to profit. It thus encouraged industrial production and exports.
- (c) Developing agriculture released workers needed for expanding industries.
- (d) Rising agricultural productivity created market for industrial products.

Thus, rising productivity in Japanese agriculture made product, factor and market contributions towards the process of economic development. Many think that "Japanese model is particularly appropriate to Far Eastern conditions" (Lewis). There is a commonly held view that much cannot be done to increase agricultural productivity without huge institutional changes. The Japanese experience clearly offsets this view. It shows that the present institutional framework in most underdeveloped countries is quite adequate for increase in agricultural productivity by introducing improved technology. According to Lewis, the experience of Japan shows that appropriate expenditure by government on agricultural research extension, credit and roads can spectacularly raise output of peasants. Agriculture can then act as a leader, generate demand for other sectors and can supply capital. Lewis laments that most other governments have instead neglected peasant agriculture in this situation. As a result, agriculture did not expand in such countries and its failure to expand has kept down the rate of growth in other sectors.

1.8.2 Agriculture and The Chinese Experience

China is a country with a large population (145 crore in July 2022) but less arable land. With only 7 per cent of world's cultivated land, China has to feed about one fifth of the world's population. Hence, China's agriculture is an important issue and draws wide attention of the world. Since the establishment of People's Republic of China in 1949, agricultural production increased quite steadily. Production capacity of agricultural goods has risen considerably. In 1978, total output of grain was 304.47 million tonnes. It was 1.69 times of the grain production in the year 1949. Similarly, the production of cotton reached 2.27 million tonnes in 1978, increasing by 3.88 times over 1949-level,

Some reforms

Some reforms in agricultural sector of China began in 1978 and, as a result, this sector started developing rapidly. The major reforms introduced in 1978 were briefly as follows :

- (i) Introduction of the household contract responsibility system which gave farmers the right to use land, arrange farm work and to dispose of their output.
- (ii) Cancellation of the state market monopoly of agricultural products, and of price controls over most of agricultural goods.
- (iii) Repeal of many restrictive policies, and
- (iv) Permission to farmers to develop diversified business and set up enterprise in towns.

Effect of the reforms

These reforms emancipated and developed rural productive forces, promoted the rapid growth of agriculture, particularly in grain production. The achievement of Chinese agriculture after these reforms introduced in 1978 was quite remarkable. Production of major agricultural goods increased quite sharply. In the following table (Table 1.1) we have shown production of major agricultural commodities during 1949–2000.

Table 1.1
Trends in Production of major agricultural
commodities in China during 1949–2000

Items	1949	1965	1978	1995	2000
Grain (10,000 tonnes)	11,318.0	19,455.0	30,477.0	46,662.0	46,218.0
Cotton (10,000 tonnes)	44.4	209.8	216.7	476.5	441.7
Livestock (10,000 tonnes)	1,149.0	8,421.0	9,389.0	15,862.0	15,152.0
Meat (10,000 tonnes)	220.0	551.0	856.3	4,265.3	6,124.6
Fisheries (10,000 tonnes)	44.8	298.4	466.0	2,517.0	4,278.0

Source : fao.org : Report on Chian's Development and Investement in Land and Water

Farmers' income and living standards

As agricultural production and rural economy achieved continuous development, there was considerable growth in farmers' income and living standards. In 1978, farmers' per capita net income was only 133.6 yuan. It rose to 2,253.4 yuan by 2000 (Table-2).

Table 1.2
Growth of Farmers' Per Capita Net Income in China, 1978–2000

Year	Absolute value (Yuan)	Index (1978 = 100)
1978	133.6	100.00
1985	397.6	268.94
1990	683.3	311.20
1995	1,577.7	386.67
1998	2,162.0	456.78
2000	2,253.4	483.48

Source : op.cit.

We see that rural reforms in China brought about rapid all-round growth of farm production. It greatly improved the food supply situation, and enabled urban and

rural residents to solve subsistence living and enjoy well-off lives. There was variety in diet and the quality of diet also greatly improved. Between 1978 and 1998, grain directly consumed by farmers remained more or less stable. Hence, consumption of other food items like meat, egg and fishery products greatly increased. The use of various household appliances also considerably increased. Televisions, radios, tape recorders, refrigerators, video recorders, cameras and air conditioners became necessities, not luxuries, in ordinary families of China by the year 2000. Engel's coefficient in 1978 in the case of farm families of China was 68.1 per cent. It came down to 50.1 in the year 2000. Engel's law states that as income rises, the proportion of income spent on food articles (i.e., weight or percentage of food items) gradually decreases. So, the data on Engel's coefficient confirms the rise in income of farm families in China during 1968–2000 (Table 1.3)

Table 1.3

Trends in farmers' per capita net income, expenditure, living areas, etc. in China (1978–2000)

Items	1978	1990	1995	2000
1. Net income (yuan)	133.6	686.3	1,577.7	2,253.4
2. Living expense (yuan)	116.9	584.6	1,310.4	1,670.1
3. Food expense (yuan)	79.0	343.8	768.2	866.7
4. Weight or percentage	68.1	58.8	58.6	50.1
5. Living area (sq. metre)	8.1	17.8	21.0	24.8

Note : Row 4 = $(3 \div 2) \times 100$

Source : op. cit

Agricultural infrastructure

There was also remarkable improvement in agricultural infrastructure of China during 1949–2000. Before 1949, China suffered from frequent flood. So, emphasis was given on the building of dams. In 1949 there were only six large reservoirs, 17 medium reservoirs and a few small reservoirs and dams. During the 50 years or so (1949–2000), Chinese government built water conserving works which helped for flood control, irrigation, drainage and water supply. The Chinese State also increased

control of medium and small rivers. It also focused on the construction, maintenance and management of reservoirs. All these helped build capacity to counter both floods and drought. By the end of 1997, embankment projects totalled 2,51,000 km. About 84,000 reservoirs of different sizes were built. They had a total capacity of 45.83 million cubic metres. Out of 84,000 reservoirs, the number of large and medium scale reservoirs was 3,031. In 1949, this figure was only 23 (= 6 large + 17 medium).

As a result of these reservoirs and dams, total irrigated area in China greatly increased. In 1950's total irrigated area was 15.93 million hectares. In 2000, it increased to 53.9 million hectares—an increase of 2.4 times during this period. This stabilised agricultural output as crop failure due to drought or excessive rain greatly decreased. The remarkable performance of Chinese agriculture is closely linked with the development of these reservoirs and dams.

Conclusion

In the 1990s, China's agriculture and rural economy faced some unprecedented difficulties and challenges. But with the development programmes, it could overcome those difficulties. The year 2004 was a turning point. In many products, there was surplus over domestic demand. In that year, the volume of foodgrain production was 469.47 million tons, reversing a five-year decline. Now China leads the world in the output of grain, cotton, fruit, eggs, edible oils, aquatic products and vegetables.

1.8.3 The Case of India in the Field of Agriculture

After achieving independence in 1947, India started economic planning in the year 1951. The first five year plan (1951–56) clearly recognised that substantial development of agriculture is a precondition of viable industrial development. Hence, in this plan, emphasis was given on the development of agriculture. As per report of a Ford Foundation team, starting from a base of 58 million tons of food grains in 1949–50, the first five year plan set a target of 65.5 million tons by 1955–56. The first plan achieved it easily as a result of greater emphasis on agricultural production and with the help of favourable weather.

Being encouraged by the success of the first plan the Planning Commission adopted the second plan (1956–61) on a larger scale. This plan was based on the Mahalanobis strategy of economic development. According to the Mahalanobis strategy, if a larger proportion of investment is allocated to the capital goods sector,

the rate of growth of national output will be higher. Hence, in the second five year plan, the development of heavy industry was given the top most priority. Emphasis on agriculture was reduced in a relative sense. The third plan also followed the same path as envisaged by the second plan. It stressed on the completion of the unfinished large scale projects of the second plan. While reviewing Indian experience, Higgins pointed out that, almost from the start, the second plan was in trouble, particularly in terms of loss of foreign exchange. This was mainly due to a large amount of import of food grains.

The second five year plan set a target of 80.5 million tons of food grains production by 1960–61. But, at mid-term (1958–59), with very favourable growing conditions, food grain production was only 70 million tons. The Ford Foundation team correctly apprehended a much wider shortfall of food grains at the end of the Third Plan (1965–66). The problem of deficit in food grains accentuated due to rise in demand for the same mainly due to population growth. Thus, the Indian experience clearly shows that there should be a balance between the development of agriculture and industry. If this balance is neglected as in Australia or Argentina or in the USSR, further progress of the country is hampered. The superiority of the development planning of Japan over that of the countries mentioned above stands out clearly in this respect (Higgins). Thus, a drive to industrialise and develop export market for manufacture must be accompanied by a strong and solid programme for increasing yields per acre.

Realising this, a new agricultural strategy was adopted in the fourth plan (1969–74) to raise agricultural productivity. It is called the high yielding varieties programme or the HYV strategy. This strategy had three pillars :

- (i) use of seeds of high yielding varieties,
- (ii) extension of small irrigation system, and
- (iii) use of chemical fertilisers and pesticides

Due to the adoption of this now strategy, agricultural output increased remarkably. Many have emphatically called it “green revolution”. Though mainly confined to the production of wheat (many have called it wheat revolution also), the green revolution helped India achieve self-sufficiency in food grains. The necessity of India to import food grains was greatly reduced.

After the fourth plan, there was a shift in the planning strategy in the fifth plan (1974–79). Two main objectives of the fifth plan were : (i) the removal of poverty (*Garibi Hatao*) and (ii) the attainment of economic self-reliance. To attain these goals, emphasis was given on agriculture and basic industries and also on export promotion and import substitution. The main strategy of the sixth plan was to strengthen the basic structure of agriculture and industry. The energy sector was given the topmost priority. This was done to remove the infrastructural constraints in production. Emphasis was also given to agriculture including irrigation. For removal of poverty, some employment generating measures were adopted. In this plan, more than 25% of total plan outlay was allotted to agriculture and irrigation. As a result, the agricultural sector performed very well during this plan. Some of the targets were overfulfilled for the first time since the first plan. The performances of agriculture in the seventh and eight plans were also satisfactory.

The Indian experience on agricultural growth shows that whenever agriculture has performed well, the industrial sector in particular and the whole economy in general have progressed smoothly. The agricultural sector provides raw materials to the industrial sector and thus helps the growth of industrial sector. In India, leading industries like cotton textiles, jute, sugar and plantations depend on agriculture directly. There are also many industries in India which depend indirectly on agriculture. Again, many cottage and small scale industries like handloom weaving, oil crushing, husking, flour mill, etc. depend upon agriculture. Naturally, industrial sector in India cannot progress without prior growth of the agricultural sector.

Again, some of the important export items of India, such as tea, sugar, coffee, oilseeds, tobacco, spices, etc. are agricultural products. About 50 per cent of our exports constitute agricultural products. Further, manufactured articles with agricultural content contribute another 20 per cent of exports. Thus, about 70 per cent of India's exports depend on agriculture. Through exports, the agricultural sector of India earns valuable foreign exchange. This foreign exchange is necessary in order to import machines and raw materials needed for economic development of India.

Thus, the overall economic development of India depends heavily on her agricultural sector. Not only helping the industrial and exports sectors, agriculture provides the main support for India's transport system. Railways and roadways carry

agricultural goods. If agriculture prospers, earning of the transport sector rises. Further, internal trade in India is carried mostly in agricultural products. Further, if agricultural productivity raises, it raises purchasing power of vast rural India. Then demand for industrial products rises. Thus, agriculture provides a large market for industrial products of India.

All these imply that at least in the initial phase of economic development, an over-populated country like India should stress on agriculture. After some years, when agricultural output is stabilised, there should be a proper balance between the growth of manufacturing and agriculture. If agricultural productivity in such countries rises, they need not push their exports of manufactures in the world market, as their internal market will be expanded. This is the Lewisian argument which was later elaborated by Rannis and Fei in their model. We shall consider these models in Unit 3.

In conclusion we may mention the opinion of Nicholls. (William H. Nicholls : *The Place of Agriculture in Economic Development* in Eicher & Witt (eds) : *Agriculture in Economic Development*). In the above-mentioned article, he has suggested for India to follow the Japanese path of agricultural development and not to follow the Russian or the Chinese path. Japan, with a minimum of structural disturbance to an agricultural economy characterised by land shortage and labour surplus, adopted some policies which created a food surplus. This surplus food became the basis for its spectacular economic development. On the other hand, Soviet Russia or the communist China adopted a totalitarian model. They may have achieved considerable success in agriculture but at the severe cost of personal liberty and violent wrenching of the economic structure. These methods were highly oppressive to the farming community. Nicholls argues that such policies will not be suitable to India with a democratic set up. Hence he has suggested the Japanese path of agricultural development for the over-populated land-scarce economies like India.

1.9 Summary

1. Role of Agriculture in Economic Development :

According to Simon Kuznets, agriculture can make three important contributions towards the economic development of a less developed economy. These three

contributions are : the product contribution, the market contribution and the factor contribution. If agricultural sector itself expands, total output the economy rises. Agriculture thus makes a product contribution. When agricultural sector expands, it creates demand for industrial goods and thus makes a market contribution towards the industrial sector. Again, if the agricultural sector transfer resources (labour, capital, food, agricultural raw materials, etc.) to the industry and other sectors, these resources being productive factors, it renders a factor contribution towards economic development of the country.

Johnston and Mellor have mentioned that there are five main ways in which agriculture can help overall economic growth of a country.

2. Choice between Agriculture and Industry :

While preparing a development plan an underdeveloped economy very often faces a choice problem. The question is : Agriculture or industry—which one is to be given priority in the development programme? Economists like Hirschman and Singer favoured the industrial sector, while economists like Kuznets, Papanek and Schultz favoured agricultural sector. In between these two extremes, there are Nurkse, Lewis and Scitovsky who favoured the idea of balanced development of agriculture and industry. They argue that the relationship between agriculture and industry is a two-way relationship. The development of agriculture helps in industrial development, and the development of industry in turn helps in agricultural development. Thus, their relationship is not competitive, rather it is complementary. Hence, both agriculture and industry should be simultaneously given importance in a development plan. Experiences of different countries support this view.

3. Need for Balance between Agriculture and Industry :

The Indian Experience

The relation between agriculture and industry is a complementary relation. The development of one sector helps in the development of other. So, there should be a strategy of simultaneous development of both the sectors. More specifically, there should be a proper balance between agriculture and industry in the policy of development planning. Otherwise, various problems may crop up during the implementation of development plan. This happened in the case of India, particularly during the second and the third plans. In the second plan, India adopted the strategy

of 'unbalanced' growth giving topmost priority to heavy and capital goods industry. Growth of consumer goods industries and agriculture was left to market forces. This policy was continued more or less up to the end of the third plan (1965–66). But, as a result of this strategy, there arose a tremendous shortage of food. Price level since the last year of the second plan (1955–56) began to soar up. Deficit in the balance of payment also began to mount up. Due to so many disturbances in the economy, the government could not start the fourth five year plan in time. Instead, three annual plans (1966–69) were adopted. Many think that the main reason behind these disturbances was the neglect of agricultural sector in the Second and the Third plans and too much emphasis on capital goods industry neglecting the consumer goods industry.

4. Agriculture in England and Western Europe :

Before the take off period 1780–1850 or industrial revolution in these countries, there was a long period of agricultural improvements and experimental farming. By that time, Western Europe had introduced high-yielding new crops, such as the turnip and potato. Wheat productivity also greatly increased. Livestock production also greatly improved. For all these changes, the landed aristocracy became more profit-minded, particularly in England. It gave more impetus to the enclosure movement by which land was consolidated into larger and more efficient holdings. There was much social hardships for those who were forcefully evicted from the land. However, England's increasingly efficient agriculture was able to provide sufficient cheap food to its rapidly growing population up to the 1830's.

England was the first country to experience industrial revolution and hence, it enjoyed the fruits of industrial revolution of a greater extent than other west European countries. In France, Belgium, Germany and Sweden, the industrial revolution came at a later stage. Their industrial revolution also depended heavily on rising agricultural productivity. Unlike England, these countries had little land consolidation. Instead, agriculture in these countries was developed by small scale peasant proprietors who achieved a considerable degree of efficiency. As a result, the agricultural sector of these countries made a considerable contribution to their subsequent industrialisation. Side by side, the agricultural sector also received some of the benefits of industrialisation.

5. Agricultural Revolution in Great Britain :

From the middle of the 18th century, Great Britain passed through many social and economic changes. These far-reaching changes in agricultural sector have together been termed as Agricultural Revolution and those in industrial sector as Industrial Revolution by the social thinkers. The main features of British agriculture during the 18th century were as follows :

- (i) Rise of capitalism,
- (ii) Improvement in production technique,
- (iii) Revival of enclosure movement,
- (iv) Concentration of land ownership, and
- (v) Abolition of small farmers.

As a result of these changes, agriculture no longer remained a subsistence farming in Great Britain. It changed to capitalist farming with sole aim of profit-making. Agricultural productivity increased manifold. Agriculture made so called product contribution of Simon Kuznets. Further, many agriculture-based industries, such as, flour mill, bakery, husking mill, etc. began to grow and develop in Great Britain. Further, due to agricultural development, internal market for industrial products expanded. Thus, agriculture in Great Britain made the market contribution also. Again, due to large scale and mechanised farming, many workers became surplus and they were absorbed in the industrial sector. Further, profits of the Lords and Manors were invested in newly grown industries. Some landlords also appeared as entrepreneurs, venturing for new enterprise. Thus, agriculture of Great Britain also made a factor contribution to the industrial sector.

6. Interdependence between Agricultural Revolution and Industrial Revolution in Great Britain :

We know that agriculture and industry are complementary to each other. Great Britain was no exception. There was increased demand for foodgrains, agricultural raw materials and labour for the emerging and expanding industrial sector. The agricultural revolution enabled British agriculture to supply these materials. Without them, the industrial sector could not expand. Again, the expansion of the agricultural sector needed farm appliances and chemical fertilisers. The industrial revolution enabled the British industrial sector to supply these materials. Without them, the

British agricultural sector could not expand. Thus, agricultural revolution and industrial revolution played a complementary role to each other for the economic development of Great Britain.

7. Corn Law, Trade Policy and British Agriculture :

In 1815, the British Parliament under the influence of rich landlords, passed a Law that Great Britain would not import any foodgrain unless price rose beyond a certain limit. This law was known as Corn Law. During 17th and 18th centuries, Britain followed a *laissez faire* or free trade policy. Corn Law marked the deviation from free trade policy to protective trade policy in Great Britain. This law produced great controversy among the politicians as well as economists. Many argued that a result of this law, price of foodgrains in the internal market of Great Britain would rise. As a result, demand for land among the cultivators would rise and consequently rent would rise. So, this Corn Law would benefit only the landlords, not the farming or the farmers. That was the argument of Ricardo in his rent theory. Further, it was argued that for industrial development, it was necessary to supply cheap food and agricultural raw materials to the industries. After a long, heated exchange, Corn Law was repealed in 1846 and free trade in agricultural commodities was restored in Great Britain.

But again in 1875, there was a strong movement in favour of protective trade policy. After 1875, Britain was faced with a series of depressions. So, people became suspicious about the utility of *laissez faire* policy. Side-by-side, France, Germany, USA and other countries adopted protective trade policy. Britain had already lost her supremacy in the industrial sector. Hence the policy of *laissez faire* was not suitable for her. There were cheap imports of foodgrains to Britain from the USA. Hence, there was a growing demand for protective trade policy under the leadership of Joseph Chamberlin. The Conservative Party was divided on the issue and Chamberlin had to quit. In the Election Manifesto of 1906, protective trade policy was supported by the Conservative Party. However, the Liberal Party, which supported *laissez faire* policy came to power. Hence, at least up to the First World War, Great Britain followed more or less *laissez faire* and free trade policy.

8. Agricultural Development in Great Britain after the Repeal of Corn Law in 1846 :

The Corn Law in Great Britain was repealed in 1846 and British agriculture was thrown open to foreign competition. The period from the repeal of Corn Law to the outbreak of the First World War i.e., from 1846 to 1914 can be divided into two sub-periods :

(i) **The period from 1850 to 1873 :** The golden age of British agriculture.

(ii) **The period from 1874 to 1914 :** Recession in British agriculture. The recession was over only after the outbreak of the first world war in 1914.

9. Agriculture in Eastern Europe and Russia :

When England was initiating industrial revolution during 1760's, Russian agriculture was plagued with the system of serfdom under the Czarist regime. About 80 per cent of the Russian population were in bondage. Agricultural production technique was primitive. Contact with the West through international trade infused some initiatives among the landlords. Some landlords found that they could cultivate their land more profitably with hired labour than with unwilling serfs. So they liberated the serfs voluntarily and tried to develop capitalistic farming. Ultimately, the Russian serfs were emancipated in 1861. Such agrarian reforms also followed in certain other European countries. These reforms marked a fundamental turning point in these countries including Russia. Agricultural productivity increased. With agricultural export earning, Russia imported huge capital from Western Europe. It led to the development of trade, industry and transport. Thus, Russia made a considerable economic progress during 1855–1913. However, in this process of development, peasants were extremely exploited. In November 1917, the Bolshevik party assumed power, overthrowing the Czarist rule. Private ownership in land was abolished. Land was brought under state control. The system of collectivisation was introduced in 1928 to have complete control over agricultural surplus. However, this system lacked incentives of the peasants. Hence agricultural productivity was low even after the Stalin era (1922–53), compared to the agriculturally developed countries like Argentina, Canada, USA, Germany and China.

10. Russian Agriculture before 1917 :

On November 7, 1917, the Bolshevik party assumed power and formed

Socialist Russia. Before 1917, condition of Russian agriculture may be summarised under the following points :

- (i) Low productivity in agriculture
- (ii) Poor economic condition of the Russian peasantry
- (iii) Emancipation of serfs in 1861 which provided some relief to the peasants but not great service to them
- (iv) Communal land system together with the institution of serfdom. This land system was greatly weakened by the Stolypin Plan in 1905. Thereafter, a hereditary system developed in land ownership and commercial farming was started by large farmers. It continued up to 1928 when the Soviet government nationalised agricultural land and introduced the system of collectivisation in farming.

11. Organisation of Soviet Agriculture/The Programme of Collectivisation :

Agricultural production in the erstwhile Soviet Union was carried on in two sectors—the socialist sector and the private sector. The private sector was insignificant in respect of aggregate output. The socialist sector again included collective farms (Kolkhozy) and state farms. (Sovkhoz)

Collective farms : In 1929, it was decided to establish collective farms all over the country, eliminating the Kulaks (large farmers). The process was almost completed by 1935. The main arguments in favour of collective farms were briefly as follows :

- (i) economies of scale by amalgamation of small farms,
- (ii) use of agricultural machinery,
- (iii) changing the terms of trade between the State and the peasants, and
- (iv) attaining more effective political control over the peasantry.

The distribution of collective farm output was made as per following norms, with descending priorities :

- (i) delivery of state share of output,
- (ii) payment of direct taxes to the state,
- (iii) re-imburement of production cost, and
- (iv) distribution of residue output among the members according to their labour contribution to production.

State farms : A state farm (Sovkhoz) was the property of the Soviet government and was run by the state as a large scale industrial enterprise. Like collective farms, State farms were allowed to use land only for agricultural purposes. The workers were paid by the State. A state farm worker could get a small plot of land for building a house for himself and for growing vegetables and fruits.

The collective farm system helped in rapid development of the Soviet Union by (i) supplying labour to the industrial sector, (ii) providing food and agricultural raw materials to the industries, (iii) constructing social overhead capital with the help of peasants and (iv) curtailing investment in consumer good industry and increasing investment in capital good industry. However, the collective farm system had some major limitations : (i) low productivity due to lack of incentive among the peasants, (ii) highly centralised system which ignored local conditions while preparing farming plans, (iii) very large and unmanagable size of state farms. To remove these difficulties, some reforms were adopted, but the situation did not improve much. Productivity in Soviet agriculture was much lower than that in western developed nations.

12. Agricultural Developments (Reforms) in the Soviet Russia in 1950's

In order to raise agricultural productivity in Soviet Russia, Nikita Khrushchev introduced the following reforms after the death of Stalin in 1953.

- (i) increase in procurement price and reduction in quota from collective and state farms,
- (ii) some concessions to collective and state farms,
- (iii) reduction in tax on produce of private plots and provision of some extra facilities to peasants,
- (iv) increase in supply in farm inputs and machinery,
- (v) imposition of more disciplines, and
- (vi) more planning, personnel and MTS (Machine Tractor Stations).

The net effect of these incentive measures was certainly positive but not at all impressive. The main reason was too much dependence on party organs which had no or little regard for local conditions. Further, these local organs very often supplied false impressive data to their higher authorities.

13. Agriculture and the Japanese Experience :

In the history of world economic development, Japan's achievements are the most remarkable and impressive in terms of its initial problems. Many think that Japan still offers the best model for Asian economic development. As per estimate of Johnston, during the thirty years between 1881–90 and 1911–20, Japan's agricultural output increased by 77 per cent. Johnston thinks that this performance is mainly for the following three factors :

- (i) expanded use of commercial fertilisers,
- (ii) the selective breeding, propagation, and distribution of rice strains which would respond most favourably to heavy application of fertilisers, and
- (iii) improved methods of water and pest control and of cultivating, transplanting and weeding.

In spite of small holdings, Japan achieved considerable success in agriculture. However, most of the gains in agricultural productivity were siphoned off by heavy land taxes. This was done in order to finance industrial development.

14. Agriculture and the Chinese Experience :

China is a country with large population but relatively less arable land. With only 7 per cent of world's arable land, China has to feed about one-fifth of world's population. Since the establishment of people's Republic of China in 1949, its agricultural production increased quite sharply. To raise agricultural production further, China introduced the following reforms in 1978 :

- (i) Introduction of the household contract responsibility system. It gave farmers the right to use land, arrange farm work and to dispose of their output.
- (ii) Cancellation of the state market monopoly of agricultural products, and of price controls over most of the agricultural goods.
- (iii) Repeal of many restrictive policies, and
- (iv) Permission to farmers to develop diversified business and set up enterprises in towns.

These reforms developed rural productive forces, promoted the rapid growth of agriculture, particularly in grain production. As a result, farmers' income and living

standards considerably improved. There was also remarkable improvement in agricultural infrastructure of China during 1949–2000. Before 1949, China suffered from frequent flood. So, emphasis was given on the building of dams. During 1949–2000, many water conserving works were built for flood control, irrigation, drainage and water supply. As a result, total irrigated area as well as total agricultural output in China greatly increased by the year 2000. Today's China leads the world in the output of grain, cotton, fruit, eggs, edible oils, aquatic products and vegetables.

15. The Case of India in the Field of Agriculture :

In the first five year plan (1951–56), emphasis was given on the development of agriculture. The plan achieved its target of agricultural output quite easily. Being encouraged by the success of the first plan, the second plan (1956–61) stressed on the development of heavy industry (Mahalanobis strategy). Agriculture was neglected in a relative sense. The third plan (1961–66) followed the same path. It stressed on the completion of large projects of the second plan. Almost from the start, the second plan was in trouble, particularly in terms of loss of foreign exchange. This was mainly due to a large amount of import of food grains.

Realising that a strong base of agriculture is necessary before the programme of industrialisation, a new agricultural strategy was adopted in the fourth plan (1969–74) in order to raise agricultural productivity. It is called the High Yielding Varieties (HYV) programme or strategy. This strategy had three pillars :

- (i) use of seeds of high yielding varieties;
- (ii) extension of small irrigation system, and
- (iii) use of chemical fertilisers and pesticides.

As a result of this programme, agricultural output increased considerably. Many have emphatically called it “green revolution”. It helped India achieve self-sufficiency in food grains. The necessity of India to import food grains was greatly reduced.

Two main objectives of the fifth plan (1974–79) were : (i) removal of poverty and (ii) the attainment of economic self-reliance. To attain these goals, emphasis was given on agriculture and basic industries and also on export promotion and import substitution. The main strategy of the sixth plan (1980–85) was to strengthen the basic structure of agriculture and industry. As a result, the agricultural sector

performed very well during this plan. Some of the targets were overfulfilled. The performance of agriculture in the seventh (1985–90) and eighth (1992–97) plans were also satisfactory.

The Indian experience on agricultural growth shows that the overall economic development of India depends heavily on her agricultural sector. Whenever agriculture has performed well, the whole economy progressed smoothly. In India, leading industries like cotton textile, jute, sugar and plantations depend on agriculture directly. Again, many cottage and small scale industries like handloom weaving, oil crushing, husking, flour mill, etc. depend upon agriculture. Further, some of the important export items of India, such as tea, sugar, coffee, oilseeds, tobacco, spices, etc. are agricultural products. Through their exports, India earns valuable foreign exchange needed for importing machines and raw materials. Thus, the overall economic development of India depends on her agricultural development. Nicholls suggests that to achieve agricultural development, India should follow the Japanese path. Japan, with land shortage and labour surplus, adopted some policies which created a food surplus. He further warned that India should not follow the path of Soviet Russia or China who followed a totalitarian model. These methods were highly oppressive to the farming community. Nicholls argues that such policies will not be suitable to India with a democratic set up.

1.10 Exercise

Short Answer Type Questions

1. What are the three contributions of agriculture towards economic development of a country?
2. What is product contribution of agriculture?
3. What is meant by factor contribution of agriculture?
4. What do you mean by market contribution of agriculture?
5. What is Mahalanobis strategy?
6. In which plan, did India follow Mahalanobis strategy?
7. What is meant by balanced growth strategy?

8. Who are the main supporters of balanced growth strategy?
9. What is unbalanced growth strategy?
10. Who are the main proponents of unbalanced growth strategy?
11. What is enclosure movement in the context of British agriculture?
12. What is Corn Law?
13. When was the Corn Law introduced in Great Britain?
14. When was the Corn Law abolished?
15. What was the golden age in British agriculture?
16. What does the word 'serf' mean?
17. What is the period of Stalin era in the Soviet Russia?
18. When did Bolshevic Party assume power in Russia?
19. What is the meaning of Kulak in Russian agriculture?
20. When was the serfdom abolished in Russia?
21. What was *mir* in Russian land system?
22. What was Stolypin plan of 1905 in Russian agriculture?
23. What is NEP in the context of Russian economic development?
24. What was state capitalism or regulated capitalism in the USSR?
25. What is Kolkhozy?
26. What is Sobkhoz?
27. What is the full form of MTS in the context of collectivisation in the USSR?
28. What was HYV strategy in India?
29. What is Green Revolution in India?
30. What was the period of first plan in India?
31. What were the two major strategies of the fifth five year plan of India?
32. What was the Great Leap Forward programme in China?
33. Who introduced Great Leap Forward in China?

34. What is the full form of ADLG in the context of planning for agricultural sector in India?
35. Give the full form of GDP.
36. What is *laissez faire* policy?
37. What is protective trade policy?
38. What do you mean by free trade policy?
39. What is meant by Kulak in Soviet Russia?
40. What is October Revolution of Russia?
41. What is November Revolution in the history of Russia?
42. Why is November Revolution of Russia also called October Revolution?

Medium Answer Type Questions :

1. Briefly describe the three contributions of agriculture towards economic development of a country.
2. Mention the main arguments in favour of the industrial sector of an economy.
3. What are the arguments in favour of the agricultural sector for the overall economic development of a country?
4. What evidence do we get from history regarding the relation between agriculture and industry in the economic development of an economy?
5. Briefly describe the role of agriculture in the economic development of England and Western Europe.
6. State the main features of British agriculture during the 18th century.
7. Mention the main features of development of British agriculture during the 19th century.
8. Write a short note on Corn Law, Trade Policy and British agriculture.
9. Discuss the effects of emancipation of serfdom in Russia.
10. Write a note on the communal land tenure system in Russia.
11. Discuss the organisation of Soviet agriculture introduced after 1928.

12. Mention some limitations of the collectivisation programme of the USSR.
13. Describe the main agricultural reforms in the Soviet Russia in 1950's.
14. Briefly point out the experience of India in the context of her agricultural development.

Long Answer Type Questions :

1. Point out the issues of debate on the choice between agriculture and industry for development of a country.
2. Citing the case of India, show that there is a need for balance between agriculture and industry in any development programme.
3. Write a short note on agricultural revolution in Great Britain.
4. Discuss the complementary relation between Agricultural revolution and Industrial revolution in Great Britain.
5. Describe the agricultural development in Great Britain after the repeal of corn law.
6. Write a note on the state of Agriculture in Eastern Europe and Russia during 18th and 19th centuries.
7. Discuss the state of Russian agriculture before 1917.
8. Describe the programme of collectivisation introduced in the USSR in 1928.
9. How far was the collectivisation programme successful in the USSR?
10. Discuss Japan's experience in the context of her agricultural development.
11. Discuss agricultural development of the People's Republic of China since 1949.
12. Bring out the importance of agricultural growth in India in her overall economic development.

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Unit - 2 □ Contribution of Agriculture in Economic Development

Structure

- 2.1 Objective**
- 2.2 Introduction**
- 2.3 Contributions of Agriculture**
- 2.4 Measurement of Product Contribution**
- 2.5 Measurement of Market Contribution**
- 2.6 Measurement of Factor Contribution**
- 2.7 Problems in the Measurement of Agricultural Contribution**
- 2.8 Summary**
- 2.9 Exercise**
- 2.10 References**

2.1 Objective

After studying this unit, students will know

- various contributions of agriculture to economic development
- how to measure major contributions of agriculture in an economy
- problems associated with the measurement of agricultural contributions

2.2 Introduction

According to Simon Kuznets, the agricultural sector makes three major contributions to the process of economic development of a country. These contributions are : Product contribution, Market contribution and Factor contribution. In the present unit, we shall discuss, following Kuznets, how these three contributions can be measured.

2.3 Contributions of Agriculture

According to Simon Kuznets, agricultural sector of an economy makes three major contributions to economic growth of that economy, namely, the product contribution or output contribution, the market contribution and the factor contribution. With this list, we may add another contribution of agriculture, say, foreign exchange contribution.

Let us briefly describe these four contributions of agriculture one by one.

(i) Product Contribution or Output Contribution of Agriculture

Total product or total output of an economy may be divided into two parts : agricultural output and non-agricultural output, say, $O = A + N$ where O = total output, A = agricultural output and N = non-agricultural output, i.e., industrial output *plus* services. Now if agricultural output (A) rises, given N , total output (O) rises. This is, in simple terms, output or product contribution of agriculture. If population rises at a lesser rate than agricultural output, then per capita output will rise, i.e., economic development will take place.

Further, the primary role of agriculture in economic development is to supply food in order to feed workers employed in different sectors. Most of the less developed countries cannot earn sufficient foreign exchange through exports. Hence, they cannot import sufficient food, and have to rely on domestic production of food. Hence, many economists argue that industrial revolution should be preceded by an agricultural revolution. For example, before industrial revolution, Great Britain experienced agricultural revolution.

At least in the early stage of economic development, there should be an increase in marketable surplus of food grains. Otherwise, with industrial development, as the demand for food rises, price of food will tend to rise, and there will be inflation in the economy. Then the development process of the economy will be jeopardised. Agriculture, through its product or output contribution, keeps the economy in a stable position which helps in launching the programme of industrialisation.

(ii) Market Contribution of Agriculture

Agriculture helps in industrial development by providing wide market for

industrial products and other services. When agricultural productivity rises, farmers' income rises. So their demand for various non-agricultural (i.e., industrial) goods rises. If agricultural productivity does not rise, increased industrial output will not be sold out. It is very difficult for the industrial sector of a less developed economy to sell its product in foreign markets i.e., by exports. Thus, for industrial development, growth of agriculture is necessary for having markets for industrial goods.

(iii) Factor Contribution of Agriculture

Labour for industry and other sectors comes from agriculture. If agricultural productivity rises or if there is a technological progress, then some workers will be surplus. These workers may be used for industrial development. Thus, an expanding agricultural sector brings Lewisian pattern of economic development into reality.

Moreover, agriculture can supply capital for the industrial sector. This may happen mainly in two ways. **First**, the surplus extracted from land by rich landlords may be invested in the industrial sector. This happened in the case of Japan in her early stage of economic development. **Secondly**, the government may tax the agricultural sector and the tax revenue may be utilised for industrial development. This was actually done by the erstwhile Soviet Union through collective and state farms. Again, saving of large farmers may directly be available for investment in the industrial sector. Further, it has been found in many countries that rich farmers or landlords have appeared in the industrial sector as entrepreneurs during the emergence of capitalism in their respective countries. Thus, the factor contribution of agriculture to industry may be in different forms—labour, capital and entrepreneurship. Agriculture also supplies agricultural raw material needed for some important industries. Examples of such raw materials are : cotton for textile industry, jute for jute industry, sugar-cane for sugar industry, etc.

(iv) Foreign Exchange Contribution

An expanding agricultural sector can earn foreign exchange through exports. This foreign exchange or export earning may be used to import equipment and machinery from abroad. This may be very helpful in economic development. Countries like Switzerland, Japan, Iceland and New Zealand acquired some necessary articles through their earnings from agricultural exports. These articles helped those countries to achieve higher rate of economic growth.

2.4 Measurement of Product or Output Contribution of Agriculture

An increase in the net output of agriculture represents a rise in the products of the country. This is simply because the latter is the sum of the increases in the net products of the several sectors. This is called product contribution of agriculture. We shall examine this contribution to growth of total net or gross output only and not to the growth of per capita output.

We begin with the following notations :

P_a = product of agriculture (A sector).

P_b = product of all other sectors (non-A sector)

P = total product = $P_a + P_b$

δp = increment in total product

r_a = rate of growth of P_a so that $P_a^1 = P_a^0 (1 + r_a)$, the superscripts referring to time. In general, $P_a^n = P_a^0 (1 + r_a)^n$.

r_b = rate of growth of P_b so that $P_b^1 = P_b^0 (1 + r_b)$

Then $\delta p = P_a r_a + P_b r_b$ (1)

The equation for the share of the growth of agricultural product in the growth of total product is given by :

$$\frac{P_a r_a}{\delta p} = \frac{1}{1 + \left(\frac{P_b}{P_a} \times \frac{r_b}{r_a} \right)} \text{ (2)}$$

For example, suppose, at the initial point of time, the share of agriculture in country's total product is 60 per cent i.e., $\frac{P_a}{P} = 0.6$ and $\frac{P_b}{P} = 0.4$. So,

$\frac{P_b}{P_a} = \frac{0.4}{0.6} = \frac{2}{3} = 0.67$. Further suppose that over the next decade the rate of growth of the non-A sector (i.e., r_b) is four times as high as that of the A-sector (i.e., r_a).

Then, $\frac{r_b}{r_a} = 4$. Putting these values in equation (2) we get the product contribution of agriculture to the growth of total product. It is given by,

$$\frac{1}{1+0.67 \times 4} = \frac{1}{1+2.68} = \frac{1}{3.68} \text{ or about a quarter } \left(= \frac{1}{4} \right).$$

At the end of that decade, the initial share of agriculture in total product will be less than 60 per cent.

If $\frac{r_b}{r_a}$ remains four, then in the following decade, the product contribution of agriculture to growth of total product will be less than a quarter or one-fourth. This point may be elaborated in the following manner.

There is a direct relation between the rates of growth of product in the non-A and A sectors (r_b/r_a) and the movement of the ratio of the product of the A sector to the total (i.e., P_a/P). This can be expressed by the following equation :

$$\frac{(1+r_b)}{(1+r_a)} = \frac{P_a^0}{P_b^0} \left(\frac{P_a^1}{P_a^0} - 1 \right) \dots\dots\dots (3)$$

For example, suppose, at the time point 0, the first ratio in the right-hand side of equation (3) is 1.5. This means that the shares of the A sector and the non-A sector in total product are 60 and 40 per cent respectively. Now, suppose that over the next decade the share of the A sector drops to 55 per cent. Then the value on the right-hand side becomes $1.5 \left(\frac{1}{0.55} - 1 \right)$ or 1.23. Then, if the rate of growth for agriculture is 10 per cent per decade, $(1+r_a)$ becomes 1.10. Then $(1+r_b)$ becomes 1.35 i.e., the rate of growth for the non-A sector is 35 per cent per decade, or 3.5 times as high as that of the A sector. When the share of agriculture drops from 30 to 25 per cent, the right-hand side of equation (3) becomes :

$$\frac{0.30(4-1)}{0.70} \text{ or } 1.29$$

If $(1 + r_a)$ is still 1.10, $(1 + r_b)$ becomes 1.42 i.e., the rate of growth for the non-A sector is 42 per cent per decade, or 4.2 times as high as that of the A sector. Likewise, if we lower the rate of growth in agriculture, and set $(1 + r_a)$ at, say, 1.05, then the rate of growth for the non-A sector will be even higher compared to the growth rate of A sector ($r_a = 0.05$ or 5 per cent).

Let us back to equation (2). Several conclusions can be derived from this equation.

(i) So long as the rate of growth of the non-A sector is higher than that of agriculture, other things remaining the same, the proportional contribution of agriculture to the growth of total product will decline. The only component in equation (2) that might prevent such a decline is the ratio r_b/r_a . A decline in it might counteract the effect of the rise in P_b/P_a .

(ii) If r_b/r_a rises, i.e., if the rate of growth of the non-agricultural sector is increasingly higher than that of agriculture, the decline in the share of agriculture in the growth of total product would be even greater.

(iii) Let us assume that the rate of growth of countryside product is constant over time. We also assume that r_b/r_a is greater than 1, i.e., the rate of growth of the non-agricultural sector is higher than the rate of growth of agriculture. Then either r_b or r_a , or both, must decline over time. This is because if they remain constant, the increasing weight of P_b (enjoying a higher rate of growth) will make for an 'acceleration' in the rate of growth of total product.

2.5 Measurement of Market Contribution

A given sector makes a contribution to an economy when it provides for other sectors to emerge, or for the economy as a whole to participate in international transactions. Kuznets designated this contribution the market type because the given sector provides such opportunities by offering part of its product on either domestic or foreign markets in exchange for goods produced by the other sectors, at home or abroad.

Agriculture makes a market contribution to economic growth in the following two ways :

- (i) purchasing some production items from other sectors at home or abroad ;
- (ii) selling some of its products to pay for the purchases listed under (i) and to purchase consumer goods from other sectors or from abroad, or to dispose of the product.

In all these ways, agriculture helps other sectors to grow and international flows to develop. In turn, these other sectors and the international flows help the agricultural sector to operate more efficiently as a producing unit and also as a consuming unit.

We now turn to the increase in the proportion of agricultural net product which is not consumed within agriculture. The surplus net product is sold on the markets in which agriculture trades with other sectors of the economy or abroad. This trend is largely due to a rise in net product per worker within agriculture and low income elasticity of demand for agricultural consumer goods. However, it may also reflect technical progress which reduces costs and facilitates transportation and trade over wide areas. The contribution of agriculture to economic growth in this case is the release of a larger proportion of its net product as basis for demand for consumer goods from other sectors in the economy and from foreign countries.

Some suggestions of the magnitude of such marketisation of the net product of agriculture can be made. We make two alternative suggestions. **First** we assume that consumption of agricultural net product per worker is the same in both the A and non-A sectors, in spite of the large difference in their per capita income. Now, suppose that the share of the A sector in net national product is 60 per cent and in the labour force 75 per cent. Then the per capita consumption of agricultural net product throughout the economy will be 0.6 (in percentage of net national product). The consumption by the agricultural population of its own product = 75 per cent \times 0.6 = 45 per cent of national product. Their consumption of other goods will be 15 per cent (i.e., 60 per cent of total net product minus 45 per cent represented by agricultural product). Let us further assume that all the non-agricultural final products goes through the market. Then the total market net product is 55 per cent of net national product. Of this, 15 per cent is the agricultural final product. The contribution of agriculture to total net product is then over a quarter. It is clear that

as the shares of agriculture in national product and in labour force decline, its proportional contribution to the growing marketed net product will decline. Thus, when the share of agriculture in the national product is down to 15 per cent, and in the labour force correspondingly down to 26.1 per cent, the marketed portion of agricultural net product will be 11.1 per cent of national product. The total marketed portion will be 96.1 per cent (i.e., 85 per cent non-agricultural output plus 11.1 per cent agricultural output). Thus, the proportional contribution of agricultural marketing to total will be about a ninth (i.e., 11.1 per cent) rather than over a quarter.

We now make an alternative assumption. We assume that the distribution of final consumption or net national product between agricultural and non-agricultural products for both agricultural and non-agricultural populations is the same. Thus, at the initial point of time, the share of agriculture in the net national product is 60 per cent. Then the agricultural population would consume only 60 per cent of its net income in the form of agricultural products (i.e., 36 per cent). The remainder (i.e., 24 per cent of the net national product) will be traded to the people dependent upon the non-agricultural sector. The total marketed product would be 64 per cent of the net national product (40 per cent represented by non-agricultural output, all marketed, and 24 per cent by the marketed agricultural output). Agriculture's contribution to it will be 24 out of 64 or close to 37 per cent. On our assumption, when the share of agriculture in national product falls to 50 per cent, half of the agricultural output will be traded, i.e., 25 per cent of total product. It is a slightly higher percentage than in the first instance, a lower share of the total marketed output (which will be 75 per cent < 96.1 per cent).

2.6 Measurement of Factor Contribution

If agriculture transfers resources to other sectors, it makes a factor contribution. The resources are either (i) capital, or (ii) funds for financing capital goods or (iii) labour. In the case of capital, two different types of transfer may occur. **First**, there is a compulsory transfer from agriculture for the benefit of other sectors. This is generally done through taxation. In this case, the burden on agriculture is far greater than the services rendered by government to agriculture. For example, the government may use a tax on agriculture and spend the tax revenue as a subsidy to

manufacturing industry or use it all in the construction of some infrastructure or social overhead capital. In the early phase of economic growth, this was done in Japan. During the last two decades of the nineteenth century, the land tax in Japan was over 80 per cent of central government taxation. In the Soviet Union, there was forced extraction of surplus from agriculture in order to finance the programme of industrialisation. In modern economic growth, one of the crucial question is how to extract the agricultural surplus product for capital formation needed for industrial growth.

The second form of capital transfer is lending, or the utilisation of savings originating in the agricultural sector in order to finance the growth of the non-agricultural sector. In the initial phases of growth, the share of agriculture in total national product is large, but the per capita income in this A sector is far lower than that in the non-A sector. Hence, the share of domestic savings originating in agriculture is a function of the share of agriculture in total income, the lower level of real income in agriculture than in the other sectors, and the relative propensity to save of the population in A sector. Let us suppose that the share of the A sector in income is 60 per cent, in labour force it is 75 per cent. We further assume that propensity to save of the A sector is 5 per cent which is half of that of the non-A sector with a saving propensity of 10 per cent. Total domestic savings would then be equal to 7 per cent of national income (3 per cent originating in the A sector and 4 per cent originating in the non-A sector i.e., $0.60 \times 0.05 + 0.40 \times 0.10 = 0.03 + 0.04 = 0.07$). Kuznets argues, whether or not these will be a flow of savings from the A sector to finance capital formation in the non-A sector will be revealed by a comparison of two fractions. The **first** is the ratio of additions to product of the A

sector to additions to the total product of the economy i.e., the ratio $\frac{P_a r_a}{P_a r_a + P_b r_b}$

where suffix a and b are A sector and r non-A sector, P represents total product and represents rate of growth. The **second** fraction is the ratio of saving originating in

agriculture to aggregate savings in the economy i.e., the ratio $\frac{S_a}{S_a + S_b}$ where S

represents the size of savings. Now, we have assumed that the net savings rate is 7 per cent. We further assume that national product grows at a rate 3 per cent per year

(or, 34.4 per cent per decade). It implies an incremental capital output ratio of 2.3 to 1 (i.e., $7 \div 3 = 2.3$). Also assume that the rate of growth of the product of the non-A sector is four times that of the product of the A sector. Then the 'needed' capital formation in the A sector will be only 27 per cent of total capital formation needed, whereas savings originating in agriculture are 43 per cent of total savings. Hence there will be a flow of savings originating in the A sector into capital formation in the non-A sector. It accounts for 16 out of 73 per cent or somewhat less than a quarter of the savings of the non-A sector. The example is purely illustrative. It however brings out the variables that would have to be measured in empirical study.

We now turn to the third type of factor contribution made by agriculture to the economic growth of a country, namely, the provision of labour. The transfer of labour from the A sector to the non-A sector in the process of modern economic growth has become quite familiar (specially after the publication Lewis model and Nurkse's discussion on disguised unemployment as a saving potential). Let us see how far agriculture can provide labour to non-A sector. At the initial point of time, the share of the A sector in the labour force was 75 per cent. We now set the crude birth rate for the agricultural population at about 40 per thousand. For the non-agricultural sector it is about 27. If we set the crude death rate at 20 per 1,000 for both groups, the rate of natural increase for the labour force for the two sectors will be 20 and 7 per 1,000 respectively. Thus, the rate of growth of agricultural labour force, due to its higher rate of natural increase, is almost 3 times that of the non-agricultural labour force. Incidentally, on these assumptions the rate of natural increase for total population works out at 16.75 per thousand [Rural population = 75%. Urban population = 25%. So, the overall rate of natural increase = $20 \times 0.75 + 7 \times 0.25 = 15.0 + 1.75 = 16.75$ per thousand.]

The transfer of workers from the A sector to the non-A sector means a sizeable capital contribution. This is because each migrant is of working age and represents some investment in past rearing and training to maturity. What is the magnitude of this in human beings? Various data indicate that every worker migrating from the A sector embodies investment equal to ten times the current product per worker in the A sector. Thus, transfer of working labour from the A sector to the non-A sector represents a considerable amount of capital contribution.

2.7 Problems in the Measurement of Agricultural Contributions

We know that agricultural sector can make three types of contributions towards economic development of a country. These are : output or product contribution, market contribution and factor contribution. However, there are some difficulties in the measurement of these contributions. In brief they are as follows :

First, any sector is a part of an interdependent system represented by the country's economy. Hence, what a sector contributes is not fully attributable or credited to it but it is dependent on what happens in the other sectors. As a result, the contribution of one particular sector cannot be accurately separated out.

Secondly, while considering the factor contribution of agricultural sector in the form of agricultural product, we talk of taxation of the sector or compulsory requisitioning of agricultural product. The measurement of such forced contributions of agriculture to economic growth is not easy. The incidence of some indirect taxes is difficult to ascertain. The allocation of government expenditures in terms of benefits to agriculture and to economic growth elsewhere is far from simple.

Thirdly, one form of capital transfer from agriculture to industry is lending, or the utilisation of savings originating in the agricultural sector in financing the growth of the non-agricultural sector. However, calculation of this contribution requires data both on savings and capital formation, both in agriculture and in other sectors of the economy. But such data are not generally available.

Fourthly, we consider the domestic saving supplied by agricultural sector to the non-agricultural sector. However, there may be capital imports financed by agricultural exports. Such capital imports are very important in the early phases of economic growth. In fact, such capital imports played a very crucial role in the initial growth of Canada, Australia and Scandinavia. However, in such cases, contribution of the agricultural export earnings cannot be singled out.

Fifthly, while considering the contribution of agriculture in supplying labour to non-agricultural sector, we generally talk of internal or domestic migration. However, there may be migration of labour from agricultural sector in one country to non-agricultural sector in another country. These aspects of the factor contribution of the A-sector of a country is very difficult to deal with.

2.8 Summary

Agriculture makes three major contributions to the economic growth of a country. These are : product or output contribution, market contribution and factor contribution. If agriculture itself grows, it makes a product or output contribution. If the agricultural sector trades with others, it renders a market contribution. If agriculture transfers resources to other sectors, these resources being productive factors, it makes a factor contribution. However, there are some difficulties of measuring these contributions.

2.9 Exercise

Short Answer Type Questions

1. What is market contribution of agriculture?
2. Define product contribution of agriculture.
3. What is factor contribution of agriculture to economic growth?
4. Define output contribution of agriculture.

Medium Answer Type Questions

1. What are the major contributions of agricultural sector towards economic development of a country?
2. Briefly mention the difficulties of measuring different contributions of agriculture to non-agriculture sector.

Long Answer Type Questions

1. Briefly explain the method of measurement of product or output contribution of agriculture to economic growth.
2. Write a short note on the measurement of market contribution of agriculture.
3. Discuss the different types of factor contributions of agriculture and illustrate with suitable examples how they can be measured.

2.10 References

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Unit - 3 □ Theory of the Role of Agriculture in Economic Development

Structure

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3.6 Summary

3.7 Exercise

3.8 References

3.1 Objective

After studying the Unit, students will be able to know

- Different types and measures of disguised unemployment
- the Role of disguised unemployment as potential saving
- the process of economic development with surplus agricultural labour and problems associated with it
- the need for balance between agriculture and industry

3.2 Introduction

Most of the underdeveloped countries suffer from high population pressure. There is huge disguised unemployment in the agricultural sector. Nurkse and Lewis have separately shown how this surplus labour may be utilised for capital formation in the urban or industrial sector. They have also mentioned some problems associated with this process. In the present Unit, we shall consider Nurkse's analysis on the utilisation of surplus labour and Lewis model of economic development with unlimited supplies of labour. In Lewis model, the transfer of surplus labour from agriculture to industry involves a problem. There is a tendency of the industrial wage to rise. This leads to a fall in investible surplus and slowing down of the process of capital formation. Ranis and Fei agree that this problem can be avoided if there is a balanced growth between agriculture and industry. We shall discuss the Ranis-Fei model also in the present Unit.

3.3 Disguised Unemployment in Agriculture

3.3.1 The Concept

Strictly speaking, the term 'disguised unemployment' refers to those surplus workers whose marginal productivity is zero, given the technique of production and the stock of productive resources. In other words, disguised unemployment means those excess or surplus workers whose contribution to total product is nil i.e., who do not contribute anything to total product. If those workers are withdrawn from the production process, other things remaining the same, total output will not fall. Nurkse claims that underdeveloped countries suffer from large scale disguised unemployment, particularly in the case of their family farming type of cultivation. This means that, with unchanged technique of production, a large part of the labour force engaged in agriculture in such economies can be removed without reducing agricultural output. We may mention in this context that disguised unemployment may exist not only in the agricultural sector but also in some jobs in the urban sector of an economy. However, disguised unemployment is most common in the agricultural sector of an overpopulated underdeveloped economy.

The term 'disguised unemployment' was originally used in Economics by Joan Robinson. She used the term to describe the situation of labour market i.e., the situation of employment in an advanced capitalist economy which has faced depression due to lack of effective demand for goods and services. In this case, the term disguised unemployment has been used in cyclical sense. In an advanced capitalist economy facing depression, a labour is said to be disguisedly unemployed if he is absorbed in an employment not up to the standard of his skill and knowledge. Here, disguised unemployment occurs in the downswing of the trade cycle in a developed economy. Thus, Mrs Robinson used the term disguised unemployment in cyclical sense.

However, disguised unemployment in a less developed overpopulated economy is not cyclical but structural in nature. Prof Nurkse used the term disguised unemployment to describe the employment situation in the agricultural sector of an overpopulated underdeveloped economy. He argues that disguised unemployment is very likely to occur in the case of agriculture under family farming. It may be

mentioned in this context that the concept of disguised unemployment was introduced into development economics by Rosenstein-Rodan. In his famous article, '*Problems of Industrialisation of Eastern and South-Eastern Europe*', Rodan talked of disguised unemployment. The concept was later elaborated by Ragnar Nurkse in the context of the problems of capital formation in an underdeveloped economy and to describe the employment situation in the agricultural sector of an overpopulated underdeveloped economy in which family farming is the most common practice.

3.3.2 Types and Measurement of Disguised Unemployment

The term 'disguised unemployment' may be loosely defined as that state of labour employment into the production process where the marginal product of labour is zero. According to this definition, even if these workers are withdrawn from the production process, total product will not fall. Such type of unemployment is quite common in the agricultural sector of an overpopulated less developed economy.

Now, the concept of disguised unemployment, as it is generally defined, raises some questions. The first question is, how workers can survive if their marginal product is zero, or even positive but less than the subsistence level? The second question is, who will employ such labour whose contribution to total product is zero? In other words, if marginal product or contribution to total product of a labour is zero, then why is that labour employed at all? The third question is, will output in the subsistence sector really remain unchanged if a substantial number of labour migrates from the agricultural sector? In short, the question is, what precisely is meant by the term 'disguised unemployment'? How can we measure it?

The term disguised unemployment may be interpreted in three possible ways. We consider these interpretations in the figure below (figure 3.1). In this figure, we measure the number of workers along the horizontal axis, and marginal product of labour (MP_L) and wage rate along the vertical axis. Let OW_0 be the subsistence wage rate. We assume that the subsistence wage rate is fixed and given. So, it can be represented by a horizontal straight line. Let W_0W_1 be the subsistence wage line. In the diagram we have also drawn the MP_L curve of labour. We assume that if more and more of labour is employed, other things remaining the same, the marginal product of labour will diminish (i.e., there will be diminishing returns). So the MP_L

curve in our figure is downward sloping. Let OL_f be the actual number of workers employable. We may regard it as the total supply of employable workers. Let us consider the three possible interpretations of the term disguised unemployment.

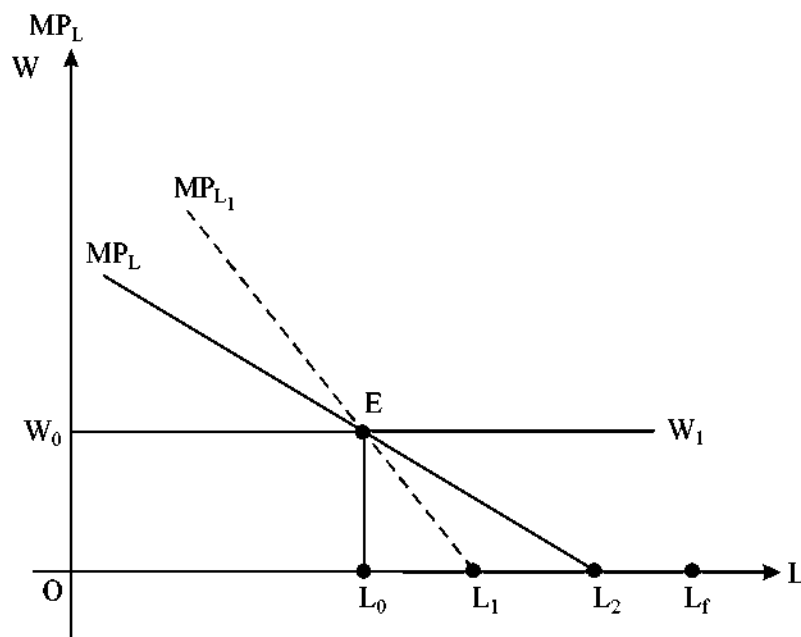


Fig. 3.1 Number of workers

First, we assume that the producer wants to maximise profit. Now, in our diagram, profit will be maximum if two conditions are fulfilled. (i) $MP_L =$ subsistence wage and (ii) MP_L is diminishing. These two conditions are fulfilled at point E. So, E is the profit-maximising point. From the figure we see that if OL_0 amount of labour is employed, then profit will be maximum. According to **one** measure, the volume of disguised unemployment is equal to the difference between total employable workers (OL_f) and profit-maximising level of employment (OL_0). Thus, $L_fL_0 (= OL_f - OL_0)$ is the volume of disguised unemployment. As per this measure, the gap between the number of workers available for work and the amount of employment which equates the marginal product of labour with the subsistence wage is the number of disguisedly unemployed workers.

There is **second** possible measure of disguised unemployment. In this measure, the gap between the actual number of workers available for employment and the

level of employment at which the marginal product of labour is zero, may be regarded as the volume of disguised unemployment. In our figure, total available labour force is OL_f while MP of labour is zero if employment is equal to OL_2 . Thus, as per the second measure, difference between OL_f and OL_2 i.e., L_fL_2 is the volume of disguised unemployment. This surplus labour ($= L_fL_2$) is sometimes referred to as the static surplus, as here the technique of production is assumed to remain unchanged or static. In most cases, the concept of disguised unemployment is loosely used in this sense (i.e., static surplus labour). It may be noted that the volume of disguised unemployment in the static measure ($= L_fL_2$) is less than that in the profit-maximising employment ($= L_fL_0$), that is, $L_fL_2 < L_fL_0$.

There is a **third** measure of disguised unemployment. In this measure, disguised unemployment is the difference between the actual number of workers available and the level of employment at which the marginal product of labour would be zero if there were some changes in the production technique which enabled to produce the same level of output with fewer workers. In our figure, the change in production techniques is represented by pivoting the marginal product curve to MP_{L_1} . Previously, total output was maximum at the employment level OL_2 where MP of labour was zero. Now, after the change in production technique, the same maximum output is produced if labour employment is OL_1 . Thus, we see that due to change in production technique, now a smaller number of workers can produce the same maximum level of output ($OL_1 < OL_2$). The volume of disguised unemployment is now measured by the difference between OL_f and OL_1 . That is, disguised unemployment is now equal to L_fL_1 . This is sometimes referred to as the dynamic surplus as here production technique is assumed to be dynamic.

Let us take the static measure of disguised unemployment. Simply speaking, this means that labour will be treated as surplus if its marginal product is zero. Our question is : how can we ascertain that there surplus labour (or disguised unemployment) in the agricultural sector of an economy? There are three main ways of ascertaining whether surplus labour exists in the sense that marginal product of labour is zero.

The **first**, way of ascertaining the existence of surplus labour is like the following. In this case, we examine instances where agricultural labour force has

substantially reduced, either due to migration to urban projects or due to illness, and observe whether agricultural product has fallen or not. If the volume of agricultural output has actually fallen, we shall say that there is no disguised unemployment (Fall in output due to fall in employment of labour implies positive marginal productivity of labour i.e., no disguised unemployment). This method was followed by Schultz in the context of Indian agriculture. He examined the effect of the influenza epidemic in India in 1918-19. As a result of this epidemic, about 8 per cent of agricultural labour force of India were killed. Schultz found that in the following year, acreage and total agricultural output declined in India. Hence he concluded that surplus labour or disguised unemployment did not exist in Indian agriculture in 1920.

Shakuntala Mehra, however, did not accept the view of Schultz. She criticised Schultz's view. She argues that Schultz failed to distinguish between the summer season and the winter season of the year following the epidemic. Mehra has shown that summer production which just followed the epidemic did not decline. Further, the decline in agricultural output in 1919-20 as found by Schultz was entirely due to a reduction in the winter crop which could have been due to a low rainfall. Hence it is not correct to conclude, as Schultz did, that there was no disguised unemployment in Indian agriculture in the year 1920.

There is a **second** method of estimating the static surplus labour. This method takes the difference between labour available and labour required to produce the current level of agricultural output with a given state of technology.

Again, there is a **third** method to ascertain whether there is static surplus labour or not in the agricultural sector. This method first estimates the agricultural production function and then tests whether the elasticity of output with respect to labour (or the MP of labour) is significantly different from zero or not. If the elasticity of output with respect to labour (or with respect to the MP of labour) is significantly different from zero, we shall conclude that there is no surplus labour or disguised unemployment. On the other hand, if this elasticity is not significantly different from zero, we shall say that there is surplus labour or disguised unemployment. This approach, however, only tells us whether there is surplus labour or not. It does not measure the magnitude or quantum of surplus labour or disguised unemployment.

Now, to measure marginal product of labour and the extent of disguised unemployment in agriculture, we should make important distinctions. The first distinction we should make is to distinguish farms which hire labour and farms which do not hire labour. The second distinction to be made is between harvest time (busy season) and non-harvest time (lean season). Meghnad Desai and Dipak Majumdar have taken a sample of Indian farms to examine whether there is surplus labour or not. They divided the farms into two categories : those using hired labour (i.e., commercial farms) and those not using hired labour (i.e., family farms). They have found that the marginal product of labour on the farms hiring labour i.e., on commercial farms is significantly different from zero. On the other hand, marginal product of labour on the farms not hiring labour i.e., on family farms is not significantly different from zero.

S. K. Nath, while examining the existence of surplus labour in Indian agriculture, has considered the distinction between harvest time and non-harvest time i.e., between busy season and slack season. He argues that busy season labour and slack season labour should be included as separate arguments in the agricultural production function. He has used this approach taking 150 farms in Ferozpur district (Punjab) in India for the period 1867–68. He has found that the marginal product of busy season labour is indeed positive. However, the marginal product of slack season labour is not significantly different from zero.

On the basis of the results of this study we may state that the marginal product of labour on family farms with no hired labour in the slack season may be zero. In this sense, a static surplus labour exists in such farms of Indian agriculture. On the other hand, where agriculture is partly commercialised and in the harvest (busy) season, the marginal product of labour is positive. Hence it indicates that there is no surplus labour or disguised unemployment in static sense in the commercial farms of Indian agriculture. In such commercial farms, a reduction in the agricultural labour force would reduce agricultural output. On the other hand, in the case of family farms, withdrawal of some labour would not reduce agricultural output. In other words, there is surplus labour or disguised unemployment in the family farms of Indian agriculture.

3.3.3 Some Theoretical Issues Related to Disguised Unemployment

The presence of disguised unemployment raises some questions which are contrary to traditional economic theory. We may mention three such questions :

- (i) If labour is unempolyed or otherwise wasted, why is the suitable technique not used to utilise the existing labour force?
- (ii) If the marginal productivity of labour is zero over a wide range, why is labour employed to that extent?
- (iii) Why is the wage rate higher than the marginal productivity of labour?

Let us try to answer these questions one by one. Prof. Eckaus has given an answer to the first question. The question is : why is the suitable technique of production not used to utilise the entire labour force? Eckaus argues that even the most labour intensive technique of production in agriculture requires some minimum amount of capital per unit of labour. There are some technological constraints. These constraints require the use of some minimum amount of capital. As per these constraints, a certain minimum capital labour ratio is to be maintained. Eckaus claims that many underdeveloped countries cannot afford even that minimum amount of capital in order to utilise their entire labour force. Hence, a part of the total labour force remains unutilised.

Prof. A. K. Sen has provided an answer to the second question. The question is on the justification of employment of labour to that extent where its marginal productivity is zero. In order to answer this question, Prof. Sen has made a distinction between labour and labourer. He argues that it is not the case that too much labour is spent in the production process. The case is that too many labourers perform the job. When disguised unemployment exists, the MP of labour is just equal to zero at the margin, but the marginal productivity of labourer is zero over a range. A. K. Sen argues that labour in an underdeveloped country is not employed beyond the point where its MP falls to zero. However, labourers in an underdeveloped economy can be employed beyond the point where the marginal productivity of labourer is equal to zero. The whole argument of Prof. A. K. Sen may be presented with the help of a diagram.

In our figure 3.2, we have plotted the TP curve measuring labour hour along the horizontal axis and TP along the vertical axis. The total product curve (TP) becomes

horizontal if the amount of labour hour is employed beyond OH_0 . So, beyond the point H_0 , marginal productivity of labour is zero. A. K. Sen argues that labour is not applied beyond this point H_0 , i.e., beyond the labour hour OH_0 . Now, OH_0 amount of labour hours can be applied by employing different numbers of labourers. In our figure, we measure the number of labourers vertically from O downwards. Now, if OL_1 number of labourers are employed, each labour puts $\frac{OH_0}{OL_1}$ or $\tan \beta$ hours of work. Similarly, if OL_2 number of labourers are employed, each labour puts $\frac{OH_0}{OL_2}$ or $\tan \alpha$

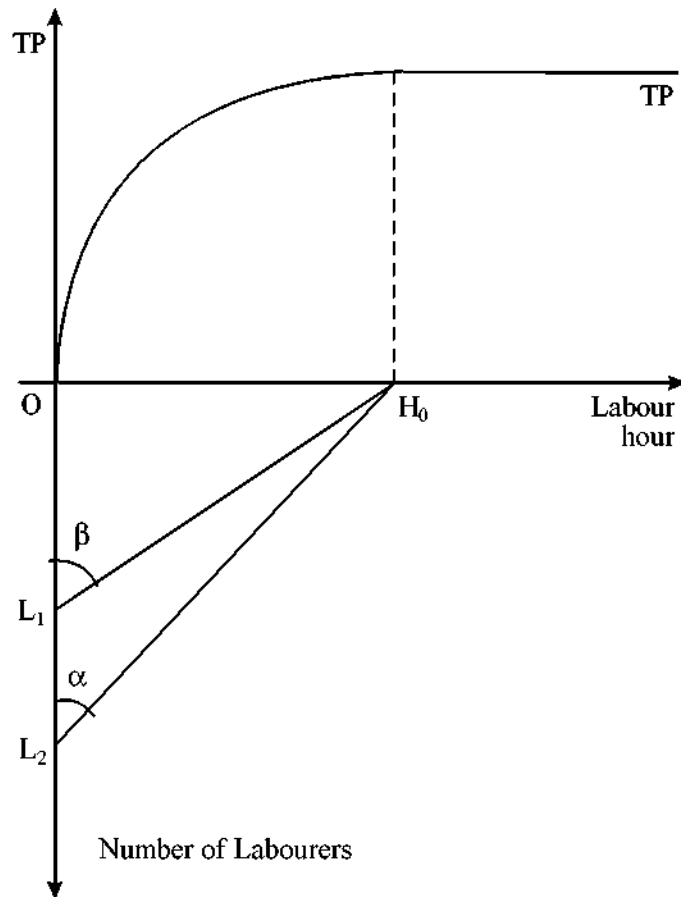


Fig. 3.2

hours of work. Let us suppose that $\frac{OH_0}{OL_1}$ or $\tan \beta$ represents the normal length of a working day. Then L_1L_2 amount of labourer may be regarded as surplus. This L_1L_2 amount represents the size of disguised unemployment in this case. Thus, while the marginal productivity of labour is zero at point H_0 , the marginal productivity of labourer is zero over the range L_1L_2 . Hence, L_1L_2 measures the volume of disguised unemployment. Thus, A. K. Sen argues that in the agricultural sector of an overpopulated underdeveloped economy, it is not the case that too much labour is spent in the production process; rather the case is that too many labourers perform the job.

We now consider the third question. The question is : why is the wage rate higher than the marginal productivity of labour? In other words, even if marginal productivity of labour is zero, why is wage rate positive? Georgescu-Rogen has explained this paradoxical or apparently contradictory phenomenon. He argues that in a peasant economy, agriculture is organised on the basis of family farming. This means that all the members of the family are engaged in agricultural activities. Under the system of family farming in a peasant economy, employment is not determined by the principle of profit maximisation, but by the principle of output maximisation. In a peasant economy, there is no alternative employment opportunity all of the members of a farm family. Hence, all the members remain in the firm. Thus, all the members are absorbed in the family farm, however small be the firm. Under this situation, the family farm will try to maximise total output, not total profit.

Georgescu-Rogen argues that neither capitalism nor socialism is an efficient institution in an overpopulated agriculture. Under capitalism, the goal is to maximise profit. Now, for profit maximisation, labour will be employed up to the point where

- (i) Marginal productivity of labour is equal to the real wage rate, and
- (ii) Marginal productivity of labour is diminishing.

Assuming the MP of labour is falling due to diminishing returns, labour will be employed up to the point where $MP_L = \text{real wage rate}$. In that case, a portion of labour will remain idle and total agricultural output will not be maximum. According to Georgescu-Rogen, feudalism provides an institutional framework for maximising agricultural output. Under feudalism, the feudal lord employs all his attached or bonded labour. Even if these attached labourers are not employed, they are to be given subsistence wage by the feudal lord. Hence, all the attached labourers are employed and agricultural output is maximised.

Georgescu-Rogen points out that today feudalism has been replaced by individual peasant holdings. Here employment is carried up to the point where marginal productivity of labour is zero and total agricultural output is maximised. The whole argument may be clarified with the help of a diagram.

In our figure 3.3 below, we have measured labour along the horizontal axis and MP_L and real wage along the vertical axis. In this figure we have drawn a marginal productivity of labour curve AL_1 . This curve is downward sloping because of our

assumption of diminishing returns. Now, suppose that the real wage rate is OW_0 . Then a profit-maximising firm will be in equilibrium at E where both the conditions of profit maximisation are fulfilled. The firm will employ OL_0 amount of labour. Total output is then given by the area under the MP_L curve, i.e., total product = area $OAEL_0$. Now, what will a family farm do?

A family farm does not generally use hired labour. It uses the family members. So it will try to maximise total output, not total profit. Now, total output is maximum where $MP_L = 0$, i.e., if the firm employs OL_1 amount of labour. Then total output = Area under the MP_L curve, i.e., area OAL_1 . Thus, in this case, the firm gets extra output equal to the area EL_0L_1 .

Thus, a family farm compared to the profit maximising firm, employs L_0L_1 units of more labour, though their MP is less than real wage. Even if these workers are not employed, they will consume in the family. If we assume that OW_0 is the subsistence level of consumption, then total consumption of this extra L_0L_1 amount of labour is given by $OW_0 \times L_0L_1 = \text{area } EBL_1L_0$. They will consume this much, no matter whether they are employed or not on the farm. Hence, it is better for the family to employ them and thus to get extra output equal to the area EL_0L_1 from their employment. Thus, at least a part of the total consumption of this extra labour ($=L_0L_1$) can be recovered ($=EL_0L_1$) if the farm tries to maximise total output and not to maximise total profit. Hence, a family farm will maximise total agricultural output.

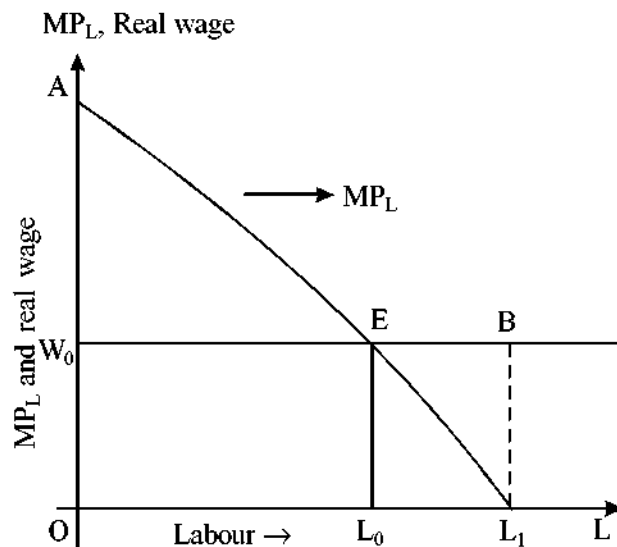


Fig. 3.3

3.3.4 Nurkse's Discussion on Disguised Unemployment as Potential Saving

According to Prof. Ragnar Nurkse, the presence of disguised unemployment in an economy represents sufficient amount of potential savings. This surplus labour may be used for capital formation in an underdeveloped economy. He has discussed how the potential saving in the form of surplus labour in the rural sector can be

utilised in capital projects of the urban sector. This discussion is based on the following assumptions :

1. Surplus workers are withdrawn from the agricultural sector and are engaged in the capital projects. Such projects are road construction, digging of irrigation canals, bridge construction, etc. These works are highly labour intensive and require very little amount of fixed capital. These capital projects are social overhead capital or social infrastructure. This capital attracts private investment and helps in economic development.

2. Surplus workers are transferred from the agricultural sector to the capital projects in the urban sector. With them, foodgrains which they used to consume in the agricultural sector, are also transferred to the urban sector.

3. Consumption level of the workers who are transferred to the capital projects, remains the same at the previous level.

4. Consumption level of the productive workers who remain in the agricultural sector, does not also increase when unproductive workers leave the farms.

Following Nurkse, we shall now see how disguised unemployment of the agricultural sector may act as a potential saving. Marginal productivity of the disguisedly unemployed workers is zero. Such workers do not contribute anything to total product. So they may be called unproductive workers. On the other hand, productive workers in the agricultural sector produce more than their consumption. So, they perform virtual saving. However, this saving is consumed up by the disguisedly unemployed workers. Thus, the saving of the productive workers is wasted in feeding the surplus workers. Now, suppose that the productive workers send their dependants to work on capital projects in the urban sector. Also suppose that the productive workers continue to feed them as before. Then the virtual saving of the productive workers would become 'effective saving'. The surplus labour would now produce some social capital in the urban sector. So, the unproductive consumption of the surplus agricultural workers would now become productive consumption. Hence Nurkse claims that the existence of disguised unemployment implies, at least to some extent, a disguised saving potential.

It may be noted in this case that the employment of disguised unemployment in the capital projects will be self-financed. The transfer of surplus labour from rural

to urban sector can be financed from within the system. The productive labourers left in the agricultural sector need not consume less than before. The transferred workers also need not consume less than before. Only the productive workers of the agricultural sector should continue to feed their dependants who leave the farm and go to the urban sector to work on the capital projects. Another requirement is that the consumption level of all types of workers remains the same. If these two conditions are fulfilled, then the use of disguised unemployment can be financed from within the system itself.

The argument which we have presented above is only a theoretical possibility. There are some practical difficulties to mobilise the concealed saving potential in the form of food surplus. If the mobilisation of surplus foodgrains is hundred per cent successful, then and only then we can say that the process of capital formation through surplus labour is self-financing. In practice, however, it is not possible to mobilise the entire food surplus. There are some **leakages** in the process of mobilisation of surplus food. In brief, they are as follows :

The **first** difficulty arises if the productive workers left in the agricultural sector begin to consume more than before. The same difficulty will arise if the surplus workers who are transferred to the capital projects in the urban sector, begin to consume more than before. In either case, there will be a shortage of food. Then the process of capital formation will be hampered as it will not be fully self-financed. The increased consumption propensity of the workers makes a leakage from the saving potential.

Secondly, there is a cost of transportation of food from rural to urban sectors. This is another leakage in the form of cost of transporting food from farms to capital projects.

The **third** difficulty is concerned with the method by which the concealed saving in the form of surplus food is to be realised. There will be no automatic release of surplus food previously consumed up by the surplus workers in disguise. It is also very difficult to prevent the productive workers left in the agricultural sector from consuming more than before. It is also very difficult to impose indirect taxes only on them. Hence, some form of direct taxes must be imposed.

The question is, what type of direct taxation is to be imposed? We may get some

suggestion from history. One course of action may be the path followed by Japan. In Japan, in order to mobilise agricultural surplus, land rent was increased and then rent income of the landlords was taxed heavily. Another course of action may be to tax the farmers in kind. Alternatively, there may be compulsory requisitioning of foodgrains by the government from the farmers. This was done in the erstwhile USSR through collective farms. Another path may also be followed. The prices of industrial products may be kept relatively higher than those of the agricultural products. In other words, this means that the sectoral terms of trade may be deliberately kept in favour of the industrial sector or against the agricultural sector. In all these cases, the agricultural sector will be forced to supply more foodgrains to the industrial sector for a given amount of industrial product.

Our discussion indicates that some coercive measure on the part of the state is necessary in order to mobilise the surplus food or the potential saving of the disguised unemployment. This surplus should be utilised to develop the industrial sector of an underdeveloped economy. Disguised unemployment will then help in the process of capital formation in a less developed economy.

Critical evaluation

Nurkse's concept of disguised unemployment as concealed saving potential has created a considerable controversy. There are many objections against this concept. Some of these objections are mentioned below :

1. Nurkse assumes that the propensity to consume of both types of workers (productive workers in the agricultural sector and surplus workers left for capital projects) remains the same. K. K. Kurihara makes an objection against this assumption. He argues that the standard of living of the people in underdeveloped countries is very low. So, when their income rises, they will try to satisfy their unfulfilled demands. Hence, their propensity to consume will rise. In that case, there will be shortage of food.

2. Schultz argues that the transfer of surplus labour from the agricultural sector to the capital projects in the urban sector will reduce agricultural output. If agricultural output falls, there will be more shortage of food.

3. To speed up industrialisation, machine producing industries should be given the priority. But surplus agricultural labourers are unskilled. They cannot be employed

in such sectors. They can only be employed in the construction of roads, viaducts, canal digging, etc. Now, if these surplus labourers are to be given suitable training in order to make them skilled, that also involves some cost. In that case, the shortage of food will further increase.

4. Disguisedly unemployed workers are not mentally prepared to leave their native places and to work at new, unknown places. They are attached to their native place and their relatives. In this situation, it is very difficult to mobilise surplus labour of the agricultural sector. Further, they are generally unwilling to work in a routinised manner. Again, they are mentally attached to various social customs and traditions. For all these factors, it is very difficult in practice to mobilise surplus labour of the rural sector and to employ them in the capital project of the urban sector.

5. The process of transfer of surplus agricultural labour to the urban capital projects may lead to inflation and balance of payments problems. When the newly employed workers in capital projects will be paid wages, their demand for consumer goods will rise. However, the supply of consumer goods will not immediately rise. As a result, price level will increase, i.e., inflation will take place. This will encourage imports and discourage exports. Hence, there will be an unfavourable effect on the balance of payments of underdeveloped countries.

6. The mobilisation of surplus food of the agricultural sector requires some coercive measures on the part of the state. Hence, many think that the Nurksian scheme of mobilisation of food surplus can be successful only under a totalitarian state. However, most of the underdeveloped countries have a democratic set up. The Nurksian scheme has a very little chance of success in such economies.

Thus, the argument of disguised unemployment as a source of capital formation seems to be a theoretical possibility. There are many practical difficulties to apply it into reality. To mobilise surplus food in the agricultural sector in order to feed the industrial workers, some coercive measures on the part of the state are necessary. It is very difficult to apply these measures in an economy with democratic set up. These coercive measures of the state may create disturbances in the rural economy and may jeopardise the overall growth process of the country. It appears that Prof. Nurkse has overlooked these practical problems and has concentrated mainly on the theoretical aspect of the problem. A more sophisticated discussion on the utilisation

of surplus labour of the agricultural sector in the capital projects of the urban sector has been made by Prof. Arthur Lewis. We shall now turn to this celebrated Lewis model on the process of capital formation by utilising surplus labour of the rural sector.

3.4 Economic Development with Unlimited Supplies of Labour : The Lewis Model

3.4.1 The Theme of the Model

In his celebrated article, “Economic Development with Unlimited Supplies of Labour”, Prof. Arthur Lewis has given a model of economic development for a less developed or underdeveloped economy. The article was first published in *Manchester School* in May, 1954. So this is quite an old article. However, the relevance of this article is equally present even today. In this article Lewis has shown how an underdeveloped economy can develop itself by utilising its surplus labour present in the agricultural sector.

Lewis argues that almost all the underdeveloped economies suffer from high population pressure. These economies are, as it is often said, labour surplus economies. Hence there is a huge amount of surplus labour in the agricultural sector which is mostly the subsistence sector (Lewis has sometimes called it traditional sector also) in such economies. These surplus labourers do not contribute anything to agricultural output. In other words, their marginal productivity is zero, i.e., they are disguisedly unempolyed. (This surplus labour is sometimes referred to as the static surplus). Now, if these surplus labourers are withdrawn from the agricultural sector and are employed in the urban sector (also called capitalist sector or modern sector in Lewis model), industrial output will rise but the agricultural output will not fall. Then total output of the whole economy will rise. Thus, the surplus unproductive workers of the agricultural sector will be able to produce a surplus. If this surplus is reinvested, as Lewis argues, the process of capital formation in the economy will be started, and the process of economic development will begin. Lewis thus claims that the existence of surplus labour in an underdeveloped economy may help in the process of capital formation and thus in economic development of the economy. We shall try to explain the whole argument and the process of capital formation in terms of a model as developed by Arthur Lewis. We start with the basic assumption of the model.

3.4.2 Basic Assumptions of the Model

The Lewis model of economic development with unlimited supplies of labour is based on some assumptions. In brief they are as follows :

1. The economy may be divided into two major sectors : a capitalist or modern sector and a subsistence or agricultural sector. The capitalist sector is defined as that sector which uses reproducible capital and it can produce a surplus. On the other hand, the subsistence sector does not use any reproducible capital, and as the very name suggests, this sector cannot produce any surplus.
2. The supply of labour to the capitalist sector is assumed to be unlimited. Here the term 'unlimited' is used in a technical sense. It implies that the capitalist sector can employ any amount of labour at the existing wage rate. This means that the supply curve of labour to the capitalist sector is perfectly (or infinitely) elastic at a given wage rate, say, OW_0 . Such a labour supply curve has been drawn in the figure 3.4. In this figure, the labour supply curve is W_0L^s when the wage rate in the capitalist sector is OW_0 . If the labour supply curve is of this shape, then if the demand for labour rises, employment will rise but there will be no rise in the industrial wage rate.
3. Capitalists want to maximise their profits. They will reinvest their profit in order to increase their capital stock and profit in the next period.
4. The law of diminishing returns operates in the capitalist sector. This means that as more and more labour is employed in the capitalist sector, technology remaining the same, marginal productivity of labour in that sector will diminish.
5. Wage rate in the agricultural sector is fixed at the subsistence level.

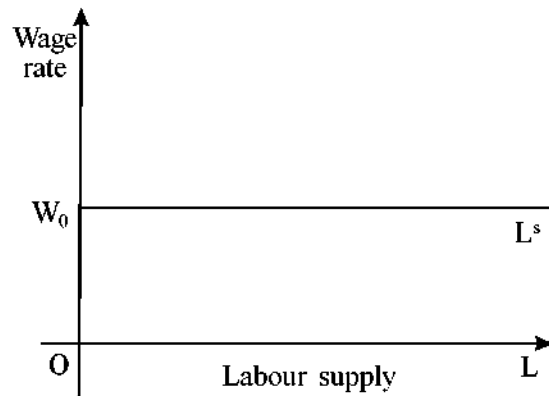


Fig. 3.4

6. Profit or surplus of the capitalist sector is the only source of capital formation.

3.4.3 Sources of Surplus Labour

In the Lewis model, it is assumed that the supply of labour to the industrial sector is unlimited. This means that the industrial sector can employ any amount of labour without any rise in wage rate. Lewis argues that the industrial sector can mobilise labour from various sources. Hence, supply of labour to the industrial sector is always greater than its demand, and in this sense, labour supply is practically unlimited. Lewis has mentioned the following **sources** from which the urban (capitalist) sector can mobilise labour :

1. The first source of unlimited supply of labour is the disguised unemployment in the agricultural sector. Due to high population pressure and lack of alternative employment, there is a huge amount of disguised unemployment in the agricultural sector of an underdeveloped economy. This surplus labour may be utilised for the expansion of the industrial sector of the economy.
2. A large part of female population of the agricultural sector (wives and daughters of a farm family) do not participate in agricultural activities. They may be available for employment in the capitalist sector.
3. In an underdeveloped economy, many workers are engaged in some domestic services or petty retail trade. They may be available for employment in the capitalist sector.
4. As population grows, the size of rural labour force also rises. The extra labour may be available for expansion of the industrial sector.
5. If any labour-saving technique is used in the agricultural sector, then some workers will be rendered surplus. We may call them Marxian Reserve Army of labour. This surplus labour may be transferred to the capitalist sector.
6. There are always some vagabonds, beggars, paupers, etc. who may be available for employment in the urban capitalist sector.

Thus, Lewis has mentioned various sources from which the industrial sector can mobilise labour for its capital projects. Hence he assumes that the supply of labour

to the capitalist sector in an over-populated economy is unlimited. Labour supply to the capitalist sector at the given wage rate is always greater than the labour demand in that sector. Hence, for all practical purposes, labour supply to the capitalist sector is unlimited. It implies that the capitalist sector can employ any amount of labour without any consequent rise in wage rate.

3.4.4 Process of Capital Formation

Lewis claims that the surplus labour of the agricultural sector should be transferred to the industrial sector. This surplus labour is to be employed in the capital projects of the urban sector. Then industrial output will rise but agricultural output will not fall, as marginal productivity of the surplus labour in agricultural sector is equal to zero. Now, as industrial output rises while agricultural output does not fall, total output of the economy will rise. Thus, surplus labour of the agricultural sector may help in the process of capital formation and economic development of a less developed overpopulated economy.

We have shown the process of capital formation in the capitalist sector by utilising surplus labour of the agricultural sector in figure 3.5. In this figure we have measured marginal productivity of labour (MP_L) and real wage (W) in the capitalist sector along the vertical axis. We measure the amount of labour employed in the capitalist sector (L) along the horizontal axis. We first see what will be the wage rate in

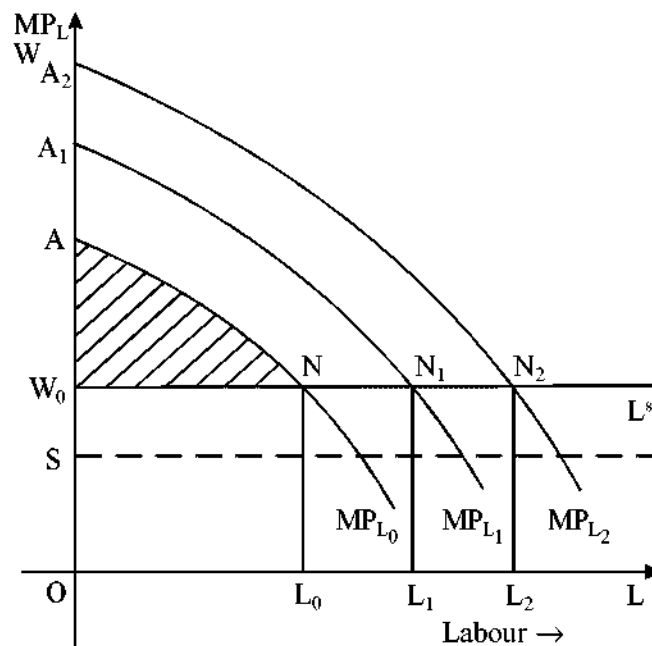


Fig. 3.5

the capitalist sector. Lewis argues that wage rate in the capitalist sector will be determined by the wage rate in the subsistence sector, i.e., by the productivity of labour in the subsistence sector. Workers in the subsistence sector will not leave their native place unless they are given the subsistence wage of the rural sector. Thus,

wage rate in the capitalist sector cannot be less than the subsistence wage in the rural sector. In fact, wage rate in the capitalist sector should be higher than the subsistence wage of the rural sector. Otherwise, surplus workers of the agricultural sector will not leave their native place and go to work in the capital projects of the urban sector. Further, cost of living in the urban sector is higher than that in the rural sector. Hence, wage rate in the urban sector must be higher than that in the rural sector. This difference in wage or extra wage is necessary to induce a worker to go to the capitalist sector. Part of this wage differential may be explained in terms of higher cost of living in the urban capitalist sector than that in the rural sector.

In our figure 3.5, let OS be the subsistence wage. Then wage rate in the capitalist sector must be higher than OS . Let OW_0 be the real wage in the capitalist sector. According to Lewis, this wage is about 30 per cent higher than the subsistence wage i.e., $OW_0 = 1.3 \times OS$. At the wage rate OW_0 in the capitalist sector, labour supply is unlimited or the supply of labour is perfectly elastic. This is because of the existence of various sources from which the capitalist sector can mobilise labour. Hence, the labour supply curve in the capitalist sector (W_0L^s) is horizontal at the given wage rate OW_0 .

Let us draw the marginal productivity of labour curve of the capitalist sector. We have assumed diminishing marginal productivity of labour. So the marginal productivity of labour curve will be downward sloping. Let the initial marginal productivity of labour curve be MP_{L_0} . This is actually the labour demand curve.

Now, we have assumed that capitalists want to maximise their profit. To do that, capitalists fulfill the following two conditions :

(i) First order or necessary condition : MP of labour = real wage rate.

(ii) Second order or sufficient condition : Marginal productivity of labour should be diminishing, i.e., MP_L curve should be downward sloping.

These two conditions of profit maximisation are fulfilled at N . S_0 , at first OL_0 amount of labour will be sent from agricultural sector to capitalist sector. Total output produced by this OL_0 amount of labour is given by the area under the MP_L curve, i.e., area $OANL_0$. On the other hand, total wage in real terms given to them = $OW_0 \times OL_0$ = area OW_0NL_0 . So, total output minus total wage bill = Area $OANL_0$ – Area OW_0NL_0 = Area AW_0N = total surplus.

In Lewis model, this surplus is the main propelling force behind capital formation. The capitalists will reinvest this surplus. Now, investment is addition to the capital stock. So, capital stock of the economy will rise. Then the total product curve in the capitalist sector will shift upwards. Consequently, the marginal product curve will shift to the right. Let its new position be MP_{L_1} . It has cut the wage line or the labour supply curve at N_1 . So, N_1 is the new equilibrium point in the capitalist sector. At N_1 , both the conditions of profit maximisation have been fulfilled. The new level of employment is OL_1 . So, L_0L_1 amount of labour will be withdrawn from the rural sector and put into the capitalist sector. When labour employment in the capitalist sector is OL_1 , total output is $OA_1N_1L_1$ while total wage bill is $OW_0N_1L_1$. Hence, total profit or surplus of the capitalists is given by the area $A_1W_0N_1$. If this surplus is reinvested, total product curve will shift upwards and the MP_L curve will shift rightwards, say, to MP_{L_2} . Then the volume of surplus of the capitalist sector will further increase and so on. The process will continue until and unless the total surplus labour of the agricultural sector is exhausted. Thus, so long there is surplus labour in the agricultural sector, shifting them to the industrial sector, output of the industrial sector could be increased. Then the process of capital accumulation will continue until and unless the surplus agricultural labour is exhausted. In this way, Lewis has shown how a less developed economy can bring about capital formation and economic development by utilising its surplus agricultural labourers.

3.4.5 Halting of Capital Formation and the Way Out

According to Lewis, the process of capital formation may be halted even before the exhaustion of surplus labour in the following four cases :

1. If the average productivity of labour in the subsistence sector rises, then to transfer labour from the subsistence sector to the capitalist sector, higher wages in the capitalist sector are to be offered. As a result, surplus or profit in the capitalist sector will decrease. Then the process of capital formation will be slower than before.
2. If the productivity of labour in the subsistence sector rises due to any technical progress, then also wage rate in the capitalist sector will rise. As a result, the volume of surplus in the capitalist sector will fall.
3. As the capitalist sector expands, demand for agricultural products will rise. So, price of agricultural products will rise. Then the industrial workers will

demand higher wages as the sectoral terms of trade go against the industrial sector. Then also the effect on the surplus will be the same.

4. Wage rate in the capitalist sector may increase due to trade union pressures. Then also surplus in the capitalist sector will fall.

Thus, if any of the above happens, then wage in the industrial sector will rise. The labour supply curve faced by the industrial sector will start rising. It is called Lewis' turning point or commercialisation point. Then capitalists' surplus will fall and the rate of capital formation will slow down.

The way out

Among the above four cases, the most important is the terms of trade effect. In this case, the terms of trade go against the industrial sector as the demand for agricultural products rises while the supply of these products remains unchanged.

Now, if we assume that the subsistence sector is producing more output, then price of agricultural products will not rise. Then we can avoid the problem of adverse terms of trade. But in that case, we shall face another problem. If agricultural productivity rises, then to transfer labour from rural to urban sector, more wage is to be offered to the agricultural workers. As a result, surplus in the capitalist sector and the rate of capital accumulation will again fall. Thus, we face a problem like horn's dilemma. Lewis has referred to it as **Scylla and Charybdis**. If we assume that the subsistence sector is producing more output, we can avoid the Scylla of adverse terms of trade. But we are then caught by the Charybdis of rising real wages because the subsistence sector is now more productive.

Lewis points out that we can escape both Scylla and Charybdis if rising productivity in the subsistence sector is more than offset by falling price of the agricultural products. Now, the agricultural products have inelastic demand. So, if their supply rises, price will fall at a greater rate. Then, farmers' income will fall though their total output rises. Then farmers will not be required to pay higher wages in order to shift them to the industrial sector.

However, at the same time Lewis points out that the demand for agricultural products is also rising. So prices of these products may not fall as fast as the productivity rises. In that case, farmers should be prevented from getting their extra

income in order to keep wages in the industrial sector unchanged. Lewis argues that it requires proper institutional reforms. In Japan, the surplus product of the farmers was taken away from the farmers by means of high land tax. There, rent against farmers was raised and then the rentier class (i.e., zamindars) was taxed heavily. In this way, a large part of the increased agricultural productivity was taken away from the Japanese farmers and used for capital formation. Almost the same was done in the erstwhile USSR. There, per capita farm income was kept low by raising the prices of manufactures relative to farm products. Side by side, heavy taxes were imposed upon the collective farms. This fund was used to feed the industrial workers and to continue the process of capital formation. All these required proper institutional set up. Prof. Rajendra Mohan Chakraborti thinks that the Lewis model provides an elaborate argument for wide-ranging institutional reforms.

3.4.6 Critical Evaluation of Lewis Model

Lewis model shows how the surplus labour of the overpopulated agricultural sector of a less developed economy can help in the capital formation of that economy. If the surplus labourers of the agricultural sector are transferred to the capital projects of the urban sector and side by side, if the cheap supply of food to the industrial sector is assured, capital formation (and hence economic development) can take place. However, the model has some limitations. Some economists have raised some objections against this model. In brief they are as follows :

First, the unskilled rural labour can be employed in the capitalist sector only after some training. Lewis has thus neglected the problems of skill formation.

Secondly, Lewis model neglects the demand side of the investment process. If only the industrial sector expands and the agricultural sector remains unchanged, industrial output will not be sold out.

Thirdly, Lewis assumes that in an underdeveloped economy, a capitalist class already exists. But this assumption is not realistic.

Fourthly, the Lewis model is applicable to the densely populated underdeveloped countries only. It will not be applicable to sparsely populated less developed economies.

Fifthly, in Lewis model, as new jobs in the capitalist sector are created, the right amount of labour is transferred from rural to urban sector. But, in practice, more

labour than the number of jobs created will come to the urban sector. The urban cities will become over-populated with urban slums and open unemployment. This problem of rural-urban migration which is precisely the starting point of Harris-Todaro model, has been neglected by Lewis. Kaushik Basu thinks that such matters 'go unnoticed as too microscopic in Lewis' ample canvas. We shall briefly consider this problem in our next sub-section (sub-section 3.4.7).

Sixthly, Todaro argues that if the industrial surplus is invested in labour-saving highly technical industries, the employment opportunities will not rise. Only the volume of profit of the capitalists will rise. It will enhance sectoral inequality in income distribution. The study of Mabro on Egypt and the study of Ho on Taiwan seem to support this view.

In spite of these limitations, Lewis model retains high analytical value for its insight into the role of capital formation in the development process of a labour-surplus economy. It shows the importance of agricultural development in the overall economic development of a less developed economy (An issue later elaborated by Ranis and Fei). The model implies that at least in the initial phase of economic development, agriculture should help in the programme of industrialisation. Productivity in the agricultural sector should rise but that extra product should be taken away from the farmers in order to feed industrial workers. All these require technical progress and wide institutional reforms in agriculture. Lewis model thus considers these two factors as conditions of economic development.

3.4.7 Lewis Model as a Turning Point of Rural Urban Migration Model

The problem of urban unemployment does not exist in Lewis model. There, when rural labour shifts to the urban sector, the right number of labour shifts. This means that in Lewis model, the number of new migrants to the urban sector is exactly equal to the number of jobs created. But in practice, the number of migrants far exceeds the number of new jobs. This leads to urban unemployment.

This problem of rural urban migration has raised a pertinent question on the Lewisian process of capital formation by transferring surplus labour from rural to urban sector. Lewis mentioned an urban-rural wage differential of approximately 30 per cent to attract labour to the urban industrial sector. However, in recent years the gap between urban and rural wage has widened considerably. Further, there are more

urban amenities of education, health, etc. than in rural areas. As a result, there has been rural-urban migration of labour at a very rapid rate. But the urban sector has not been able to generate sufficient employment opportunities for all these workers. Thus, migration has transferred unemployment from rural to urban areas. It has created open and disguised unemployment in the urban sector, has created many slums, has led to over-crowded footpaths, bus stands, rail stations, etc.

One important feature of the urban unemployment is that the conventional remedies, such as subsidies to labour or public works programmes in the urban areas, accentuate rather than cure the problem. One such example has been cited by Todaro. In 1964, the Kenyan government tried to increase employment in Nairobi by 15 per cent in order to reduce unemployment there. However, after the implementation of this programme, it was found that the rate of unemployment in Nairobi had not decreased, rather it had increased. In fact, the possibility of new jobs caused huge migration from rural areas to Nairobi. As a result, there was a higher magnitude of urban unemployment. Similar cases have occurred many times in many countries. All these results indicate that an attempt to remove urban unemployment directly by creating more jobs is likely to have opposite consequence. This has also been shown in Harris Todaro model.

Another point which Harris and Todaro did not consider, may be mentioned. Empirically it has been found that in all the developing countries, there is a vast urban informal sector which offers employment to the new migrants at wages much below the minimum wage in the urban formal sector. New migrants are employed as hotel bearers, street hawkers, rickshaw pullers, cooks, domestic servants and in many other petty jobs. The existence of such a vast urban informal sector has encouraged migration from rural to urban areas and has made the problem of rural-urban migration much more complex.

3.5 Balanced Growth between Agriculture and Industry : Ranis-Fei Model

3.5.1 The Basic Theme of the Model

Ranis and Fei have given a model of balanced growth between agriculture and industry. This model of economic development is based on the Lewis model of

economic development with unlimited supplies of labour. Lewis has presented a two sector model which shows the expansion of the capitalist or industrial sector by utilising cheap, surplus labour of the subsistence or agricultural sector. The process of capital formation or economic development continues until the industrial labour supply curve begins to turn up (i.e., becomes upward rising). Ranis and Fei claim that Lewis has failed to present a satisfactory analysis of the subsistence or agricultural sector. They argue that agricultural sector should also grow and a balance between agriculture and industry is required if the process of economic development is to continue.

3.5.2 Graphical Presentation of Ranis-Fei Model

We have presented the Ranis-Fei model in figure 4.6. This figure has three parts. Part (a) and (b) describe the agricultural sector while part (c) describes the industrial sector. In part (a), we have drawn the total product curve OR of the agricultural sector. We here measure labour force from O to A and total agricultural product from O to B. Because of diminishing returns, the total product curve (ORCX) is upward rising and concave. It has a horizontal portion XC (= AD) where $MP_L = 0$. So, if AD amount of labour is withdrawn from the agricultural sector, total output will not fall. Hence AD is called redundant labour force.

We suppose that initially OA amount of labour was engaged in agriculture. Then total output = AX. So, $AP_L = OX/OA = \text{slope of OX}$. We assume that real wage is equal to this average productivity of labour. This is called institutional wage rate. Even if $MP_L = 0$ in the agricultural sector, the wage rate will be constant at the institutional level.

Now, the vertical difference between the total product curve and the line OX represents total agricultural surplus. At R, $MP_L = \text{institutional wage}$. Here, agricultural surplus is maximum. For employment less than OP, $MP_L > \text{institutional wage}$, and for employment greater than OP, $MP_L < \text{institutional wage}$. According to Ranis and Fei, disguised unemployment is equal to AP. These workers have a marginal productivity less than the institutional wage. Point P is called the commercialisation point by Ranis and Fei. Point D where redundant labour force ends is called the shortage point.

In part (b) of the figure, AS is the institutional wage (= AX/OA of part a).

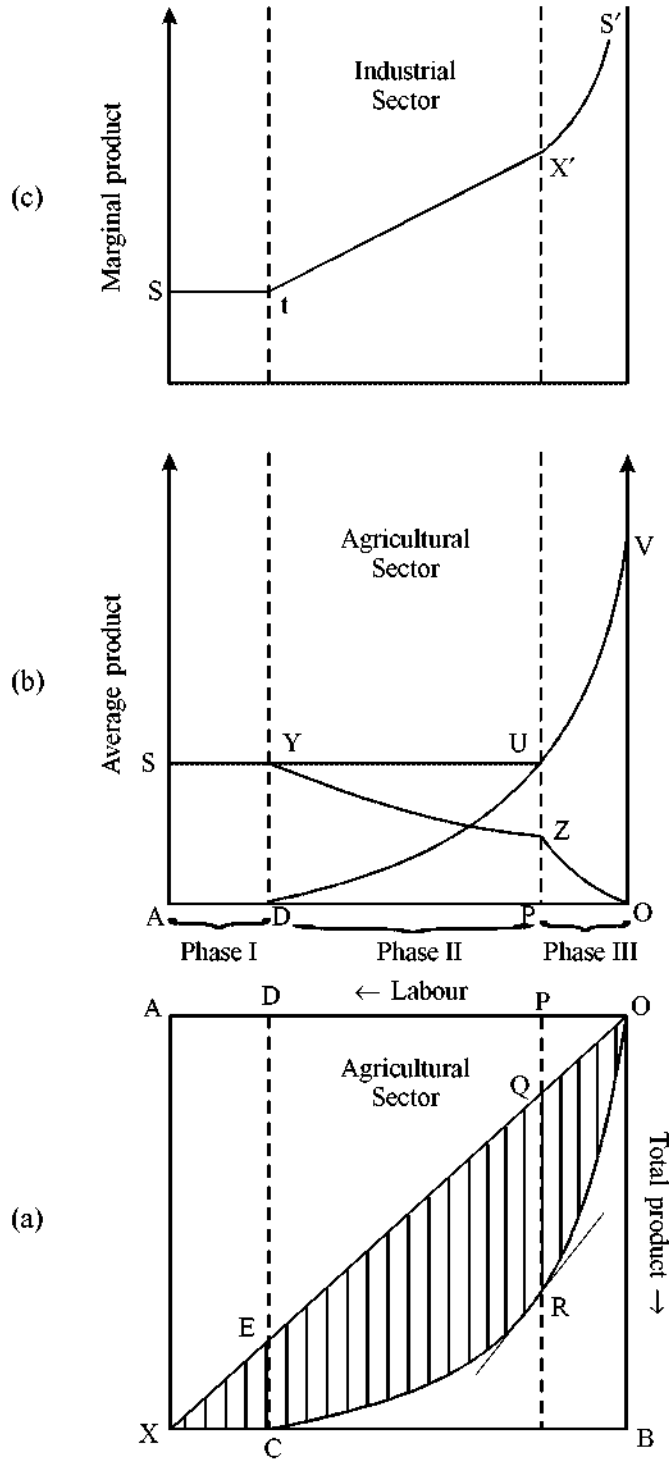


Fig. 3.6

ADUV is the MP_L curve in the agricultural sector. Up to AD, $MP_L = 0$. It is called phase I. Between D and P, MP_L is positive but less than institutional wage. This is called phase II. To the right of P, MP_L is greater than institutional wage. This is phase III. In phase I and II, the market wage rate is equal to the institutional wage rate. But in phase III, the market wage rate is determined by marginal productivity. Hence the curve SUV may be regarded as the supply curve of agricultural labour. It shows for each level of real wage, the amount of labour that may be released from the agricultural sector for industrial employment.

Now we see that, as agricultural workers are withdrawn, a surplus of agricultural goods begins to appear. In part (a) of the figure, the vertical distance between the total product curve ORCX and the wage line OX represents total agricultural surplus (TAS). Average agricultural surplus (AAS) may be defined as TAS available per head of allocated industrial workers. The AAS curve is represented by SYZO in part (b) of the figure. In phase I, the AAS curve coincides with the institutional wage curve SY. However, in phase II, AAS falls below the institutional wage. In phase III, AAS declines even more rapidly.

3.5.3 Lewis Turning Point

We may now consider the derivation of the Lewis turning point in the industrial sector. According to Lewis, this point occurs due to two reasons :

- (i) the worsening of the terms of trade for the industrial sector, and
- (ii) the exhaustion of the surplus labour in the agricultural sector.

Ranis and Fei agree that the terms of trade against the industrial sector deteriorate due to a relative shortage of agricultural commodities. As redundant labour is exhausted, we enter phase II where AAS is less than institutional wage. Thus, a shortage of agricultural goods begins to appear. This causes a deterioration in terms of trade of the industrial sector. Then the industrial wage measured in terms of industrial goods rises. Hence, point D or Y is called the shortage point. As this point is reached, terms to trade move against the industrial sector, and wage rate in the industrial sector in terms of industrial goods will rise. Thus, the labour supply curve to the industrial sector will have a turning point. In part (c) of our figure, this occurs at point t which is called the Lewis turning point.

The second reason behind the emergence of this turning point, according to Lewis, is the exhaustion of surplus labour in the agricultural sector. Ranis and Fei argue that as we enter into phase III, disguisedly unemployed worker disappears, and with commercialisation of agriculture, the agricultural real wage starts rising. This leads to a rise in the industrial wage rate. This trend is accentuated at X' . This is due to the complete disappearance of disguisedly unemployed labour force and commercialisation of agricultural sector.

Thus, as labour force is shifted from agriculture to industry, the industrial supply curve of labour turns up. According to Ranis and Fei, this is due to two reasons :

(i) The turning point is due to the disappearance of redundant labour.

(ii) The upward trend is further accentuated by the rise in agricultural real wage rate. This is again due to the disappearance of disguised unemployment and the commercialisation in the agricultural sector.

There are two main factors which may postpone the Lewis turning point :

(a) increase in agricultural productivity, and

(b) population growth

The first factor will ensure supply of more agricultural output to the industrial sector. It will thus retard the worsening of the terms of trade against the industrial sector. The second factor will increase the supply of redundant labour in the agricultural sector.

3.5.4 Need for Balance between Agriculture and Industry : The Balanced Growth Path

Lewis has shown a process of capital formation in a less developed economy by utilising its surplus labour of the agricultural sector. This process continues so long there is surplus labour in the rural sector. However, even before the exhaustion of surplus labour of the agricultural sector, the process of capital formation may be halted due to the operation of some factors. The most important among them is the terms of trade effect against the capitalist sector. In Lewis model, only the capitalist sector expands and the output in the subsistence sector remains unchanged. Now, as the capitalist sector expands, demand for agricultural goods will increase and hence, price of agricultural goods will go up. Thus, the terms of trade will go against the

capitalist sector. Then industrial wage in terms of industrial goods will rise. Then surplus in the industrial sector will fall and the pace of capital formation will be slow or it may even be halted. Rains and Fei argue that the agricultural sector should also grow if the process of capital formation or economic development is to continue. They claim that without the expansion of agricultural sector, industrial sector cannot expand. If agricultural productivity rises, both the sectors can expand. Thus, a balanced growth between agriculture and industry is necessary. Rains and Fei then explain how balanced growth between agriculture and industry can be achieved. The process has been discussed in figure 3.7.

The figure 3.7 has three parts : a, b and c. Parts (a) and (b) describe the agricultural sector while part (c) describes the industrial sector. We assume that agricultural productivity rises. So the total product curve shifts upwards (part (a) in our figure). Then marginal product curve also shifts upwards (part (b) in the figure). We assume that institutional wage remains unchanged. As agricultural productivity rises but institutional wage remains the same, average agricultural surplus (AAS) rises. So, the AAS curve also shifts upwards in part (b) of our figure.

Let us consider the impact of this rise in agricultural productivity on the industrial labour supply curve. This is shown in part (c) of the figure 3.7. As agricultural productivity rises, this will have two opposite effects on industrial labour supply curve. On the one hand, a rise in AAS will depress the terms of trade for the agricultural sector. This will tend to reduce the industrial wage (terms of trade effect). On the other hand, the marginal productivity curve of the agricultural sector has shifted upwards. This will tend to raise the industrial wage (real wage effect). In part (c) of our figure, the new industrial labour supply curve L_2L_2 crosses the L_1L_1 curve from below. This implies that ultimately the terms of trade effect has been offset by the real wage effect. By the same reasoning, we get L_3L_3 . In this figure, P_1 is the turning point of L_1L_1 , P_2 is the turning point of L_2L_2 and P_3 is the turning point of L_3L_3 . Joining these points we get the balanced growth path L_1P_3 .

Let us explain why L_1P_3 is called the balanced growth path. Initially the labour supply curve of the industrial sector was L_1L_1 . Then the labour demand curve was i_1i_1 . It is actually the MP_L curve in the industrial sector. Then the amount of labour employed in the industrial sector was OB . At this employment, total wage is OL_1O_0B while total output was Oi_1O_0B . So, $i_1L_1O_0$ was surplus or profit in the industrial

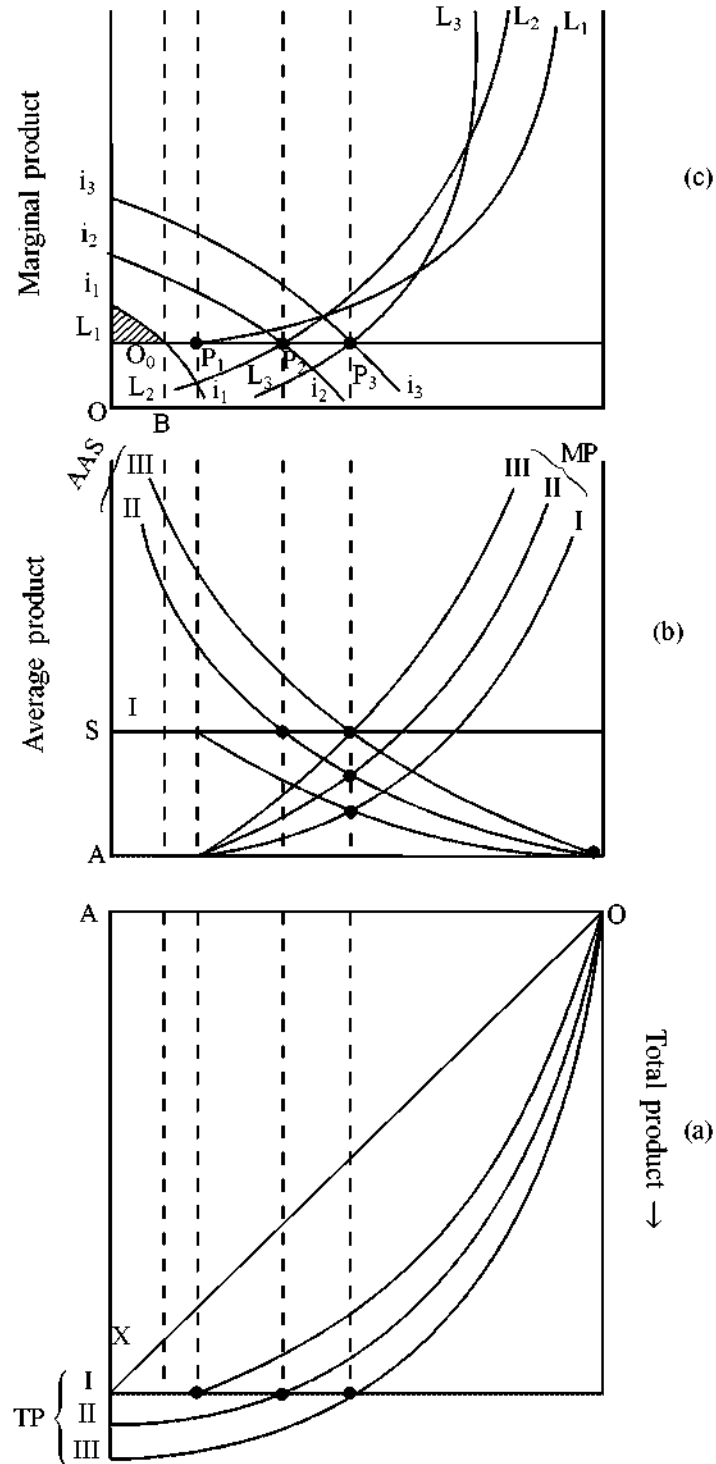


Fig. 3.7

sector. A part of this profit is invested in the industrial sector and the rest in the agricultural sector. Then the marginal productivity curve of labour or the labour demand curve shifts to the right, say, to i_2 . On the other hand, as investment in the agricultural sector rises, agricultural productivity rises. Then the labour supply curve also shifts, say, to L_2L_2 . If they intersect at P_2 , we may say that there is a balanced growth between agriculture and industry. Point P_2 is then a point on the balanced growth path. At this point, the industrial sector absorbs O_0P_2 additional workers. The agricultural sector releases exactly the same amount of labour. Similarly, if the industrial surplus in the new situation ($i_2L_1P_2$) is allocated between agriculture and industry, we shall get a point like P_3 . Joining these points like P_1, P_2, P_3 , etc. we get the balanced growth path L_1P_3 .

In the case of balanced growth path, the labour demand curve and the labour supply curve shift by the same amount. This implies that the two sectors grow in such a manner that the terms of trade between the two sectors remain more or less unchanged. It also implies that the investible fund is allocated between the two sectors in such a manner that the number of workers released by the agricultural sector is exactly equal to the number of workers absorbed by the industrial sector at a constant industrial real wage.

In our figure, the balanced growth path L_1P_3 is a horizontal straight line. However, in practice, this path may slightly deviate from this shape. Ranis and Fei admit that the actual growth path may be gently upward rising rather than horizontal. Such a slightly rising growth path implies that the industrial real wage will be gradually rising during the process of economic development of an underdeveloped economy.

3.6 Summary

1. The Concept of Disguised Unemployment

The term disguised unemployment generally refers to those surplus workers whose marginal productivity is zero. In other words, disguised unemployment means those excess or surplus labourers who do not contribute anything to total product. Even if those workers are withdrawn from the production process, given the technique of production and the stock of capital, total product will not fall.

2. Different Measures of Disguised Unemployment

There are three popular measures of disguised unemployment. As per the **first** measure, the gap between the number of workers available for work and the amount of employment which equates the marginal product of labour with the subsistence wage, is the size of disguised unemployment. As per **second** measure, the gap between the actual number of workers available for employment and the level of employment at which the marginal product of labour is zero, may be regarded as the volume of disguised unemployment. As per **third** measure, disguised unemployment is the difference between the actual number of workers available and the level of employment at which the marginal product of labour would be zero if the change in production technique enables to produce the same level of output with fewer workers.

3. Disguised Unemployment as a Saving Potential

Prof. Nurkse considers that the existence of disguised unemployment in an economy provides sufficient amount of potential savings. This will be useful for capital formation. The disguisedly unemployed persons do not add anything to total product of the agricultural sector. They are unproductive workers. On the other hand, the productive labourers in the agricultural sector produce more than they consume and thereby they are performing virtual saving. But this saving is wasted in feeding the unproductive workers. Now, if the productive labourers send their dependants to work on capital projects but continue to feed them there, their virtual saving would become 'effective saving'. The unproductive consumption of the surplus workers would become productive consumption. Thus, the existence of disguised unemployment implies, at least to some extent, a disguised saving potential.

The above argument is based on four assumptions :

- (i) The unproductive workers can be employed in capital projects which require very little amount of fixed capital.
- (ii) When the unproductive workers are transferred to the capital projects, the foodgrains which they consumed in the agricultural sector, are also transferred along with them.
- (iii) The unproductive transferred workers consume at their previous level.

- (iv) The propensity to consume of the productive workers who remain in the agricultural sector, remains unchanged.

Under these assumptions the surplus labour of the agricultural sector can be employed in the capital projects. However, there are some practical difficulties. **First**, if the productive labourers or the newly employed workers begin to consume more than before, there will be a food shortage. **Secondly**, there is a cost of transferring food from the farmers to the capital projects. **Thirdly**, there is difficulty in mobilising surplus food. So, some form of direct taxation must be imposed. It is also possible to tax the rent-income of the land owners. This was done in Japan. Alternatively, there may be taxation in kind or compulsory requisitioning. It was followed in the erstwhile USSR through collective farms.

There are some objections against Nurkse's analysis on disguised unemployment as a saving potential. **First**, Schultz argues that the transfer of surplus labour from agriculture to new capital projects will adversely affect the agricultural output. **Secondly**, Kurihara argues that in the underdeveloped countries, the living standard of the people is very low. When the income of both productive and unproductive workers rises due to transfer of surplus labour to capital projects, their consumption will tend to rise. Thus there will be food shortage. **Thirdly**, it is very difficult to mobilise disguisedly unemployed workers, as they are mentally attached to the rural simple life. **Fourthly**, disguisedly unemployed workers are unskilled. They can only be employed in the construction of roads, viaducts, canals, etc. They cannot be employed in machine-producing industries. **Fifthly**, there are problems in the collection and distribution of surplus food. **Sixthly**, the Nurksian scheme may succeed only under a strong totalitarian government, not in a democratic set up. **Seventhly**, when the newly employed workers will be paid wages, demand for consumer goods will rise. So prices will rise and this will adversely affect the balance of payments of the country.

Thus, the theory of disguised unemployment as a source of capital formation is theoretically acceptable, but it has some practical difficulties. Some coercive measures on the part of the state are utmost necessary. This necessitates proper institutional reforms.

4. Economic Development with Unlimited Supplies of Labour (Lewis Model)

Prof. Arthur Lewis has shown how the surplus labour of the agricultural sector

of an underdeveloped economy can be used for its industrial and economic development. The model is based on some assumptions.

1. There are two sectors. The agricultural or subsistence sector does not use any fixed capital and cannot produce any surplus. The industrial or capitalist sector uses fixed capital and can produce surplus.
2. The capitalists want to maximise profit which is the only source of capital formation.
3. Supply of labour to the capitalist sector is unlimited. It implies that the capitalist sector can employ any amount of labour at the existing wage rate. This means that the labour supply curve to the capitalist sector is perfectly elastic (horizontal). Lewis argues that there are many sources of surplus labour, such as disguised unemployment and seasonal unemployment in agricultural, female population in the rural sector, petty traders, paupers and vagabonds, etc. So, labour supply to the industrial sector is practically unlimited. Now, to shift labour from agriculture to industry, some incentive is to be given. So, wage rate in the industrial sector will be higher (by 30 per cent, according to Lewis) than the subsistence wage. A part of this wage differential may be due to higher cost of living in the urban sector.

Now, to maximise profit, labour in the subsistence sector will be employed up to the point where falling MP of labour is equal to real wage rate. At this point, total output is given by the area under the falling MP_L curve while total wage bill is equal to the area of the rectangle under the labour supply curve or the wage line. The difference between the two areas represents surplus in the capitalist sector. If this surplus is re-invested, MP_L curve will shift to the right and the employment of labour in the capitalist sector will rise. More labour will be brought from agriculture to industry. This process will continue until the surplus labour in agricultural sector is exhausted.

This process of capital formation may be halted pre-maturely under two situations : (i) if average productivity of labour in the agricultural sector rises and/ or (ii) terms of trade go against the industrial sector due to rise in prices of agricultural products. In either case, wage rate in the industrial sector will rise and surplus or investment will fall. To solve this, either there should be state control over agricultural output to feed industrial workers (Soviet method) or, agriculture should

be heavily taxed (Japanese method). Lewis model thus suggests proper institutional reforms necessary for economic development.

Lewis model has the following major limitations.

1. The model ignores the problem of skill formation. Here, the raw rural labour is employed in the industrial sector.
2. The model neglects the demand side of investment. If agricultural sector does not expand, industrial output will not be sold out.
3. The model will be applicable only to densely populated countries.
4. Capital formation may not take place due to absence of entrepreneurial class in less developed countries.
5. Newly created jobs in the urban sector may attract more labour to urban areas. This will create slumps and open unemployment in urban sector. This problem of rural-urban migration, the starting point of famous Harris-Tadaro model, has been neglected by Lewis.

Still, Lewis model provides a deep insight into the process of capital formation in a less developed economy.

5. Ranis-Fei Model

Ranis and Fei have given a model of balanced growth between agriculture and industry. The model is based on the framework of Lewis. In Lewis model, the process of capital formation or economic development continues until the industrial labour supply curve becomes upward rising i.e., the industrial wage starts rising. If it happens, then surplus in the industrial sector falls and the process of capital formation is slowed down or stopped. Ranis and Fei argue that agriculture should also grow and a balance between agriculture and industry is required if the process of economic development is to be continued.

3.7 Exercise

Short Answer Type Questions

1. Define disguised unemployment.
2. Who considered disguised unemployment as a saving potential?

3. What do you mean by unlimited supplies of labour to the industrial sector?
4. What is Lewis turning point?
5. What is the shape of the supply curve of labour to the industrial sector in Lewis Model?
6. Mention two major limitations of Nurkse's analysis on disguised unemployment as a saving potential.
7. Mention two major assumptions of Lewis model of economic development with unlimited supplies of labour.
8. What do you mean by the problem of rural-urban migration?
9. Mention one major limitation of the Lewis model of economic development with unlimited supplies of labour.
10. What is balanced growth path in Rains-Fei model?

Medium Answer Type Questions

1. What are the different measures of disguised unemployment?
2. Distinguish between labour and labourer in the context of disguised unemployment.
3. Why is labour employed up to the point where $MP_L = 0$ in an under-developed agriculture?
4. Why is the suitable technique of production not used to utilise the entire labour force in an overpopulated agriculture?
5. Discuss the situation of Scylla and Charybdis in Lewis model.
6. Mention the sources of labour supply to the industrial sector in Lewis model.
7. Mention some limitations of the concept of disguised unemployment as a potential saving.
8. What are the objections against Lewis model?
9. Discuss Lewis Turning point in terms of Ranis and Fei Model.
10. Give a hint on the problem of rural-urban migration in today's less developed economy.

Long Answer Type Questions

1. What are the issues related to disguised unemployment in an economy? How can you resolve those issues?
2. What do you mean by unlimited supplies of labour to the industrial sector? What are the major sources of this labour supply?
3. Discuss, following Nurkse, how disguised unemployment in an economy may act as a potential saving. What are the limitations of this analysis?
4. Describe the process of capital formation with the help of unlimited supplies of labour to the industrial sector.
5. Discuss the problem of Scylla and Charybdis in the context of capital formation in Lewis model. How one can avoid this problem?
6. Give a brief outline of the Ranis-Fei Model.
7. Using Ranis-Fei model, discuss Lewis turning point. How can this point be averted?
8. Derive the balanced growth path between agriculture and industry in the Ranis-Fei model.

3.8 References

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Unit - 4 □ Land Reforms and Economic Development

Structure

- 4.1 Objective**
- 4.2 Introduction**
- 4.3 Definition of Land Reform**
- 4.4 Objectives of Land Reform**
- 4.5 Role of Land Reform in Economic Development**
 - 4.5.1 Historical Aspects of Land Reform**
 - 4.5.2 Economic Aspects of Land Reform**
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- 4.6 Land Reforms in India**
 - 4.6.1 An Evaluation of the Success of Land Reform Programmes in India**
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4.1 Objective

After studying the Unit, students will be able to know

- the objectives of land reform
- the historical, economic and demographic aspects of land reform
- success and failure of land reform programme in India

4.2 Introduction

To remove inequality in the rural economy of any country and to raise agricultural productivity, land reform may play a vital role. In the present Unit, we shall consider historical, economic and demographic aspects of land reform. In order to get the benefits of land reform, India has launched the land reform programme just after her independence. In this unit, we shall consider the elements of this land reform programme. We shall also try to evaluate the success of these programmes. One major step in Indian land reform programme was the imposition of ceiling on land holdings. We shall consider different aspects of this programme also. It was decided by the government of India that co-operative farming would be introduced in the surplus land obtained after the imposition of the ceiling on land holdings. How far this objective has been fulfilled and how far co-operative farming has spread in India will also be discussed in the present unit.

4.3 Definition of Land Reform

Basically land reform means two things. **First**, land reform refers to the reform of ownership of land i.e., redistribution of land. **Secondly**, land reform means reform of tenancy. In a word, land reform means removal of institutional obstacles to agricultural development. Reform of ownership of land means imposition of ceiling on land holdings and redistribution of surplus land. On the other hand, tenancy reform means abolition of intermediaries, regulation of rent, security of tenure, etc. According to Doreen Warriner, **land reform in the traditional and accepted sense means the redistribution of land for the benefit of small farmers and agricultural labourers. In the wider sense, land reform means ‘any’ improvement in agricultural economic institutions.** In this sense, land reform includes not only redistribution of land but also many other things, such as the regulation of rent, tenancy reforms, the improvement in farm credit system, co-operative organisation, agricultural education and so on.

4.4 Objectives of Land Reform

There are two basic objectives of land reform.

First, to build up suitable agricultural structure and organisation and to remove the traditional obstructions which stand in the way of raising agricultural production.

Second, to remove the existing inequality in the rural society and to build up an exploitation-free society. To achieve this, land reform seeks to provide land ownership to actual tillers, to provide security of tenure to the ryots and share-croppers, and to regulate rent.

Simply speaking, the **first** objective is to introduce modern, dynamic and scientific agriculture by removing traditional model of production. The **second** objective is to change the agricultural institutions and introduce suitable land tenure system which will be helpful for a developed agricultural system.

4.5 Role of Land Reform in Economic Development

In this section we shall consider whether land reform can help in economic development of an underdeveloped economy. We shall examine three aspects of the problem.

- (a) The historical aspects of land reform
- (b) The economic aspects of land reform
- (c) The demographic aspects of land reform

Let us discuss them one by one.

4.5.1 Historical Aspects of Land Reform

If we consider relatively recent economic history of the advanced countries, there is really no evidence to suggest that land reform has been a condition of economic development. For example, we may consider the cases of England, Prussia and Japan. These countries achieved very rapid economic development in the past. However, they did not do so with the help of land reform. These countries progressed at the cost of their peasant farmers. In England and Prussia, large landowners

expropriated peasant farmers, took away their land and turned them into agricultural labourers. Japan developed by taxing its farmers heavily and thereby collecting the investible fund necessary for economic development. Thus, in the history of these countries, there was a conflict between social equality and economic efficiency at the time of their most rapid expansion.

However, there have been other ways of expansion in history in which this conflict did not arise. Some West European countries have reached high levels of development with peasant system of farming. The most important examples of such countries are Switzerland and the Scandinavian countries (most commonly referred to as Denmark, Norway and Sweden). Again, the USA, Canada, Australia and New Zealand of today have the highest per capita agricultural output. These countries have done so on the basis of family farming and state control of land use.

Thus we see that there have been different patterns of development. History shows that some countries have advanced very far and very fast with a more or less equal distribution of land. But it also shows that some other countries have used methods of capital accumulation by oppressing small farmers and agricultural labourers. Hence we cannot conclude that land reform is a condition of economic development.

However, the historical approach can tell us about the effects of land reform on economic development over a long period. To know such effects of land reform, we should compare countries with similar natural conditions and types of agriculture, and with different agrarian structure. In that case, some comparisons are seemed to be admissible. To serve our purpose, we take Hungary and Bulgaria, two small agricultural countries in the Danube basin, in the years between the wars. In Hungary, there had been no land reform. The distribution of land ownership was extremely unequal. On the other hand, Bulgaria had reformed its land system in 1880. Thereafter, the distribution of land was extremely equal. Socially, Bulgaria was better, because its people were happier. On the other hand, Hungary was an extremely stratified society with great inequality. It had great wealth at the top and great poverty at the bottom. But in comparing development, Hungary was better. In Hungary, the productivity of land and labour was higher than in Bulgaria. Hungary maintained a higher level of productivity as there was more land per head. There, the wealth of the large farmers was invested in industry. It thus absorbed the surplus

labour of agriculture. But Bulgaria's equal farm system tended to keep people working on the land. Hence it did not promote a high rate of investment in industry.

Our example shows that, if incomes are very equally distributed, there should be some organisation to mobilise savings and promote growth in agriculture and also in industry. However, this example does not indicate any general connection between land reform and economic development.

None-the-less, land reform in the modern world does represent a turning point. In importance, it is comparable to the abolition of feudalism. While undertaking land reform programme, many governments in Asia and Latin America regard it as the abolition of colonial land system. In several Asian countries, land reform is linked with the achievement of national independence. In Latin America, land reform is linked with emancipation from the legacy of Spain. This conception of a break with the past can be a powerful stimulus in national life. In such cases, land reform may well be one of the strategic factors in economic development.

4.5.2 Economic Aspects of Land Reform

In this section we shall discuss what land reform can do for the agriculturally backward countries of Asia, Latin America and Africa. If we compare different forms of land tenure in these countries, we see three distinct patterns. We can say that from the standpoint of economic analysis, there are three distinct problems of reform relating to land. We exclude the peasant system and communal tenure system from our discussion. In the peasant system, land ownership is more or less equally distributed. In the communal land system, as the name suggests, land is communally owned. These land systems may need other types of reforms, say, reforms of the agrarian structure, but they do not need redistribution of ownership of land. So we concentrate on the land system in which the large estate is the predominant form of land tenure.

Now, there are mainly three types of large estates. They are :

(i) The type of large estates of Asian countries

Here, the land-holding is only a property and not a large form or large producing unit. The property is leased in small units to tenant cultivations. The owner gets rent in terms of money or a share of the crop.

(ii) The type of large estates of South European countries and of Latin America

In this case, the land holding is both a large property and a large enterprise. This type of estate is managed by salaried officials and worked by labourers and people by indeterminate status, squatter or share-croppers. Estates of this kind are usually extensively cultivated, or used as cattle ranges. Sometimes this type of land system is called *Latifundia*.

(iii) Plantation estates

These estates are also both large properties and large enterprises. They were usually owned by a company with foreign capital and foreign management. There were some cases of private ownership also. In the present era of liberalisation and in the post-second world war period of independence of many countries from the foreign rule, most of these plantation estates in many countries are privately owned. The methods of cultivation are usually intensive.

From the standpoint of economic analysis, the most obvious feature of all these types of ownership is the existence of an institutional monopoly. In Asian countries, demographic pressure on land is high. Here the level of rent is determined, as opined by Doreen Warriner, not by the fertility of land, but by the fertility of human beings. Land is a scarce factor of production and it commands a high price compared to the value of its produce. The existence of institutional monopoly allows the landowner to raise rents to a still higher level. In *Latifundian* systems and in plantation systems, the estate owner is a monopoly buyer of labour. He controls the use of land rather than its price, and uses his monopoly power to keep wages low.

The main economic argument for land reform is the need for securing a more equal distribution of income by eliminating these monopoly elements. In the Asian case, the aim of land reform is to reduce the price for the use of land, i.e., a reduction in rents. In the *Latifundian* systems, the aim of land reform is to sub-divide big holdings to secure a fuller use of land, an increased demand for labour and higher wages for the farm worker.

However, some may argue that this will reduce productivity by dividing up efficient large estates. This argument is based on the following two assumptions :

- (i) competition between the factors of production and
- (ii) economies of large scale production

These assumptions are generally valid in industrialised countries. But they are not valid in underdeveloped agriculture where capital plays a very small part in production. In Asian land systems, large estates are not large producing units. Here land reform simply means the transfer of ownership of land from the large landowners to small cultivators. The size of the farms is not affected, for there are no large farms. In this system, 'uneconomic farms' mean farms which fall below a subsistence minimum, not below a technical optimum. In the Latifundian systems also, these were not efficient large estates on any standard. They wasted both land and labour. So the argument about 'efficient large estates' is not applicable to our first or second type of estates. The argument may however be applicable to plantation estates which use intensive method of cultivation and modern methods. So in order to get the economies of scale, the plantation estates should not be divided. In that case, the monopoly effect on labour (i.e., the power of keeping wages low) may be tackled by a policy for raising wages. Another course of action may be to divide the plantation estate with safeguards for maintaining efficiency.

There are some other arguments against land reform. For example, many argue that tenancy works very well in England and so there can be no reason for Asian countries to abolish tenancy by redistribution of ownership. Rather, there should be legislation to improve the security of tenure for tenants. However, this argument overlooks the monopoly influence in Asian countries. In England, if a landowner attempts to take high rent, the tenant will invest his capital in other ways. But in Asian conditions, the landowner is able to extract higher rent because of his monopoly position. Here, tenancy laws will never be sufficient to counteract effects of monopoly ownership on rent.

Hence, the existence of institutional monopoly creates a strong argument for land reform. It will equalise incomes of the farm people. In Asian systems and in Latifundian systems, the redistribution of ownership of land will not have adverse effects on production and productivity. However, in plantation systems, submission of holdings may have bad effects on production. In that case, other ways of equalising incomes may have to be used.

However, we have only shown that land reform will not do any harm on agricultural production. But this is not enough for economic development. The crucial question is whether land reform—change from large to small ownership—will promote more investment in agriculture. The European experience says that peasant ownership promotes investment on land. According to Arthur Young, ownership is the magic which turns sand into gold. However, we cannot universalise this European view. In Asia, Latin America and Africa, cultivators have been small tenants. They have had no example of better farming to follow. So we cannot expect that ownership will suddenly transform them into real farmers. We can only say that the effect on investment will depend mainly on what can be done to give inducements to invest, through special credit facilities and special forms of village organisation. We cannot say that land reform will ‘cause’ more investment. But we can certainly say that land reform is a condition for more investment for land. This is because of the fact that without more income in the hands of cultivator, no investment programme for agriculture is likely to have much effect.

There is still a question on production effect of land reform. Can we say anything about the production effects of land reform when there is actually subdivision of the land? Here also we can only say that results will depend on how far the new owners can intensify farming either by using more labour or by using more labour and capital. The production effect depends on what can be done to promote more investment.

Let us try to make a conclusion on the economic aspects of land reform. The Asian tenancy system has created a vicious circle situation. In Asian countries except Japan, monopoly ownership, low taxation and a high propensity to consume have led to a vicious circle condition. In these countries, by monopoly ownership on land, the landlords have amassed huge rent. But due to low taxation, they did not have to pay high taxes and were left with huge surplus. But that surplus was wasted in unproductive luxurious consumption. On the other hand, in Latin American countries, the Latifundian system promotes lop-sided development. If these situations are to be changed, then clearly the institutional framework must also be changed. It may be admitted that it will not reverse the course of development. Nor it will repair the damage done in the past through the loss of capital. It can only be a first step towards breaking the vicious circle in Asian countries or ensuring a more balanced development

in Latin American countries. But it is, in such conditions, an essential first step. Hence we can conclude that land reform, in the conditions of many underdeveloped countries, is certainly a condition of economic development.

4.5.3 Demographic Aspects of Land Reform

Most of the underdeveloped countries suffer from high population pressure. So, a discussion on the relation between land reform and economic development must consider the demographic aspects. In this context, we shall consider the following two questions :

- (i) How does the growth of population influence the demand for land reform?
- (ii) Does land reform help mitigate the effects of over-population?

The first question can be answered straight forwardly. The countries which have carried out land reforms in recent years, have high densities of rural population. These countries have shortage of land in relation to their rural population. In these economies, as population on the land rises, the landlord's monopoly power also increases. In Asian systems, rent rises and it takes up a larger share in national income. In Latifundian systems and in plantation economies, the demand for labour is largely inelastic. Hence, as population rises, wages fall. Thus, growing population results in growing inequality in income. Hence, the growth of population gives rise to a demand for land reform.

We now consider the second question. We shall examine whether land reforms can mitigate the effects of over-population. The term over-population may be used in any of the following three senses :

(i) Surplus labour on the land

It means an excessive number of workers in relation to the labour requirements of the existing system of farming (existence of disguised unemployment).

(ii) Falling output per head

It results from declining productivity of labour. This happens when the rate of growth of output is less than rate of growth of population.

(iii) Falling output per acre

It results from failure to maintain soil fertility. This is by far the most serious condition of the three. The last two cases may be considered as real over-population.

When there is real over-pulation (i.e., either falling output per head, or declining fertility of the soil), land reform cannot do much. Perhaps it cannot do anything to remedy the decline in output per head. It is necessary, of course, to undertake land reform in order to increase investment. But the resulting increase in output will not be large enough to arrest the declining trend in per capita output or in soil fertility.

However, where over-population exists in the form of surplus labour in a given system of farming, land reform can mitigate the problem. When big estates are divided into smaller farms, farm employment will increase. However, redistribution of land may not suffice to give full employment or raise the standard of living. To ensure that, the use of capital should also increase with the increase in labour employment. Otherwise, the gains of land reform can be reduced.

We should also mention two other points while considering the demographic aspects of land reform. These two points are as follows :

First, in Asian conditions, it appears to be very difficult to make ownership sticky. Here farms are small, and consumption of a small farmer tends to exceed his production. Hence, the farmer is always under pressure to resell his holding.

The **second** point is concerned with a common objection to land reform. It is often said that in over-populated countries, land reform is useless because it cannot provide enough land to all the farm families. But this objection can be answered. The fact that everyone cannot benefit, does not prove that no one should benefit. The social argument for land reform is based on the need for breaking monopolies of land ownership. Land reform seeks to do this by giving easier access to land or by reducing rents. It implies greater equality, not complete equality.

4.6 Land Reforms in India

We know that any land reform programme has two basic objectives. They are : (i) to increase agricultural productivity by removing institutional obstacles to agricultural development and (ii) to reduce inequality in rural economy by imposing ceiling on land holding and redistributing surplus land among small and marginal farmers and landless labourers. Keeping these twin objectives in view, the government of India started land reform programme after independence in 1947. Its land reform programme consisted of the following elements :

- (i) Abolition of intermediaries,
- (ii) Tenancy reforms,
- (iii) Ceiling on land holdings,
- (iv) Consolidation of land holdings, and
- (v) Organisation of co-operative farms.

We shall discuss the extent of implementation of these programmes one by one.

(i) Abolition of intermediaries

Before independence, there were three major land systems introduced by the British rulers in India. They were : the Zamindari system or the Permanent settlement, the Mahalwari system and the Ryotwari system. In these systems, there were many intermediaries between the owner and the actual tiller of land. Further, in all these three systems, there was no direct link between the state and the farmer. The intermediaries extorted high rents and many illegal taxes. For all these difficulties, the government of India passed legislation in order to abolish all sorts of intermediaries. By the end of the First plan (1951–56), the programme of abolition of intermediaries was complete in all provincial states. As a result of the abolition of intermediaries, about two crore farmers at that time were brought into direct relationship with the state. About 173 million acres of cultivable land were acquired and distributed among the landless labourers. The zamindars were paid compensation partly by cash and partly by bonds.

(ii) Tenancy reforms

This programme has three forms. They are :

- (a) Regulation of rent
- (b) Security of tenure and
- (c) Conferment of ownership rights on tenants.

Let us briefly describe them one by one.

Regarding regulation of rent, the Planning Commission of India recommended during the First and the Second plans that rent should not exceed one-fourth of the gross produce and should not be less than one-fifth of the gross produce. In the light of this guideline, all the states enacted legislations for fixation of rent.

In order to ensure security of tenure, tenancy legislations have also been passed by all the Indian states. It has been stated that barring some exceptional cases, the tenants cannot be evicted. Only in the situations where the landlord himself wants to cultivate or where the tenant does not pay rent or does not cultivate the land, the tenant can be evicted.

In order to confer the rights of ownership on the tenants, legislations have also been enacted by the states. The Central Government had given clear-cut directives to all the states in this regard in 1973. However, as the land in the state list of the Indian constitution, laws in this regard are different in different states. In West Bengal, tenants and sub-tenants have been conferred full ownership rights.

(iii) Ceiling on land holdings

One of the most important land reform programmes of the government of India is the fixation of ceiling on land holdings. It was stated that beyond a certain specified limit, all lands of the landlords would be taken over by the state (i.e. would be vested on the state) and be allotted to small farmers and landless labourers. The purpose of this programme is to remove (or, at least, to reduce) the inequality in the distribution of land and thus to reduce inequality in the distribution of income in rural India. However, this law will not be applicable in some cases, such as land used for plantation of tea, coffee, rubber, etc, land used for animal breeding and grazing, orchards, sugarcane farms operated by sugar factories, land held by co-operative or nationalised bank, agricultural university, agro-research centre, land used by industrial and commercial undertaking for non-agricultural purpose, etc. In West Bengal, this ceiling on land holdings was first fixed at 25 acres or 75 bighas. Later, it has been reduced to 31 bighas for irrigated areas and 57 bighas for non-irrigated areas.

(iv) Consolidation of Land holdings

In India, the plots under an agricultural holding are sub-divided and fragmented. The incidence of agricultural plots being smaller and smaller under a holding is called sub-division of land holdings. On the other hand, when the plots of an agricultural holding are dispersed or scattered over a wide area of the field, it is called fragmentation of land holdings. In India, the plots under a holding are sub-divided and fragmented, and scattered over a wide area. The main causes behind the problem of sub-division and fragmentation of land holding are population growth,

law of inheritance, decline of joint family system, decline of handicrafts and village industries during the British rule, etc. There are some disadvantages of sub-division and fragmentation of land holdings. The major problem of it is that economies of large scale production cannot be enjoyed. It thus acts as an obstacle to agricultural growth. To increase efficiency and to get economies of scale land reform programme of the government of India envisaged the consolidation of land holdings. Some states have enacted legislations in this regard.

(v) Organisation co-operative farms

There are four forms of co-operative farming. They are : co-operative tenant farming, co-operative collective farming, co-operative better farming and co-operative joint farming. In the context of Indian economy, co-operative joint farming has been considered to be the most appropriate and useful. Under this system, small farmers pool their land together and cultivate land jointly. Each farmer retains ownership of his land. A member farmer of the co-operative gets a share in the produce according to his contribution of labour and the amount of land. The main arguments in favour of co-operative farming are : benefits of large scale production, mechanised agriculture, increase in marketable surplus, development of rural economy, reduction in economic inequality, etc. The main demerits of co-operative farming are : loss of private ownership, loss in incentive of farmers, increase in unemployment problem, fall in land productivity, harmful for individual enterprise, etc. Thus we see that there are arguments for and against co-operative farming. However, in spite of some limitations, co-operative farming is undoubtedly the best alternative for increasing agricultural productivity in India. Hence, in the land reform programme of India, it was stated that the fragmented and sub-divided plots of land would be brought together under co-operative farming. This would remove the problem of sub-division and fragmentation of land holdings on the one hand and help in mechanised farming on the other. Unfortunately, no state has so far enacted any legislation on co-operative farming. However, there are provisions of government help if farmers voluntarily form co-operative societies.

4.6.1 An Evaluation of the Success of Land Reform Programmes in India

Land reform programmes in India were started with great enthusiasm. Different legislations have been enacted by various states to implement the programmes. But

the land reform programme in India did not succeed. We mention below some major failures of land reform programmes in India.

We first consider the programme of abolition of intermediaries. The aim was to abolish intermediaries between the tiller and the state. However, in practice, only the zamindars were abolished. There is still a class of rent-receivers and absentee landlords. Further, unlike socialist countries, abolition of intermediaries was not done in India without compensation. Here in India, zamindars received equitable compensation and in some cases more than equitable compensation. At that time, the government of India required huge fund to implement its economic plans. A large amount of money was wasted to pay the zamindars. This money could be utilised to implement various development programmes under different five-year plans.

Regarding tenancy reforms, we can say that tenancy laws have been often violated. Even today, tenants have to pay rent at a very high rate. As regards the security of tenure, the actual tenants are evicted easily by misusing the escape clauses of the law. The landlord can keep the land if he cultivates himself. This clause has rendered all tenancies insecure. At present, big and absentee landlords cultivate their lands with the help of agricultural labourers. The evicted tenants are forced to work as agricultural labourers.

Let us examine the programme of ceiling on land holdings. We may say that the ceiling laws also have not been properly implemented. There are many inconsistencies in the ceiling laws of different states. Further, the state governments took a long time to enact legislations. In the meantime, there have been so many *benami* transfers of land. As a result, sufficient amount of surplus land could not be obtained. There have been legal problems also in undertaking redistribution of surplus land. Moreover, agricultural land has been shown as orchard or fishing pond. Thus, by changing the character of land on paper, the large farmers have by-passed the ceiling laws.

Regarding the programme of consolidation of land holding, we should say that this programme did not also advance too far. The programme has only been partly successful in the Punjab, Haryana and in some pockets of the previous undivided Uttar Pradesh.

Regarding the spread of co-operative farming it was stated that co-operative farming would be introduced on the consolidated holdings and on the surplus land

obtained after the imposition of ceiling on land holdings. However, nothing concrete has been done in this direction. In India, co-operative farming has not expanded at all. This is mainly due to reluctance of both the government and the farmers. In spite of so many advantages of co-operative farming, the system did not expand in India. Farmers as well as government officials have failed to realise the benefits of co-operative farming. Due to ignorance and lack of education, the farmers are unwilling to accept co-operative farming. In many cases, the absentee landlords have formed co-operative farms in order to escape different legislations on land reform. Again, in other cases, rich and influential persons of the rural area have taken some small farmers with them and have formed co-operative farms. But such co-operative farms are totally dominated by the large farmers. The motto of equity and unity is absent in such farms. In practice, these are not co-operative farms. They have turned into joint stock companies. In a joint stock company, a person or organisation with more shares enjoys more power. Similarly, in the co-operative farms formed by large farmers, dominance of the large farmers is quite common. In fact, there are very few co-operative farms in India which are formed by small and marginal farmers. Hence, only the few large farmers and the absentee landlords have been benefited from the co-operative farming system. The Indian bureaucracy has also opposed the spread of co-operative farming.

Thus, on the whole, the programme of land reform had failed miserably in India.

4.6.2 Reasons behind the Failure of Land Reform Programme in India

Any land reform programme has two basic objectives : (i) to increase agricultural productivity and (ii) to reduce inequality in rural economy. With these two basic objectives the land reform programme of India sought to (a) abolish intermediaries, (b) ensure security of tenure, (c) impose ceiling on land holdings, (d) consolidate scattered and fragmented land holdings and (e) introduce co-operative farming. In the light of the achievement of these objectives, we must admit that the land reform programme in India has miserably failed. We may mention the main reasons behind the failure of Indian land reform programmes.

First, the enactment of legislation on land reforms has taken a long time. As a result, the purpose of the legislation has been defeated. For example, due to the delay in the enactment of the ceiling law, there have been numerous *benami* transfers of land. As a result, very negligible amount of surplus land above the ceiling has been obtained.

Secondly, many of the bureaucrats who have been entrusted with the implementation of land reform programme have vested interests. They did not want to implement this programme. Their unwillingness and lukewarm attitude have played a major role in the failure of the land reform programme in India.

Thirdly, very often it has been found that there are lapses or loopholes in the laws or they have been kept intentionally. The landlords have taken the opportunities of these escape clauses.

Fourthly, small farmers and landless labourers are poor and illiterate. They are scattered all over the country and hence they are unorganised. As a result, they could not exert any pressure on the government for the proper implementation of the land reform programme.

Fifthly, in most cases, the ruling party has just enacted some legislations. It has no political will to implement those legislations relating to land reform.

Sixthly, in India, land records have not been properly maintained. The names of tenants or share-croppers have not always been mentioned in land records. Hence most often the interests of small farmers or share-croppers could not be protected.

Seventhly, in rural India, landlords and big farmers are most powerful. They have very often thwarted the efforts of land reform officials.

For all these reasons, land reform programme in India did not succeed. According to Prof. M. L. Dantwala, the land reform programmes in India are in the right direction, but due to lack of implementation, they did not yield satisfactory results. They were scripted very skillfully, but were implemented badly. The basic defect of the land reform programme of India is the slow pace of its implementation together with the lack of will on the part of the rulers and the bureaucracy. However, to achieve the twin objectives of growth and social justice in rural India, proper and complete land reform is a must.

4.6.3 A Debate on the Ceiling on Land Holdings

Basically land reform means two things : (i) it refers to the reform of ownership of land i.e., redistribution of land and (ii) it means reforms of tenancy. Reform of ownership of land means imposition of ceiling on land holdings and redistribution of surplus land. One of the important programmes of land reform in India is the

imposition of ceiling on land holdings. All the states were asked by the Central Government to pass ceiling laws. There were, however, many discrepancies in the ceiling laws of different states. Further, the range of ceiling provided by some states was too large. Hence, in 1972, the policy of uniform ceiling on land holding all over India was adopted. The main points in ceiling policy of 1972 were as follows :

- (i) Ceiling will be imposed on a family. The term family is defined as to include husband, wife and three minor children.
- (ii) The ceiling on land holdings per family will be 10–18 acres in the case of irrigated land with two crops and 27 acres in the case of irrigated land with one crop.
- (iii) For other types of land, the ceiling will be 54 acres.
- (iv) If the number of members in the family exceeds five, additional land may be allowed for each member in excess for five. However, the total amount of land holding should not exceed twice the ceiling limit of that family.
- (v) The ceiling limit would not be applicable in some cases. These cases are : land held for the plantation of tea, coffee, rubber, etc, land held by co-operative or nationalised bank, agricultural university, agro-research centre, land held by industrial and commercial undertaking for non-agricultural purposes, etc.
- (vi) While distributing the surplus land, priority would be given to landless agricultural labourers, particularly to those belonging to the scheduled castes and scheduled tribes.

Imposition of ceiling on land holdings is a very important land reform programme. In order to reduce inequality in the distribution of wealth in the rural economy, it is the most powerful reform instrument. However, some writers have raised some objections against the imposition of ceiling on land holdings. There are others who have strongly supported this land reform programme. Let us consider these arguments for and against the imposition of ceiling on land holdings. Those who have supported this programme of land reform, have put forward the following arguments in favour of it.

First, the supporters of the ceiling on hand holdings have argued that there is

a huge inequality in the distribution of land ownership. Only a few farm families hold vast areas of land. As a result, there is a huge inequality in the distribution of income in rural areas. This is particularly true in many less developed over-populated economies including India. In such economies, if the ceiling on land holding is imposed and the surplus land thus obtained is distributed among the marginal and landless farmers, the inequality in the distribution of income will decrease.

The **second** argument in favour of the ceiling on land holdings is like this. If a family has large amount of land, that family cannot itself cultivate the entire land. Hence the excess land is cultivated on lease. The government has no direct link with these tenants. The imposition of ceiling on land holdings will remove such tenancy. Then a direct relation will be established between the farmer and the government.

The **third** argument centres around the inspiration of the new owners of land. If the surplus land is distributed among the landless farmers, these farmers will be inspired and encouraged. They will cultivate these lands very carefully. There is an English proverb that proprietorship turns sand into gold. As a result, total agricultural output will increase. Imposition of a ceiling on land holdings and redistribution of surplus land among landless farmers can ensure this. Then income and standard of living of the rural poor will increase.

The **fourth** argument in favour of the imposition of ceiling on land holdings rests on the advantages of large scale mechanised farming. The surplus land obtained after the imposition of ceiling can be pooled together to start co-operative farming. Then the large scale and mechanised farming can be introduced. This will certainly enhance agricultural productivity. It will also spread the concept of co-operative farming among the cultivators.

On the other hand, some arguments have been given against the ceiling on land holdings. We may briefly mention them as follows :

First, many regard this ceiling law as discriminatory. If the ceiling is imposed only on rural landed property and no ceiling is imposed on urban property, then the policy is clearly discriminatory against the rural community.

Secondly, some writers argue that the imposition of ceiling on land holding will sub-divide the large holdings into small farms. Then the benefits of large scale production cannot be obtained. As a result, the cost of production per unit of output

will rise. It is also argued that productivity on small farms is low. So, as a result of the imposition of ceiling on land holding, agricultural productivity will decrease.

The **third** argument against the ceiling on land holdings rests on the ability of small farmers to cultivate in an improved manner. It is argued that mere ownership of land cannot increase productivity. Improved and proper cultivation requires timely application of different inputs in suitable amounts. Most of the landless farmers do not possess this ability. Hence, the of imposition of ceiling on land holding and redistribution of surplus land among small and marginal farmers will adversely affect agricultural output.

Fourthly, many think that imposition of ceiling on land holdings will discourage large farmers. As the amount of land will be very much limited, they will not take much initiative to produce more. So, investment on land by large farmers will decrease. This will again adversely affect agricultural output.

Thus we have arguments both in favour of and against the ceiling on land holdings. However, it seems that the arguments in favour of land ceiling are stronger than those against land ceiling. The argument of large farm and higher agricultural productivity is only theoretical. In Japan, farm size is small. But there, labour-intensive farming methods have resulted in higher productivity per acre. In India also, the findings of the Farm Management Survey support the view that agricultural productivity is higher in small farms than in large farms. Above all, we should keep in mind that land is a free gift of nature and the supply of land is perfectly inelastic (fixed). To remove the inequality in the distribution of land ownership, imposition of ceiling on land holdings and redistribution of surplus land among marginal farmers and landless labourers are certainly desirable. This will reduce inequality in the rural economy on the one hand and increase both productivity and employment on the other. In this connection, we may mention one common objection against the imposition of ceiling on land holdings and redistribution of surplus land among marginal farmers. It is often argued that in over-populated agricultural economies like India, imposition of ceiling law is useless as it cannot provide sufficient land to all the small farmers. However, this argument is fallacious. The fact that everyone cannot benefit, does not prove that no one should benefit. The imposition of ceiling on land holding and distribution of surplus land may not bring 'complete' equality but it will certainly 'reduce' the existing inequality in land holding.

4.6.4 Co-operative Farming in India

When farmers join together pooling their land voluntarily to form a large holding keeping generally individual ownership to land unchanged and farm activities are managed by elected members, and farmers get a share of the output as per their contribution of land and labour, it is called co-operative farming. The main features of co-operative farming are as follows :

- (i) Farmers generally join the co-operative voluntarily. There is no compulsion in this regard.
- (ii) Farmers pool their lands together and form a large holding.
- (iii) Private ownership of land remains in tact.
- (iv) The management of the co-operative farm is elected by all the member farmers.
- (v) A member farmer gets a share in the produce according to his contribution of land and labour.

We know that co-operative farms are broadly of four types. These are :

- (i) co-operative tenant farming,
- (ii) co-operative collective farming,
- (iii) co-operative better farming, and
- (iv) co-operative joint farming

Among them, co-operative joint farming is supposed to be most suitable for India. Under this system, small farmers pool their lands together and cultivate the land jointly. Every farmer retains ownership of his land. Farmers participate in agricultural activities and get wage from the co-operative society. They also get a share of the produce according to the amount of land contributed.

We know that the agricultural plots of India are fragmented and sub-divided. In the land reform programme of India, it was stated that these fragmented and sub-divided plots of land would be brought under co-operative farming. This would remove the problem of sub-division and fragmentation of land holdings on the one hand and help introduce mechanised large scale farming on the other. However, it is a matter of regret that no state has passed any specific legislation on the introduction

of co-operative farming in India. There are only provisions of government assistance (financial and others) if farmers voluntarily form co-operative farms. Hence, the progress of co-operative farming in India is not at all worthy to be mentioned.

During the initial years of Indian planning (1951–78), co-operative farming was given some importance. Up to the Fifth Five Year Plan (1974–78), co-operative farming has been regarded as the main component and objective of land reform programmes by the Indian planners. However, after the Fifth Plan, co-operative farming has been kept outside the programme of land reforms. Nothing specific has been mentioned about the expansion of co-operative farming in the later plans. In other words, the government of India is not coming forward or is not taking any active step for the expansion of co-operative farming in India. Hence, the expansion of co-operative farming in India is not at all satisfactory.

In the first plan (1951–56), an amount of Rs. 40 lakh was allocated for the expansion of co-operative farming in India. At the end of the first plan (1956), the number of agricultural co-operative farms stood at 1,397. In the second plan (1956–61), the plan allocation in favour of co-operative farming was increased to Rs. 1.38 crore. In the third plan (1961–66), the plan allocation in favour of co-operative farming was further increased to Rs. 5.38 crore. In this plan, provision was made to set up 318 pilot projects. It was mentioned that under each pilot co-operative farm, there would be 10 primary agricultural co-operative societies. Thus, it was expected that at the end of the third plan (1966), there would be 3,180 ($= 318 \times 10$) primary agricultural co-operative societies.

In order to examine the progress of the pilot projects, a committee under the chairmanship of D. R. Gadgil (known as Gadgil Committee) was set up in the year 1963. As per report of this committee, the expansion of co-operative farming in India at that time was at its infancy. The Committee made some recommendations for the expansion of co-operative farming in India. Following those recommendations, it was proposed that 10,000 agricultural co-operative societies would be set-up. It was also stated that the weak co-operative societies would be restructured. It was further decided that new co-operative societies would be set up only in those areas where they had good prospects. The same policy was followed in the fifth plan (1974–78) also. However, almost nothing has been mentioned about co-operative farming in the later plans. The government only assures of some financial help if the farmers voluntarily form co-operative farms.

4.7 Summary

1. Definition of Land Reform

According to Doreen Warriner, land reform in the traditional and accepted sense means the redistribution of land in favour of small farmers and agricultural labourers. However, in the wider sense, land reform means 'any' improvement in agricultural economic institutions.

2. Objectives of Land Reform

Two basic objectives of land reform are : (i) to build up suitable agricultural structure and organisation and to remove traditional obstructions in order to raise agricultural productivity, (ii) to remove inequality in the rural economy and to build up an exploitation-free society.

3. Historical Aspects of Land Reform :

There is really no historical evidence to suggest that land reform has been a condition for economic development. England, Prussia and Japan achieved very rapid economic development at the cost of their peasant farmers. On the other hand, Switzerland and the Scandinavian countries (Denmark, Norway and Sweden) have reached high levels of development with peasant farming. Again, countries like the USA, Canada, Australia and New Zealand of today have highest per capita agricultural output on the basis of family farming and state control of land use. Thus, history offers both types of pictures. We cannot conclude that land reform is a condition for economic development.

None-the-less, land reform in the modern world does represent a turning point. In several Asian countries, land reform is regarded as the abolition of colonial rule and the achievement of national independence. In Latin America, land reform is linked with emancipation from the legacy of Spain. This conception of a break with the past can be a powerful stimulus in national life. In such cases, land reform may be one of the strategic factors in economic development.

4. Economic Aspects of Land Reform

To consider the economic aspects of land reform, we exclude the peasant system and communal tenure system from our discussion. In the peasant system, land

ownership is more or less equally distributed. In the communal land system, land is communally owned. These land systems may need reforms of the agrarian structure, but they do not need redistribution of ownership of land. So we consider the economic aspect of land reform on the land system in which large estate is the predominant form of land tenure. Now, there are mainly three types of large estates :

(i) Large estates of Asian countries : Here land holding is only a property and not a large farm or large producing unit. The property is leased in small units to tenant cultivators. The owner gets rent in terms of money or a share of the crop.

(ii) Large estates of South European countries and of Latin America : Here land holding is both a large property and a large enterprise. The estate is run by salaried officials and worked by labourers. This type of land system is called *Latifundia*.

(iii) Plantation estates : These are also both large properties and large enterprise. They were usually owned by foreign capital, and few cases of private ownership. In the present era of liberalisation and in the post-second world war period of independence of many countries from the foreign rule, most of these estates are privately owned. The methods of cultivation are usually intensive.

In all these land systems, there is an institutional monopoly. As a result, rent is very high in Asian countries. In Latifundian systems and in plantation system, wages are very low. The main economic argument of land reform in these cases is to break this monopoly. Redistribution of land in the Asian and Latifundian systems will break this monopoly. In these systems, land units are already small and hence there will be no loss of economies of scale. However, to get the economies of scale, the plantation estates should not be divided. In that case, the monopoly effect on labour (i.e., the power of keeping wages low) may be tackled by a policy of raising wages.

Thus, the existence of institutional monopoly creates a strong argument for land reform, specially in Asian and Latifundian systems.

5. Demographic Aspects of Land Reform

Here we consider two questions : (i) How does population growth influence the demand for land reform? (ii) Does land reform help mitigate the effects of over-population?

If population grows, demand for land rises. Then the landlord's monopoly power rises. In Asian systems, rent rises and its share in national income rises. In Latifundian systems and in plantation economies, wages fall and inequality in income rises. Hence growth of population gives rise to a demand for land reforms.

The second question is, whether land reform can mitigate the effects of over-population. Now, over-population leads to any of the following three cases : (i) surplus labour on the land, (ii) falling output per head and (iii) falling output per acre. When over-population leads to falling output per head (or falling fertility of the soil), land reform cannot do much. However, where over-population creates surplus labour (i.e., disguised unemployment) on land, land reform can mitigate the problem by redistribution of land and increase in farm employment.

6. Land Reform in India

After independence the government of India has adopted various land reform programmes. They are : abolition of intermediaries, tenancy reforms, ceiling on land holdings, consolidation of land holdings and introduction of co-operative farming. However, land reform programmes in India have not been successful. The main reasons behind this failure are lack of political will, loopholes in different laws, opposition or lukewarm attitude of Indian bureaucracy, etc.

7. A Debate on Ceiling on Land Holdings

One of the important programmes of land reform in India is the imposition of ceiling on land holdings. It was stated that the surplus land over the ceiling will be taken away and be distributed among small and landless farmers. The main arguments in favour of ceiling on land holdings are : reduction in inequality in rural economy, removal of absentee landlordism, increase in agricultural productivity, helpful for large scale farming, etc. The main arguments against the programme of ceiling on land holdings are : discriminatory against rural people, obstacle to large scale production, discouragement to agricultural investment, etc. The programme of imposition of ceiling on land holdings has not however been successful in India. The main reasons behind this failure are lack of political will and lukewarm interest taken by the Indian bureaucracy.

8. Co-operative Farming in India

There are four forms of co-operative farming : co-operative tenant farming,

co-operative collective farming, co-operative better farming and co-operative joint farming. In Indian economy, co-operative joint farming has been considered to be the most appropriate and useful. Under this type of co-operative farming, small farmers pool their land together and cultivate the land jointly. Each farmer gets a share in the produce according to his contribution of land and labour. There are arguments for and against co-operative farming. The main arguments in favour of co-operative farming are : benefits of large scale production, mechanised farming, better mobilisation of agricultural surplus, provision of agricultural credit and marketing, reduction in economic inequality, etc. The main arguments against co-operative farming are : loss in initiative and enterprise, fall in land productivity, increase in rural unemployment, etc. In India, co-operative farming has not expanded at all. This is mainly due to reluctance of both the government and the farmers.

4.8 Exercise

Small Answer Type Questions

1. What is land reform?
2. What is latifundia?
3. What do you mean by ceiling on land holding?
4. What is meant by sub-division and fragmentation of land holding?
5. What do you mean by consolidation of land holding?
6. Define co-operative farming.
7. What are the different forms of co-operative farming?
8. What do you mean by co-operative joint farming?
9. What is meant by tenancy reform?
10. Give two arguments in favour of ceiling on land holdings.
11. Mention two arguments against ceiling on land holdings.
12. Mention two reasons behind the failure of land reform programme in India.
13. Give two arguments in favour of co-operative farming.

14. Mention two arguments against co-operative farming.

Medium Answer Type Questions

1. What are the objectives of land reform?
2. Mention the main land reform programmes in India.
3. Describe the major failures of land reform programme in India.
4. Suggest some measures to expand co-operative farming in India.
5. Discuss the problems of sub-division and fragmentation of agricultural holdings in India.
6. What are the main features of co-operative farming?
7. What are the different types of co-operative farming?

Long Answer Type Questions

1. Do you think that land reform is a condition for economic development? Judge from the historical aspects of land reform.
2. Briefly consider the economic aspects of land reform.
3. How does the growth of population influence the demand for land reform? Does land reform mitigate the problem of over-population?
4. What is land reform? Briefly describe the land reform programmes adopted in India.
5. Critically examine the success of land reform programmes in India.
6. Mention the reasons behind the failure of land reform programmes in India.
7. Mention the arguments for and against the imposition of a ceiling on agricultural land holdings in India.
8. Critically examine the progress of co-operative farming in India.

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Unit - 5 □ International Commodity Agreements

Structure

5.1 Objective

5.2 Introduction

5.3 Concept of International Commodity Agreements

5.4 Objectives of International Commodity Agreements

5.5 A Brief History of Some International Commodity Agreements

5.5.1 International Tin Agreement

5.5.2 International Coffee Agreement (ICA), Or, Association of Coffee Producing Countries

5.5.3 International Cocoa Agreement

5.5.4 International Natural Rubber Organisation (INRO)

5.5.5 Multifibre Agreement (MFA)

5.5.6 International Wheat Council

5.5.7 International Sugar Organisation (ISO)

5.5.8 International Timber Tropical Agreement (ITTA)

5.5.9 International Energy Agency (IEA)

5.6 Reasons of the Failure of International Commodity Agreements

5.7 Generalised System of Preferences

5.8 Summary

5.9 Exercise

5.10 References

5.1 Objective

After studying the Unit, students will be able to know

- the concept and objectives of International Commodity Agreements
- a brief history of some major International Commodity Agreements
- the difficulties associated with the international commodity agreements
- the concept of Generalised System of Preferences (GSP)

5.2 Introduction

Theoretically, free trade is the best for all the trading countries. Free trade is referred to as the policy of non-interference by the government of a country in its foreign trade. Free trade policy (also called *laissez faire* policy) implies absence of any artificial restriction of or obstacle to the freedom of trade of a country with other countries. Many classical as well as modern economists favour free trade which leads to maximum possible output, efficient allocation of resources, maximum factor income, maximum consumer satisfaction, enlargement of market, prevention of monopoly, etc. However, in practice free trade cannot be pursued for many reasons. Hence, in reality we have protective trade among countries. This leads to sub-optimal equilibrium and some social costs. To minimise these social costs and to attain a second best position when the first best position of Pareto optimality under free trade is not attainable, countries form customs union. Thus, formation of customs union may be regarded as an attempt to attain the second best position in the field of international trade. In the case of customs union (also called regional trading block), a group of two or more countries form an association or a union. A customs union introduces free trade among the member countries but imposes a uniform tariff against non-member countries of the world. In this sense, customs union is a synthesis of the policies of free trade and protective trade. It seeks to enjoy some benefits of free trade and some benefits of protective trade.

Such association of countries or grouping of nations may take different forms. Some major forms of regional economic associations, in the increasing order of their cohesiveness, are :

(i) Preferential trading club, (ii) Free trade area, (iii) Customs union, (iv) Common market and (v) Economic Union.

Some examples of customs union with varying degrees of their cohesiveness among member countries are mentioned below :

- (i) North-American Free Trade Agreement (NAFTA),
- (ii) Latin-American Free Trade Association (LAFTA),
- (iii) Caribbean Free Trade Association (CARIFTA),
- (iv) Economic Free Trade Association (EFTA), and
- (v) European Union (EU), previously known as European Economic Community (EEC) or European Community (EC).

There is another line of attempt to enjoy the good effects of foreign trade and at the same time to avoid the evil effects of foreign trade. This attempt is popularly known as International Commodity Agreements. The main purpose of such agreements is to secure price stability for primary commodities. The background behind such commodity agreements may be stated as follows :

Prebisch and Singer argue that there has been a secular deterioration in the terms of trade of the underdeveloped countries. It implies that there has been an international transfer of income from the poor to the rich countries and that the gains from international trade have gone more to the developed countries at the cost of underdeveloped countries. This is known as the **Prebisch-Singer thesis**. It argues that the terms of trade in the long run move against the primary products and in favour of the manufactured products. Now, underdeveloped countries are the exporters of primary products while developed countries are the exporters of manufactured goods. Thus, Prebisch and Singer argue that in the process of international trade, terms of trade move against underdeveloped countries and in favour of developed countries. From the empirical evidence, it has been found from the British experience that during 1870–1930, there has been a secular downward trend in the prices of primary products relative to the prices of manufactured goods. There are so many other instances of deterioration in terms of trade against primary products and against developing countries. There are some explanations of this deterioration in terms of trade of underdeveloped countries. The most important among them is the

inelastic demand for primary products. Underdeveloped countries generally export primary products. The demand for such products is inelastic in the world market. As a result, if supply of such products rises, price falls at a greater rate. Hence, the export earnings of underdeveloped countries fall. Here lies the importance of control of supply of primary products. International commodity agreement is an attempt to secure price stability for primary products.

5.3 Concept of International Commodity Agreements

Agreements between producer and consumer countries is an attempt to secure price stability for primary commodities, are called international commodity agreements. Consumers and producers may agree to purchase and supply respectively certain quantities at set prices. Occasionally agreements are also made on the part of the producers to maintain the stability of price of the commodity produced by them and sold in the world market.

Thus, an international commodity agreement is an undertaking by a group of countries to stabilise trade, supplies and prices of a commodity for the benefit of participating countries. An agreement usually involves a consensus on quantities traded, prices, and stock management (en.m. wikipedia. org).

5.4 Objectives of International Commodity Agreements

We know that prices of primary products are highly unstable. This causes great difficulty to the less developed countries. These countries are exporters of mainly primary products. Hence, price instability of primary products makes income of these countries highly unstable. Incomes in such countries then swing from one extreme to other. This creates alternately inflationary and deflationary pressures in their internal economies. These also cause instability in their export income and hence instability in their balance of payments. Hence the urgency for stabilising the prices of primary products was felt. Since the Second World War, a number of international commodity agreements was signed. They include coffee, olive oil, sugar, tin, cocoa, rubber, sultanas and wheat. The main objective behind all of them was to adjust the total supply of the commodities in world market to changes in world demand so that price fluctuations are moderated.

There are mainly three types of international commodity agreements. They are : buffer stock agreements, quota agreements and multilateral long-term contracts. By creating a buffer stock of a commodity, price stability of that commodity may be achieved. At the time of low price, the buffer stock is to be increased. It will control the fall in price. Similarly, at the time of high price, the buffer stock is to be run down and thus the supply of the commodity is to be increased. This will limit the price rise. When fluctuations in price are caused by supply factors rather than the forces of demand, such fluctuations can be controlled by imposing quantitative restrictions on output. Again, price stability can also be maintained through multilateral long-term contracts.

5.5 A Brief History of Some Major International Commodity Agreements

There have been many international commodity agreements after the Second World War. We here give a brief description of major international commodity agreements.

5.5.1 International Tin Agreement

The International Tin Agreement was an example of a 'price-stabilisation' agreement by maintaining a buffer stock of tin. It is often cited as the most successful example of an international commodity organisation embracing both producers and consumers of tin. The International Tin Council was originally established in 1956 following the ratification of the First International Tin Agreement. The first agreement operated for five years from July 1956. A buffer stock of tin was created. When the price of tin touched a ceiling (upper limit), tin was sold from the buffer stock. Similarly, when the price of tin reached a floor (lower limit), tin was purchased from the market. Thus, the price of tin was attempted to keep within a ceiling and a floor. The buffer stock was financed via compulsory contributions from tin-producing countries and voluntary contributions from tin-consuming countries. To some extent, the effectiveness of the Council's activities have been constrained by its lack of universality. In particular, major tin exporters such as Burma, the People's Republic of China and the USA did not join the Council. The USA however eventually joined the Fifth International Tin Agreement (1977). The International Tin Council became

insolvent in late 1985, when in the face of a low market price for tin, it ran out of funds to support the floor price. This means that the council did not have enough fund to purchase the required amount of tin from the market in order to thwart the falling price of tin. Thus, the sixth agreement failed in 1986 when the resources of the International Tin Council were insufficient to halt the fall in price of tin. It has been replaced by the Association of Tin-producing Countries which operates an export quota system.

5.5.2 International Coffee Agreement (ICA) or, Association of Coffee Producing Countries

The International Coffee Agreement is an international commodity agreement between coffee producing countries and coffee consuming countries (wikipedia). The First Coffee Agreement was signed in 1962. It covered the period up to 1968. It was designed to halt the long term decline in prices by fixing export quota for each coffee producing country. The agreement has since been regularly renewed. The last agreement expired in 1989. It was then replaced by the Association of Coffee Producing Countries which operates an export quota system to maintain stable coffee prices. The Seventh Agreement, the ICA 2007, was adopted by the Association in September 2007 and entered into force definitively on 2 February, 2011. It was agreed by the 77 Members of the International Coffee Council meeting in London. The ICA's service for the coffee community completed 50 years during the period 1963–2013. The 2007 Agreement had a duration of 10 years. It had the provision of extending the Agreement for up to a period of 8 years. On 25 January 2008, the Council designated the International Coffee Organisation as the Depositary for the ICA 2007.

5.5.3 International Cocoa Agreement

In 1973, an International Cocoa Agreement was concluded until 1988. A revised agreement was reached in 1993. It aimed at controlling the production of cocoa and encouraging its consumption. According to Wikipedia, the International Cocoa Organisation (ICCO) is a global organisation composed of both cocoa producing and cocoa consuming countries. Its headquarter is located in London, United Kingdom. The first International Cocoa Agreement was negotiated in Geneva. The ICCO was established in 1973 to put into effect the First International Cocoa Agreement which was negotiated in Geneva at a United Nations International Cocoa Conference. There

have since been seven Agreements. The Seventh International Cocoa Agreement was negotiated in Geneva in 2010 and came into force provisionally on 1st October, 2012.

The two most important breakthroughs of the present International Cocoa Agreement were the establishment of an explicit mandate on a sustainable World Cocoa Economy and the founding of the Consultative Board on the World Cocoa Economy. This Board consists of 14 international experts in the cocoa sector, all from the private sector (7 from cocoa producing Member Countries and 7 from cocoa consuming Member Countries). However, the Board acts in an advisory capacity, as all final decisions are taken by the International Cocoa Council.

5.5.4 International Natural Rubber Organisation (INRO)

At the end of 1976, an agreement was concluded among producers of natural rubber. Its aim was to stabilise the prices of natural rubber by means of a buffer stock and controls on production. An International Natural Rubber Organisation (INRO) was set up in 1980. The International Rubber Agreement was renewed in 1995 with 31 member countries. They included both producers and consumers of rubber. It is now the sole agreement that regulates price of natural rubber by selling from and buying for a buffer stock. The main aim of INRO is to achieve a balanced growth between the supply of and demand for natural rubber.

5.5.5 Multifibre Agreement (MFA)

The Multifibre Agreement (MFA) governed the world trade in textiles and garments from 1974 through 1994. It imposed quotas on the amount of textiles which developing countries could export to developed countries. Before the formation of MFA, there was a number of similar agreements. Some of them are : Short-Term Arrangement regarding International Trade in Cotton Textiles (Geneva, 21 July 1961), Long-Term Arrangement regarding International Trade in Cotton Textiles (Geneva, 9 February 1962 and 15 June 1970) and Arrangement regarding International Trade in Textiles (Geneva, 20 December 1973). These treaties attempted to address the issue of what seemed a natural dominance of developing world in cotton textile production at the time. Eventually, the Multifibre Agreement (MFA) was established in 1974.

The MFA was a trade pact between some 80 developed and developing

countries. It regulated international trade in textiles and clothing through the issues of quotas on imports. Its purpose was to give poor countries somewhat assured access to markets in Europe and North America. However, at the same time, it attempted to ensure that this access did not disrupt the older established textile industries of the developing countries.

It may be noted that the MFA was a form of protectionism. It discriminated against the interests of the less developed countries. Many of these countries are highly dependent on textile industries as a leading sector in promoting their economic development. It should also be noted that the MFA was contrary to the principles of GATT which sought to introduce freer and freer world trade. However, MFA was conveniently exempted for some time from the rules of GATT. The successor of MFA, the Agreement on Textiles and Clothing (ATC), expired on 1 January, 2005.

5.5.6 International Wheat Council

International Wheat Council is an international commodity organisation. It was established in 1949 under the provision of the First International Wheat Agreement. The Council administers the Wheat Trade Convention of the 1971 International Wheat Agreement. The activities of the Council include encouraging international co-operation regarding wheat problems, promoting international wheat and wheat flour trade and contributing to the stability of the international wheat market. Its members included 9 exporting countries, 39 importing countries and the European Economic Community (EEC) which is both an exporting and importing organisation.

In 1995, the Council had been changed to International Grains Council (IGC). It is an inter-governmental forum of exporting and importing countries for co-operation in wheat and coarse grain matters. It administered the Grains Trade Convention, 1995. The IGC, like the previous wheat council, has two types of members : Importing members and Exporting members. The 45th session of IGC was held in June 2017 in London, UK. The 46th session was held in Brussels, Belgium in December 2017. The main aim of IGC is to increase market stability and world food security through providing impartial analysis on supply and demand fundamentals in the grains and oilseed sectors, and improving transparency through regular reporting on market and policy developments. The headquarter of the IGC is situated in London, England.

5.5.7 International Sugar Organisation (ISO)

International Sugar Organisation is an inter-governmental organisation, established in 1968, under the auspices of UNCTAD (United Nations Conference on Trade and Development). The ISO administers International Sugar Agreements regarding world production of, and trade in, sugar. The Organisation is devoted to improving conditions on the world's sugar market through debate, analysis, special studies, transparent statistics, seminars, conferences and workshops. The headquarter of the ISO is in London, UK. The ISO was established by the International Sugar Agreement of 1968, as the body responsible for administering the Agreement.

The ISO has 86 members and according to its 2009 data, its member states represent 83 per cent of world sugar production, 69 per cent of world sugar consumption, 95 per cent of world sugar exports and 47 per cent of world sugar imports. The ISO has two major objectives :

- (i) to ensure enhanced international co-operation in world sugar matters by providing a forum for inter-governmental consultations in order to improve conditions on the world sugar market.
- (ii) to facilitate sugar trade by collecting and providing information on the world sugar market.

The ISO is the body responsible for the implementation of the International Sugar Agreement, 1992, which remained into force until 31 December 2011 and was later extended for two years up to 31 December 2013.

5.5.8 International Timber Tropical Agreement (ITTA)

The International Timber Tropical Agreement (ITTA), 1983 is an agreement to provide an effective framework for co-operation among tropical timber producers and timber consumers. It seeks to encourage the development of national policies aimed at sustainable utilisation and conservation of tropical forests and their genetic resources (en. m. wikipedia. org). The International Tropical Timber Organisation (ITTO) was established under this agreement. It first opened for signature on November 18, 1983 and then came into force on April 1, 1985. There were subsequent treaties, with an increasing number of signatories, in 1994 (ITTA 2) and 2006 (ITTA 3).

The ITTA 2 (1994) came into force on January 1, 1997 while the ITTA 3 (2006) came into force on December 7, 2011. These agreements aimed to promote the expansion and diversification of international trade in tropical timber from sustainably managed and legally harvested forests. They also sought to promote the sustainable management of tropical timber forests. (Source : UNCTAD report).

ITTO is an action and field oriented organisation. It has more than 30 years of experience. It has funded and assisted in the implementation of more than 1,200 projects and other activities related to sustainable forest management (SFM). Members of ITTO represent about 90 per cent of the world tropical timber trade and more than 80 per cent of the world's tropical forests. (Source : itto.int).

5.5.9 International Energy Agency (IEA)

The International Energy Agency (IEA) is an autonomous inter-governmental organisation established in the framework of OECD (Organisation for Economic Co-operation and Development). It was established in November, 1974 in the wake of the 1973 oil crisis (wikipedia). Its headquarter is located in Paris, France. The IEA is at the heart of global dialogue on energy. It provides authoritative analysis, data, policy recommendations and real world solutions in the field of energy. Its purpose is to help countries provide secure and sustainable energy for all. The IEA seeks to help co-ordinate a collective response to major disruptions in the supply of oil (iea.org). Since its inception in 1974, the IEA has evolved and expanded significantly. It recommends policies that enhance the reliability, affordability and sustainability of energy. It examines all issues related to energy, such as renewables, demand-supply of oil, gas and coal, energy efficiency, clean energy technologies, electricity systems and markets, access to energy, demand side management of energy and much more. Since 2015, the IEA has opened its doors to major emerging countries. The goal is to expand its global impact and deepen co-operation among member governments in the field of energy security and energy policy analysis.

5.6 Reasons for the Failure of International Commodity Agreements

From the descriptions of different international commodity agreements we see that these agreements have had a very chequered history and there are almost no

survivors. There are many reasons behind it. We may briefly mention those reasons as follows :

- (i) It has been found that it is very difficult to get agreement on the financing of buffer stocks. There have been disagreements also on the allocation of output quotas among different countries.
- (ii) There is a difficulty associated with the buffer stock scheme. Buffer stock schemes operate by buying up the stock of a commodity when the price is abnormally low and selling the commodity when its price is unusually high. The success of such schemes rests on the foresight of those officials who manage them. The success of the entire scheme depends on good and more or less accurate price forecasting. But, as Samuelson says, accurate forecasting is very difficult; *may*, it is impossible.
- (iii) Under buffer stock scheme, purchase must be made when prices are low relative to future prices and sold when prices are high relative to future prices. Clearly, such schemes are only suitable for smoothing out price fluctuations. They cannot cope with persistent downward trends in price without accumulating large stocks of the commodity. But that requires a very large fund. In 1986, the buffer stock for tin ran into severe financial difficulties as the scheme tried to maintain the price of tin 'too high' for too long. Further, storage schemes are only appropriate for goods that can easily be stored, and for which the cost of storage is not excessive.
- (iv) The restriction scheme on the output quota system has also its limitations. The essence of a restriction scheme is that major producers or countries get together and agree to restrict the production and export of a good whose price is falling. It is very difficult to maintain and supervise a scheme of this nature in practice. This is because it becomes extremely attractive for any one producer or nation to break away from or to refuse to join the scheme.
- (v) After the establishment of World Trade Organisation (WTO) on 1st January 1995, the scope and relevance of international commodity agreements have greatly reduced. The WTO seeks to develop a multilateral trading system. Its aim is to reduce tariffs and other trade barriers among member countries and to eliminate discriminatory treatment in international trade relations. Further, the provisions under Most Favoured Nations (MFN) of GATT

(General Agreement on Tariffs and Trade, the predecessor of WTO) stipulate that if any member country gives any benefit or concession to another member country, that benefit or concession should be applicable to all other member countries. Clearly, during the WTO regime, the scope of international commodity agreements has greatly reduced.

For all these reasons, many of the international commodity agreements did not survive. The less developed countries did not benefit much from this scheme of price stabilisation of mainly primary products.

5.7 Generalised System of Preferences (GSP)

A preferential tariff system was proposed at the first United Nations Conference on Trade and Development in 1964. In the second UNCTAD conference (1968) it was formally approved. It was proposed under this system that developed countries would impose lower duties on imports from less developed countries while, on imports from other countries, the same level of import duties will be maintained. This system of conferring a margin of preference on the imports from developing countries is called the generalised system of preferences (GSP).

However, the agreement or the system looked attractive on paper. In reality, the scheme only covered 23 per cent of the value of exports of developing countries. Further, half of these exports went to the United States which did not implement the scheme. Further, some other countries excluded some commodities from preference list for protectionist reasons. As per calculations by Murray in 1973, only about 5 per cent of total trade was covered in the generalised system of preferences. Further, the scheme also included quota and hence the preferential tariff advantages disappeared for marginal trade. Thus, over all, the benefits of the scheme have gone mainly to the few (about ten) more advanced developing countries. The scheme did not benefit the smaller, poorer developing countries. Further, after the GATT/WTO agreements under the Uruguay Round, there have been considerable reductions in import tariffs in general. Hence, in the post-GATT era or in the WTO regime, the significance of such preferential system of tariff has been considerably lessened. For example, under the MFN (Most Favoured Nation) clause of the Uruguay round, if any member of the WTO gives some favour on international trade to any member country, that favour should be given to all other member countries.

The most significant trade agreement to help poorer developing countries is perhaps the Lome agreement of 1975. It was signed by the EEC (European Economic Community) and forty-six developing countries. Under this agreement, free access was provided to the European market for all the manufacture goods of developing countries and also for 90 per cent of their agricultural exports. Again, there was agreement to stabilise the foreign exchange earnings of twelve key commodities. These commodities are cocoa, groundnuts, coffee, cotton, coconuts, plam, hides and skins, wood, bananas, tea, sisal and iron ore. The scheme is known as stabex scheme (stabex here implies stability in foreign exchange earnings). Under this stabex scheme, the producers of these twelve commodities are guaranteed a certain level of earnings. The Lome convention also disburses aid to the African, Caribbean and Pacific (ACP) countries through the European Development Fund (EDF). Thus, the Lome Convetion of 1975 came out with an effective help package to the poorer developing nations in the field of international trade and payments. The Convention has been negotiated several times since 1975.

5.8 Summary

1. International Commodity Agreements

International commodity agreements are the agreements made between producer countries and consumer countries in order to secure price stability for primary commodities. We know that demand for most of the primary products is inelastic. As a result, prices of such products are highly unstable. Most of the less developed countries are producers of primary products. Hence the income of the less developed countries is highly unstable. This also makes instability in their balance of paymets. Hence there is a need for stabilising the prices of primary products. To achieve this goal, a number of international commodity agreements was signed since the Second World War. The aim was to stabilise the prices of relevant commodities by adjusting their supply to changes in their demand.

There are mainly three types of international commodity agreements. They are : buffer stock agreements, quota agreements and multilateral long term contracts. Under buffer stock agreements, the buffer stock is to be increased at the time of low price. In the opposite situation of a period of high price, the buffer stock is to be

reduced. Thus, the supply of the relevant commodity is regulated. Again, when fluctuations in price are caused by supply factors, they can be regulated by imposing quantitative restrictions (i.e., quotas) on output. Price stability can also be achieved through multilateral long term contracts.

Thus, international commodity agreements help stabilise prices of primary products. There were many such agreements on tin, coffee, cocoa, natural rubber, sugar, wheat, etc. However, at present, there are almost no effective survivors of these agreements. There are many reasons behind this. The most important among them are : difficulty of financing buffer stock scheme, difficulty of making accurate price forecasting, difficulty of executing the quota scheme as per agreements, introduction of freer international trade system in the post-GATT or the WTO regime, etc.

2. Generalised System of Preferences (GSP)

It was agreed in the second UNCTAD conference (1968) that developed countries would lower duties on imports from developing countries while they would maintain import duties at the same level on imports from other countries. This system which confers a margin of preference on developing countries, is called the Generalised System of Preferences (GSP). The agreement or the system, however, looked attractive on paper. In practice, it had so many limitations. The smaller and poorer developing countries did not stand to gain much from this system of preferences. Only few advanced developing countries got some benefits.

5.9 Exercise

Short Answer Type Questions :

1. What do you mean by free trade policy?
2. What is *laissez faire* policy?
3. What is customs union?
4. What do you mean by regional trading blocks?
5. Give the full forms of NAFTA and LAFTA.
6. What are the full forms of CARIFTA and EFTA.

7. Give the full forms of EC, EEC and EU.
8. What do you mean by international commodity agreements?
9. State the Prebisch-Singer thesis.
10. When was the International Tin Council established?
11. What was the main objective of International Tin Agreement?
12. When was the First Coffee Agreement signed and what was its period of coverage?
13. Give the full form of ICCO in the context of international commodity agreements.
14. What is the full form of INRO?
15. Give the full form of MFA.
16. What is Multifibre Agreement (MFA)?
17. When was international sugar organisation (ISO) established?
18. Give the full form of ITTA.
19. What is the full form of IEA?
20. Give the full form of GSP.
21. What is the full form of UNCTAD?

Medium Answer-Type Questions :

1. What is free trade policy? Mention some benefits of free trade policy.
2. Mention some major forms of regional economic association with some examples.
3. Briefly explain the Prebisch-Singer thesis and its implication.
4. Write a short note on International Commodity Agreements.
5. Give a brief history of International Tin Agreement.
6. Write a short note on International Coffee Agreement (ICA).
7. Give a brief account of International Cocoa Agreement.
8. What is the main objective of International Natural Rubber Organisation (INRO)?

9. Give a brief description of Multifibre Agreement (MFA).
10. Write a short note on International Wheat Council.
11. Give a brief description of International Sugar Organisation. (ISO).
12. Examine how far International Timber Tropical Agreement (ITTA) is successful in achieving its objective.
13. Write a short note on International Energy Agency (IEA), mentioning its major functions.
14. Briefly describe the Generalised System of Preferences.

Long Answer Type Questions

1. Briefly describe the following international commodity agreements
 - (a) International Coffee Agreement
 - (b) International Sugar Organisation
2. Briefly mention the reasons behind the failure of international commodity agreements.
3. Write a short note on Generalised System of Preferences (GSP).

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Unit - 6 □ Peasant Economy

Structure

- 6.1 Objective**
- 6.2 Introduction**
- 6.3 Concept of Peasant Economy and its Main Features**
 - 6.3.1 Advantages and Disadvantages of Peasant Economy**
- 6.4 Chayanov's Theory of Peasant Economy**
- 6.5 Different Types of Peasants and Their Adoption of Suitable Technology**
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6.1 Objective

After studying this Unit, students will be able to know

- about peasant economy and its main features
- merits and demerits of peasant farming
- Chayanov's theory on different aspects of peasant economy
- Classification of peasants and the type of technology adopted by them
- the role of women in agricultural activities

6.2 Introduction

There are basically two types of farming : capitalist farming and peasant farming. In capitalist farming, large farms are operated as business enterprises. Here,

hired labour is employed and farming activity is fully mechanised. The basic objective of this type of farming is to maximise profit. This type of farming is found in the developed countries like USA, UK, Canada, Australia (except Japan) and also in the erstwhile socialist countries like Russia and China. Side by side, in the less developed over-populated economies, farm size is very small and there is very little scope of mechanised farming. In such economies like India, Bangladesh, Pakistan and also African and many Latin American countries, there is peasant farming in which family or household is the unit of operation. Here, small peasants employ all their family members to do the farm activities. Technique of production is labour-intensive, not capital-intensive as in the case of capitalist farming. Under peasant farming, the goal of the peasant farm is to maximise output, not profit. We shall consider different aspects of peasant farming in this unit.

6.3 Concept of Peasant Economy and its Main Features

Formally speaking, a peasant is any member of a class of persons who till the soil as small land owners or as agricultural labourers. The term 'peasant' originally referred to small scale farmers in Europe in historic times i.e., before the emergence of industries. However, many other societies, both past and present, have had a peasant class. In this connection, we may distinguish between peasants and farmers. Peasants may not own land while working on land on the basis of tenancy, rent, etc. Under feudalism, they were tied by feudal order of landlord-slave system. On the other hand, farmers own land and livestock, and they are higher in order than the peasants.

Peasants are households which collect their livelihood mainly from agriculture and partly from non-agricultural activities. They utilise mainly family labour in farm production, co-ordinate household production and consumption activities and decisions. They are characterised by partial engagement in agricultural input and output markets which are generally imperfect markets.

The peasant economy generally has a relatively simple farm technology and has a division of labour by age and sex. The basic unit of production in a peasant economy is the peasant family or household. One distinguishing characteristic of peasant agriculture is self-sufficiency. Peasant families consume the lion's share of their total produce. Only a very small part of their total produce is sometimes sold

in the market. Their total production is generally not much larger than their need for the maintenance of the family. In a peasant economy, both labour productivity and land productivity are low.

As industrialisation progresses in a society, the size of peasant economy naturally gets squeezed. Then peasants as a class tend to be smaller and smaller and ultimately disappear. This is due to the mechanisation of farming, the resulting consolidation of plots of farm land into larger units and the accompanying migration of rural workers to the urban areas and industrial sites for alternative employment.

With this much of introductory discussion, we may formally define a peasant economy as an agricultural economy in which the family is the basic unit of production. As the industrial sector of an economy expands, the peasant economy gets squeezed and squeezed. We may mention the following main features of a peasant economy.

1. Partial integration into imperfect and incomplete markets

Partial integration here means that peasant households acquire some of their resources through markets and dispose of some of their produce in markets. Social networks, including the peasant household itself, are important non-market institutions for exchange. However, where peasants exchange in markets for their resources and produce, these markets are often imperfect and incomplete. This means that there are few buyers or sellers dominating the market and the market information is very poor.

2. Subordination

Peasant economy is partially integrated to the whole economy both economically and socially. This means that peasants are dominated by larger and more powerful groups. They are subject to the decisions made by the behaviour of others and have limited ability to influence the impact and nature of these decisions. As a result, there is a possibility of risk that they may be exploited by more powerful groups.

3. Small scale agriculture using family labour

Peasants are mainly engaged in agricultural activities. However, this does not mean that peasants are purely subsistence farmers. It is true that the considerable part of their total produce is consumed by their family members, but they also sell a part of their produce in the market. Peasants also hire out their labour to other farms and engage in other forms of employment. They also often buy and sell staple and other foods.

4. Multi-activity livelihoods

Sometimes, non-farm activities play a significant role in peasant livelihoods. Examples of such activities are production of coir ropes, production of jam and jelly, production of broom, etc.

5. Dual economic nature

Peasant agricultural production is both for sale and for family requirements. Thus a peasant household is simultaneously the producer and the consumer.

6. Heterogeneity of peasants

Though the peasants or peasant families have some common features, they cannot be lumped into a single conceptual group. There is much differentiation within and among peasant communities.

7. Unit of production

As we have already mentioned, in peasant economy, the primary unit of production is family regardless of its size.

8. Intensive farming, not extensive farming

Peasants are intensive agriculturists as they have small amount of land. Almost total available amount of family labour is utilised in farming.

9. Small and tradition-bound economy

Peasant societies are generally tradition-bound and they generally stick to their own traditions and customs. They resist any kind of change either in their household or livelihood or in their economy.

10. Isolation from urban society

Peasants are treated as interior folk societies living in rural areas than other section of the society. The main reason behind this is their isolation from urban society. This inferiority further leaves them ignorant of new ideas, new techniques of production, latest information on agricultural activities, etc. All these keep a peasant economy at a relatively low economic level.

11. Division of labour

The chief characteristics of peasant economy is the division of labour based on age and sex of the members of peasant families.

6.3.1 Advantages and Disadvantages of Peasant Farming

The peasant farming system has some advantages. They are :

- (i) Better supervision,
- (ii) Higher employment,
- (iii) Higher productivity,
- (iv) Higher stability of small farms, and
- (v) Quick decision.

We briefly describe them one by one.

(i) Better supervision of farm activities

Under peasant farming, the size of the farm is small. Hence, all activities related to the farm can be supervised meticulously and effectively. The owner of the farm or the main organiser of the farming can supervise the work of his family members or other workers and can guide and direct them to do a particular job in a better way. This is not possible if the size of the farm is large. Then the supervision work becomes complex and difficult. Further, in a large farm, the supervisors and managers may not work with full devotion and responsibility.

(ii) Higher level of employment

In peasant farming, the objective of the farm is to maximise output. Hence, employment of labour is carried up to the point where MP of labour is zero. But, in capitalist mode of farming, the goal of the farm is to maximise profit. Here, employment is determined at the point where MP of labour is equal to real wage rate. In this case, employment will be less than the former case. Further, under peasant farming, the farm is small in size. Hence, the use of machinery becomes costly and therefore limited. Thus, labour is not displaced in peasant farms, but it very often happens in large capitalist farm using huge machinery.

(iii) Higher productivity

Under peasant farming, productivity per acre on farms is larger than on farms under other systems where the farms are generally larger in size. The main reason for this is the greater intensity of cropping in small farms. This, in turn, is due to greater use of labour per acre on small farms compared to large farms in other system.

(iv) Higher stability of small farms

In times of emergency like flood, cyclone, etc a small farm with sufficient labour force can face its onslaught more successfully than a large farm. Further, small farms generally purchase a very little or no amount of inputs from the market. They also sell a very negligible amount of their produce in the market. Hence, they remain immune from the fluctuations in the prices of various crops or inputs.

(v) Quick in decision-making

Frequent changes in weather may require immediate decisions on the part of a farmer. In the case of peasant farming, such decisions can be easily taken by the owner-farmer as he himself controls the farm. Further, such decisions can be easily implemented as he himself is the main operator of the farm. But this advantage cannot be obtained in large scale capitalist farming where the manager has to follow some procedures before taking and implementing any decision.

However, peasant farming system has some disadvantages from which other farming systems do not suffer. The main disadvantages of peasant farming are as follows :

- (i) Difficulty in applying improved farm practices and modern farm inputs,
- (ii) Low marketable surplus,
- (iii) Non-optimum use of available resources, and
- (iv) Lack of commercial motive.

We briefly describe them one by one.

(i) Difficulty in applying improved farm practices and modern farm inputs

When farms are small in size, it is more difficult to transform agriculture. For example, rotation of crops is difficult on small farms. Drainage and fencing cannot also be easily improved if the size of the farm is small. Again, construction of farm's buildings is relatively costly. Digging of a well is uneconomic as only a small part of its capacity can be utilised. Further, there may be financial constraints to purchase modern inputs and improved machinery. In such cases, large farms enjoy an extra advantage.

(ii) Low marketable surplus

Most of the total foodgrains produced in peasant farms are consumed up by family members. Hence, a very little or no amount is left for selling in the market. Thus, the volume of marketable surplus under peasant farming is very low. But this marketable surplus is very crucial and is urgently needed for industrialisation of the economy.

(iii) Non-optimum use of available resources

The peasant farmer cannot fully utilise the tilling capacity of the pair of bullocks or buffaloes he possesses, because the size of the farm is rather small. The same argument holds for the cart or other farm implements. There may also be disguised unemployment among the family members of the small farm. Further, a small farm cannot use machinery and does not get benefits of scale economies.

(iv) Lack of commercial motive

The farmer under the peasant farming system is generally off the market. He purchases a very little or no amount of farm inputs from the market. Similarly, he sells a negligible or no amount of his produce in the market. So, his activities are not market-oriented. He has very little incentive to change the crop pattern or input use as per market signals. Thus peasant farms suffer from lack of incentive. This stands on the way of its progress and expansion.

6.4 Chayanov's Theory of Peasant Economy

Chayanov's theory on peasant farming states that **the higher the ratio of dependants to workers in a household, the harder the workers have to work**. According to Chayanov, peasants would work as hard as they needed in order to meet their subsistence needs, but they had no incentive beyond those needs. Therefore, they would slow and stop working once those needs were met (en.m.wikipedia.org). In the language of Sahlin, Chayanov's rule is : **The more consumers each worker has to support, the more work each worker does**. This rule has been characterised as Chayanov's analysis for most anthropologists.

The first important analysis of peasant economics was done by the leading

Russian authority on the economics of agriculture, Alexander Vasilevich Chayanov. His masterpiece was originally written in Russian language. The title of the book may be translated in English as “Peasant Farm Organisation”. It presents a theory of peasant behaviour at the micro level, i.e., at the level of individual family farm. His second study is much shorter than the former. Its title may be rendered in English as “On the theory of Non-capitalist Economic Systems”. Its main proposition is : At the national or macro level, peasant economy ought to be treated as an economic system in its own right, as a non-capitalist economy. We shall mainly concentrate on Chayanov’s micro analysis on peasant farm. Many think that it is the most noteworthy creative synthesis of earlier writings on peasant economies.

Let us consider Chayanov’s theory of peasant farm. Chayanov argues that peasant farming is not a business i.e., not an enterprise of a capitalist sort. Capitalist farms employ hired labour to earn profit. But peasant family farms, as Chayanov defines them, normally employ no hired labour. These farms depend solely on the work of their own family members. Chayanov pointed out that 90 per cent or more of the farms in Russia in the first quarter of the twentieth century had no hired labourers. So they were family farms in the full sense of the definition of Chayanov.

Chayanov argued that the traditional classical and neo-classical doctrines had been developed to explain the behaviour of capitalist entrepreneurs and business organisations in which hired workers worked for wages. The economic theory of such firms considered the quantitative interrelationship of wages of labour, interest on capital, rent for land and profits of enterprise. These four factor incomes—wages, interest, rent and profit—operated in close functional interdependence and were reciprocally determined. Chayanov argues that the moment one of the four factors (in the case of peasant farming, it is hired labour) was absent, it is impossible to determine other factor incomes. The share of income of one factor is to be included in each of the remaining three. Chayanov claimed that in this case, the whole theoretical structure would collapse. According to Chayanov, this was precisely what happened when economists tried to apply the analysis in terms of wages, profit, rent and interest to peasant family farms.

Since peasant family farms had no hired labour, they paid no wages. Hence, the economic category ‘wages’ was devoid of content and the economic theory of wages

irrelevant to family activity. Proceeding in this line, Chayanov posed the question whether in the absence of wages, the net gain, the rent and the interest on capital could be calculated for such peasant farms. His answer in this case was a big no. He thinks that in the absence of wages, these calculations could not be made. Hence the behaviour of these farms could not be accounted for in terms of standard theories of the four main factors of production.

Further, Chayanov found no validity to use imputed values to unpaid family labour. He insisted on taking the entire family household as a single economic unit and treating their annual product minus their outlays as a single return to family activity. By its very nature, this return was unique and indivisible. It could not be meaningfully divided into wages and other factor payments of standard economic theory. In Chayanov's view, the return to the peasant family is undifferentiable.

Let us consider Chayanov's central concept for analysing family economics. It is called by him the labour-consumer balance between the satisfaction of family needs and the drudgery (or irksomeness) of labour. With this concept he severely criticised both Marxian economics in Russia and orthodox classical and neo-classical economics in the West. To develop this concept, Chayanov began with the gross income or gross product of a peasant family household at the end of an agricultural year. From this annual gross income, certain expenses had to be deducted so that the farm can produce the same level of production. Such items are expenses for seed, fodder, repairs, replacement of old livestock and worn out equipment, etc. Once these expenses had been deducted, the farm family had a *net* product or net income. It is the return of the family for its labour during that agricultural year.

Now the question is : How would this net income or net product be divided among consumption, capital formation (or, investment) and savings? To put it more simply, what will the family eat, invest or save? Chayanov pointed out that a capitalistic farm had data to determine this. By deducting the expenditure from its gross product, the business organisation can ascertain its net profits. If it wishes to increase its profits, it can put more capital to get the desired increase in net profit. However, for a peasant family farm, there are neither wages nor net profits. The family members know roughly how many days they have worked. But Chayanov insisted that there is no valid way of estimating the money value of their work. All they can see before them is the net product of their work, and there is no way of dividing days of labour into bushels of wheat.

According to Chayanov, most peasant families are in a position to work more hours or to work more intensively or sometimes even both. The extent to which the members of the family actually work under given conditions is called by him the degree of self-exploitation of family labour. The peasants would put in more effort only if they believed that it would raise output. This extra output could be devoted to more family consumption or more investment in the farm, or both. To explain how the peasants would act, Chayanov introduced the concept of labour-consumer balance. According to him, each seeks an annual output adequate for its basic needs. But this involves drudgery or irksomeness of labour. Chayanov argues that the family does not push its work beyond the point where the possible increase in output is outweighed by the drudgery or irksomeness of the extra labour. Each family tries to maintain rough balance or equilibrium between the degree of satisfaction of family needs and the degree of drudgery of labour. This approach refuted both Marxian approach in Russia and classical and neo-classical approaches in the West.

6.5 Different Types of Peasants and Their Adoption of Suitable Technology

Economists have classified peasants into five main categories. They are : (i) Landlords, (ii) Rich peasants, (iii) Middle class peasants, (iv) Poor peasants and (v) agricultural peasants. However, in any classification of peasants, land tenancy and size of land holding play an important role.

The term 'peasant' has a very wide connotation. Simply speaking, people who depend on agriculture, may be called peasants. In this wide and open definition, peasants may be differentiated in terms of their relationship with the land, such as, owners of the land, absentee landlords, supervisory agriculturists, share-croppers, tenants and landless labourers. Many authors have used the word 'peasant' to mean the agriculturists who are the owners of small holdings and carry on their agricultural work with the help of family labour. Thus, the term 'peasant' is not as simple as it appears. Nowadays there are genteman peasants who are absentee landlords. Peasants are also now involved in share-cropping. Hence we shall say that a peasant is one who generates income out of land generally owned by him.

Types of Peasants

According to Doshi and Jain, sociologists have made different classification of peasants. Some have taken the ownership of land for peasant classification. Some have taken other yardsticks. We mention below the classification of peasants on the basis of different criteria :

(i) Classification of peasants on the basis of land ownership

Daniel Thorner has taken land ownership as the basis for the classification of peasants. According to him, the peasants who have the document of land ownership in their names are the Malicks (land owners). Peasants who do not own the land ownership document (patta) but cultivate the land are the Kisans and the tillers of the land are agricultural labourers.

(ii) Classification of peasants on the basis of the size of land holding

Most of the state governments have classified the peasants on this criterion. Accordingly the classification is as follows :

(a) Rich peasants : Peasants who generally hold more than 15 acres of land.

(b) Middle class peasants : Peasants who generally have 5 to 15 acres of land.

(c) Small peasants : Peasants having land 2.5 to 5 acres.

(d) Marginal farmers : Farmers who possess land less than 2.5 acres.

(e) Landless peasants : Peasants having no land. They earn their livelihood by working on others' farms or work as share-croppers and sub-tenants.

(iii) Classification of peasants on the basis of resource ownership :

Some writers have categorised the peasants on the basis of several other resources such as utilisation of loans, tenancy, ownership of assets, credit from bank, and repayment capacity of loans.

According to K. L. Sharma, there are five types of peasant groups. They are :

(a) Owner-cultivator,

(b) Largely owner-cultivator,

(c) Largely tenant cultivator,

- (d) Tenant cultivator, and
- (e) Totally poor peasants.

Most economists have categorised peasants into five groups that we have mentioned in the beginning of this topic. We have also mentioned that in any classification of peasants, land tenancy and size of land holding play an important role.

Let us consider the adoption of suitable technology by different types of peasants. This adoption of suitable technology depends basically on the financial ability of the farmers. Since large and small farmers or peasants have different degrees of financial ability, the adoption of suitable agricultural technology by them is also different.

Adoption of suitable technology by the rich peasants

The rich peasants have adopted the modern and latest technology of cultivation available before them. As they can afford, they have used high yielding varieties of seeds, chemical fertilisers, have dugged submersible tube wells for irrigation, have used pesticides and insecticides, etc. Further, the large peasants are in many cases absentee landlords. They generally come to the village or rural area in order to complete the tillage in few days. Hence, they use tractors for tilling the land, harvesters for harvesting the crop, other machinery for weeding, etc. Thus, in a word, the technology adopted by large farmers are generally capital-intensive. In fact, in many countries, large farms are guided by the capitalist mode of production where wage labour is employed and the motive of the large farms is to maximise profit. Hence, in such farms, labour employment is carried up to the point where marginal productivity of labour is equal to real wage rate. In the case of middle-class peasants, the adopted technology is more or less the same as adopted by the rich peasants, though may be at a lesser degree.

Adoption of suitable technology by small peasants

Small peasants hold small plots of land. To till that land, they rely on their family labour. Their production technique is more or less conventional or traditional. Further, these peasant families are generally subsistence families. They produce mostly for their subsistence. They cannot afford to buy modern inputs like fertilisers,

improved seeds, pesticides or insecticides. Further, their small plots of land are not suitable for mechanised farming. Hence, small peasants till their land by family labour with bullocks and ploughs. In this type of family farming, the objective of the peasant is to maximise total output. Hence, in peasant farming, employment is carried up to the point where marginal productivity of labour is zero. Thus, employment capacity of small peasant farms is much greater than that of large farms. In other words, small peasant farms adopt a labour-intensive technology while large and medium farms adopt a capital-intensive technique. As small peasants employ family labour and can give some personal care, it is very often found that productivity in small peasant farming is higher than that of medium and large peasant farms.

6.6 Concept of Intra-Household Relationship in Peasant Economy

Intra-household relationship refers to the processes by which resources including income and consumption goods, tasks, leisure and investments in human capital are allocated among individuals and also the outcomes of these processes. Now, in peasant farming, all members of the family work on the family farm. In such activities, there may be some bargaining among the family members. This is called intra-household bargaining. It refers to negotiations that occur among members of a household in order to arrive at decisions regarding the household unit. In the case of peasant farming, there may be the same kind of bargaining among the members of the family regarding various matters related to peasant farming.

6.7 Role of Women in Agriculture

During the last few decades, there has been a continuous trend of increase in women's participation in the work force. This is true for both developed and underdeveloped economies. An UNDP study in 1990's covering 31 countries shows that women work longer hours than men in almost every country. Women, on an average, bear 53 per cent of total burden of work in developing country, and 51 per cent in developed economies. However, unfortunately, women are either unpaid or less paid than the male workers. Further, women have little control over their own earning.

In developing countries, most of the male workers cannot earn sufficient income for their family. Hence, female workers have to work for additional earning. Now, in developing countries, the main economic activities centre around agriculture. Hence, female workers in such economies perform a considerable part of agricultural work. There are some agricultural activities like sowing, transplanting or sappling, threshing, etc. are suitable for women. Male workers cannot perform such jobs well. Hence, in such works, female workers are preferred to male workers by the landowners. Further, women are particularly chosen for the jobs which demand patience, diligence and endurance. Again, women workers are unorganised. As they do own household works side-by-side, they agree to do a job at lower wage rate. Hence, there is a tendency on the part of the landowners to employ female workers. Further, there has been a great change in social attitude towards female workers. Female participation in non-household jobs are no longer treated adversely. Further, in tribal societies, female workers traditionally work outside their households together with household jobs. In less developed economies, employment of female workers from tribal societies are quite common. Again, women generally demand regular but part-time, temporary jobs. They can thus manage both household and non-household jobs simultaneously. For all these reasons, women's share in total work force in different economies are increasing day by day. This is more true in the case of agricultural sector in developing economies. In peasant economy, there is family farming and all the female members of the family are engaged in the small farm of the family. Side-by-side they also do their household works. However, these household works are not valued in most of the economies. Naturally, women's work is greatly undervalued in economic terms. Therefore, the estimated national income does not give us the true value of total national production.

Let us consider the role of women in Indian agriculture. In rural India, the percentage of women who depend on agriculture for their livelihood is as high as 84 per cent. (en. m. wikipedia. org). In India, about 33 per cent of cultivators are women. They are about 47 per cent of total agricultural labourers in India. The typical works of the female agricultural labourer in India are limited to less skilled jobs. These jobs are mainly sowing, transplanting, weeding and harvesting. Such jobs generally fit well within the framework of domestic work and child rearing. Many women in India perform agricultural work as unpaid labour. This is particularly true in the families of marginal farmers or in the case of peasant farming which is generally done with the help of family members.

To show the importance of women in Indian agriculture, we present the following data (source : Oxfamindia. org) :

1. Indian agriculture employs 80 per cent of all economically active women in India. Of them, about 33 per cent are agricultural labourers and the rest are self-employed farmers.
2. About 85 per cent of rural women in India are engaged in agriculture. Only 13 per cent of them own land.
3. The Economic Survey of 2017-18 mentions that with growing migration of men from rural to urban areas, there is 'feminisation' of Indian agricultural sector. Bihar's agriculture is highly feminised. In this state, half (50.1%) of the total workforce engaged in agricultural activities are women.
4. About (60–80) per cent of total food requirement are produced by rural women in India.

From the above data, we can easily comprehend the role of women in Indian agriculture. The picture is almost the same in most of the developing economies where agriculture is the main economic activity in the country.

6.8 Summary

1. Concept of Peasant Economy and its Main Features

Peasant economy is an economy having a relatively simple farm technology and a division of labour by age and sex. The basic unit of production in a peasant economy is the peasant family or household. The main features of a peasant economy are : (i) self-sufficiency, (ii) partial integration into imperfect and incomplete markets, (iii) subordination to larger and more power groups both socially and economically, (iv) small scale agriculture using family labour, (v) multi-activity livelihoods, (vi) dual economic nature, (vii) heterogeneity of peasants, (viii) family-based unit of production, (ix) intensive farming and (x) small, tradition-bound economy.

2. Advantages and Disadvantages of Peasant Farming

The main advantages of peasant farming system are : (i) better supervision of farm activities, (ii) higher level of employment, (iii) higher productivity, (iv) higher stability of small farms, (v) quick in decision-making, etc.

However, peasant farming system has some disadvantages also. Some of these disadvantages are : (i) difficulty in applying improved farm practices and modern farm inputs, (ii) low marketable surplus, (iii) non-optimum use of available resources, and (iv) lack of commercial motive.

3. Chayanov's Theory of Peasant Economy

Chayanov's theory on peasant economy states that the higher the ratio of dependants to workers in a household, the harder the workers have to work.

4. Different Types of Peasants and their Adoption of Suitable Technology

On the basis of land ownership, peasants are basically divided into landowners and agricultural labourers. On the basis of size of landholding, peasants are classified as rich peasants, middle class peasants, small peasants, marginal farmers, and landless peasants. According to K. L. Sharma, there are five types of peasant groups : (i) owner-cultivator, (ii) largely owner-cultivator, (iii) largely tenant cultivator, (iv) tenant cultivator and (v) totally poor peasants.

Rich peasants adopt modern technology and use improved seeds and fertilisers, and farm implements for farming activities. Their mode of production is capitalistic farming using wage labour. They want to maximise profit and hence employ labour up to the point where MP of labour is equal to real wage rate. Their production technique is relatively capital-intensive. On the other hand, small peasants follow traditional mode of farming and use mostly family labour. They want to maximise total farm output and hence employ labour up to the point where MP of labour is zero. Hence, their production technique is relatively labour-intensive.

5. Intra-Household Relationship in Peasant Economy

Intra-household relationship in peasant economy refers to the processes by which resources including income and consumption goods, tasks, leisure and investment in human capital are allocated among individuals and also the outcomes of these processes.

6. Role of Women in Agriculture

Participation of women in different economic activities are increasing day-by-day both in developed and developing countries. In many less developed countries, female members of the family have to work to supplement the insufficient income

of the male members. In the case of agriculture, there are some activities which are better performed by female workers than their counterparts. Moreover, employers prefer female workers as they demand less wage and prefer part-time jobs as this fits them well to do their household work together with child rearing. Hence, proportion of female workers in agriculture, particularly in less developed economies, are increasing over time. However, women get less wage, they are exploited in one pretext or another and their household works including child rearing are very often undervalued or even not valued at all.

6.9 Exercise

Short Answer Type Questions

1. Who is a peasant?
2. What is a peasant economy?
3. Mention the most distinguishing feature of peasant economy.
4. What is the main tenet of Chayanov's theory on peasant farming?
5. What does a peasant farm want to maximise—output or profit?

Medium Answer Type Questions

1. Briefly describe the main features of a peasant economy.
2. Mention the main advantages of peasant farming.
3. What are the main disadvantages of peasant farming?
4. What do you mean by intra-household relationship in peasant economy?
5. Write a short note on Women in Agriculture.

Long Answer Type Questions

1. Discuss the advantages and disadvantages of peasant farming.
2. Elaborate Chayanov's theory on peasant economy, covering its major points.
3. Who is a peasant? How can you classify peasants into different categories?
4. Discuss different types of peasants and their adoption of suitable technology.

6.10 References

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NOTES

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