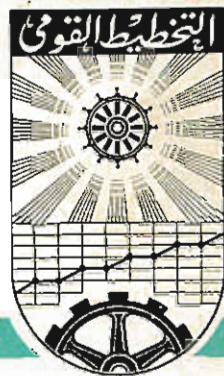


UNITED ARAB REPUBLIC



THE INSTITUTE OF NATIONAL PLANNING

مخططة القومية

Memo. No. 678

Economic Development

by

Dr. Alfonse Aziz

July, 1966

C o n t e n t s

1. Main Determinants of Economic Development in Under-developed Countries.
2. Rate of Investment and the Mobilisation of the Potential Economic Surplus.
3. Balanced or Unbalanced Growth in Under-developed Countries.
4. Problem of Industrialisation of Under-developed Countries.
5. The Choice of Technique in Under-developed Countries.

Main Determinants of Economic Development in Under-developed Countries.

The process of development in underdeveloped countries is a complex process influenced by a set of interrelated factors: economic, social, political and technological. The interrelationships between these factors are so complex that it is difficult to disentangle cause from effect, in the sense that all of the determinants of the pace of economic development act and react upon one another as well as upon the rate of growth of national income. Economists are as yet far from agreed as to which of these determinants may be looked upon as the most strategic element for transposing a backward and stagnant economy into a developing one.

Before moving to examine the main factors which determine the rate of economic development, it seems necessary to refer to the basic characteristics of under-development.

Main characteristics of under-developed countries can be summarized as follows:¹⁾

- 1) A very high proportion of the population is engaged in agriculture, usually some 70 to 90 percent.
- 2) The existence of considerable disguised unemployment in the agricultural and tertiary sectors.
- 3) Infancy of manufacturing industry.
- 4) Low income per head and, as a consequence, existence near the "subsistence level".

1) H. Leibenstein, "Economic Backwardness and Economic Growth", 1957, PP. 40-41.

- 5) Low rate of investment, usually about 5%.
- 6) Prevalence of primitive techniques and, as a consequence, low productivity.
- 7) Inadequate infrastructure (lack of social and economic overhead capital).
- 8) Social structure and institutional framework are unfavourable for the process of development.
- 9) Primary goods constitute the greater part of exports.
- 10) Chronic external disequilibrium.
- 11) High fertility rates, usually above 40 per thousand.
- 12) High mortality rates and low expectation of life at birth.
- 13) Prevalence of child labour.

Main determinants of the rate of economic development:

1- The rate of capital formation:

In the view of many economists, capital occupies the central position in the theory of economic growth. It is usually argued that capital per head is high in advanced countries, and low in under-developed countries; it, therefore, follows that the key to the problem of economic development is the provision of capital on a large scale. As A. Lewis, in this respect, mentions, "The central problem in the theory of economic growth is to understand the process by which a community is converted from being a 5 per cent to a 12 per cent saver"¹⁾

1) A. Lewis, "The Theory of Economic Growth", 1957, p. 226.

It should, however, be noted that even though accelerated rate of capital formation is a necessary factor of economic growth, it is not a sufficient condition for it.

Rates of capital formation in under-developed countries are too low. This low level of capital formation is due partly to the low per capita income which causes the familiar vicious circle of under-development. Low income results in a negligible rate of saving and capital formation; low rate of capital formation means low productivity, and low productivity once again results in low income.

It should be added, however, that low income is not the entire explanation of a low rate of capital formation. Income in the developed countries was also very low at one time, but a certain combination of social and economic factors made substantial capital formation possible. Correspondingly in under-developed countries low rates of capital formation are also due to a combination of social and economic factors, in addition to low income. The presence or absence of these social and economic factors is as important as the level of per capita income; it may sometimes be even more important.

Among the numerous impediments to the rate of capital formation in under-developed countries, inadequate institutional arrangements for mobilising savings and lack of inducement to develop productive outlets are of particular importance. These two factors are interrelated. The existence of productive outlets for investments would help to call forth the institutions for mobilising saving, and also the existence of the institutions for mobilising savings would probably encourage the search for productive outlets for these savings. The lack of inducement to invest is partly the result of the fact that there has been little capital formation in the past, so that external economies

and essential services are largely absent, it is also due to the attraction of other outlets for personal savings; and to an insufficiency of entrepreneurship.

Also, capital formation in under-developed countries is limited by excessive cost of repairs and maintenance, non-essential expenditure, imperfect maintenance of low and order, political instability, the extended family system with its drain on resources, ... etc.

It should also be noted that mal-investment of savings is an important problem in under-developed countries. Too much savings tend to go either into hoards of gold and precious metals, or else into a limited range of investments such as land, real estate, well-established lines of commerce, ... etc.

2- The allocation pattern of investment:

The pattern of allocation of investment is one of the main factors which determine the rate of economic development. Differences in the rate of growth of national income among different countries can be explained partly by differences in the allocation of investment. The same rate of capital formation may result in different effects upon the economy according to the allocation pattern of investment.

An appropriate allocation pattern should be devised in the light of inter-sectoral relations and production interdependence, and guided by certain investment criteria. It goes without saying that a rational choice among different alternative allocation plans is of utmost importance to realize the best utilization of scarce resources. An irrational choice would slow down the rate of growth and lead to waste of scarce resources.

In this respect the main issue raised, is the allocation of resources among the various sectors and branches of the economy. How much investment funds are to be channelled into agriculture, how much into industry, and how much into social and economic overhead capital. How much of industrial investments are to be channelled into consumers' goods industries with their immediate return but usually smaller emphasis on long-term economic growth, and how much into producers' goods industries.

Finally, it is to be mentioned that economic development requires reallocation of resources because the growth of income entails change in the character of wants and needs of consumers.

3* Production technology levels:

Technological change is a prime mover in the course of economic development. Historically, technological advance has led the process of growth in the industrial countries. The historical process of development in these countries has depended significantly on a series of revolutions in techniques of production.

One of the most striking characteristics of under-developed countries is their low level of technology. Low level of technology means low productivity. Consequently, low economic surplus; hence low rate of saving and investment. Raising the productivity of the existing capital and labour through more efficient equipment and methods, contributes favourably to the pace of economic development.

Introduction of advanced techniques in under-developed countries raises difficult problems of adjustment owing to shortage of resources and scarcity of skilled labour. It is usually

not possible to introduce a highly developed technology in all aspects of economic activity simultaneously in the initial stages of development.

A major obstacle to the introduction of advanced techniques in under-developed countries, is their social structure. New technology cannot be applied successfully unless basic social and economic institutions undergo radical changes so as to stimulate incentives and initiatives. Moreover, as a prerequisite for any general advance in technology to be absorbed, considerable investments will have to be made in basic industries and facilities such as electric power, and means of communications and facilities such as electric power, and means of communications and transportation.

4- The size of the market:

Some economic historians describe the process of growth as one of increasing the size of the market.¹⁾ Adam Smith believed that the core of increased productivity was specialisation, which in turn was limited by the size of the market. Efficiency of production is partly a function of its scale, which in turn is limited by the size of the market. The larger the scale, the cheaper the cost of production.

The size of the market depends upon several factors, the most important are: the size of population, the wealth of the community and the purchasing power of consumers, the cheapness of communications and the barriers to trade.

Some under-developed countries are so small that their internal markets are not large enough to support large-scale industries. Production is hampered by the limited size of the market. For instance, it has been found in Chile that

1) C. Kindleberger, "Economic Development", 1958, p. 92.

a standard modern rolling mill can produce in three hours a sufficient supply of a certain type of iron shapes to last the country for a year.¹⁾

The narrowness of the market can be surmounted by a simultaneous many-sided expansion all over the whole economy. This results in an overall enlargement of the domestic market. First, the numerous production units established simultaneously provide markets for each other. Second, the many-sided expansion implies successive increases in incomes, which in their turn widen the domestic market for consumer goods. Also, the widening of the market may result from increased efficiency in transport and communications. Cheapening transport fuses markets, bringing additional buyers and sellers into contact: one with another.

5- Population factor:

One of the major factors which hinders the rate of economic development in under-developed countries is the increasing pressure of population on productive resources.

At a capital/output ratio of 3:1, a 1 percent per annum increase in output per capita requires 3 percent of income saved if population is stable; 6 percent at a 1 percent per annum rate of population growth; 9 percent at a 2 percent rate of population growth.

It may, also, be mentioned that, by the prevailing combination of high birth rates and high death rates, the proportion of children is high, the age distribution is unfavourable to production, and much of the investment in children is wasted from the economic point of view because of high mortality rates at younger ages.

1) R. Nurkse, "Problems of Capital Formation in Underdeveloped Countries", p. 7.

It may be of interest to refer to Hirschman's opposing view in this respect.¹⁾ He believes that population pressures are to be considered forces that may stimulate development. He argues that population pressure on living standards will lead to counter-pressure, i.e., to maintain or restore the traditional standard of living of the community. He proceeds further advocating "that the activity undertaken by the community in resisting a decline in its standard of living causes an increase in its ability to control its environment and to organize itself for development. As a result, the community will now be able to exploit the opportunities for economic growth that existed previously but were left unutilized."²⁾

.....

In addition to the above mentioned determinants, there are other factors, of no less importance, affect the rate of growth. Among these factors the institutional framework of the economy. Institutions promote growth according to the extent that they associate effort with reward, according to the protection they accord to effort, and according to the opportunities they provide for specialization and trade.³⁾ Economic changes have been accompanied by sweeping transformation of the social structure. It is of utmost importance to establish progressive relations of production.

"Capital-like" expenditures on education, health, technical skills and knowledge ...etc., is an important factor. This type of "capital-expenditures" enhances labour efficiency and develops managerial abilities; thus contributing to higher levels of output and income.

Also, the degree of utilization of resources affects the rate of growth. Human and natural resources in under-developed countries are under-utilized in varied degrees. The most

1) A. Hirschman, "The Strategy of Economic Development", 1959, p. 176.

2) Ibid., p. 177.

3) A. Lewis, op.cit., p. 57.

important under-utilized resource is manpower. The under-employed manpower represents a valuable asset, that can, if effectively employed make a positive contribution to economic development. Its existence presents an opportunity of increasing output with little or no new investment.

Rate of investment in underdeveloped countries
and the mobilisation of the potential economic surplus.

The rate of economic development as mentioned before is a function of a set of interrelated factors. A major and strategic factor markedly affecting the pace of development is the rate of investment. In the study of economic development and economic planning, wide interest attaches to that part of national income which should be channelled into investment. The decision as regards how much of total production to be devoted to investment purposes is one of the most crucial decisions to be taken by the planning authorities.

Generally speaking, investment can take place only if total output exceeds what is used for current consumption. The first prerequisite for economic development is the availability of a surplus over current consumption needs that can be devoted to the promotion of economic development.¹⁾ Therefore, the rate of investment is influenced mainly by the size and the mode of utilisation of the currently generated economic surplus.²⁾ (The currently generated economic surplus in a country is defined as the difference between its actual current output and its actual current consumption.³⁾ Maximum amount of resources that can be devoted to investment is represented by the difference between the maximum output obtainable through full use of the existing resources and what is socially considered as essential consumption.⁴⁾

- 1) U.N., World Economic Survey 1959, New York, 1960, p. 7.
- 2) P. Baran, "The Political Economy of Growth", Monthly Review Press, New York, 1957, p. 21.
- 3) Ibid., p. 22.
- 4) C. Bettelheim, "Studies in the Theory of Planning", Asia Publishing House, London, 1959, p. 308.

In an underdeveloped economy the rate of investment is very low mainly because its actual economic surplus is quite small. The smallness of the actual economic surplus in an underdeveloped economy is due, on the one hand, to the fact that its level of output is very low and its human and material resources are greatly underutilised or absolutely dormant, and on the other hand, to the fact that a very considerable part of this low level of output is consumed, only a very minor part is devoted to investment purposes.

Therefore, full mobilisation of the potential economic surplus is vitally required to speed up the pace of economic development. Potential economic surplus represents the difference between the maximum output obtainable through full and proper use of the existing resources, human and natural, and what might be considered as "essential consumption".¹⁾ The notion of "essential consumption" is neither a vague concept, nor an unpractical idea. It represents the basic necessities of food, clothing, dwelling, education, health services, ...etc., which are considered as socially necessary for establishing a reasonable livelihood determined by the prevailing socio-economic conditions. For instance, the Bureau of Labour Statistics of the Department of Labour in U.S.A. works with some notion of "essential consumption" in compiling its cost of living index.²⁾

With full mobilization of potential economic surplus in underdeveloped countries, the possible highest rate of investment could be achieved.

I. Main forms of waste in underdeveloped countries implying the greater part of potential economic surplus:

Before going into the mobilization of potential economic surplus, it seems necessary to point out first, the main

1) Baran, op. cit., p. 23.

2) Ibid., p. 30,

forms of waste in which potential economic surplus in underdeveloped countries is concealed.

a- Waste caused by the existence of mass unemployment and unproductive work:

Rural overpopulation is a major characteristic feature of the densely populated underdeveloped countries, resulting in a wide disguised unemployment in agriculture. According to Nurkse, the rural surplus constitutes nearly from 15 percent to 30 percent of the agricultural population.¹⁾ This means that a considerable part of the rural labour is unproductive; since the marginal productivity of the rural surplus is very negligible; it may be zero or even negative.

In addition, the rural surplus, not only contributes nothing to agricultural output, but also is maintained by a significant part of the economic surplus generated in agriculture, produced by the productive agricultural labour.

So, it seems clear that the existence of disguised unemployment in agriculture on a large scale, results in a tremendous waste of potential saving available for economic development. Accordingly, the question of making use of the agricultural labour surplus has important implications as regards the rate of investment in a peasant underdeveloped economy.

Also, the non-agricultural sectors contain a considerable part of potential saving available for economic development. Many forms of unproductive labour in the non-agricultural sectors such as redundant employees in the government departments, redundant merchants, money lenders, and intermediaries of all kinds, make no contribution to national product. In industry also, apart from the existence of many unemployed industrial labour

1) R. Nurkse, "Problems of Capital Formation in Underdeveloped Countries", Oxford, 1958, pp. 34-35.

which is due to the inefficiency of, and lack of co-ordination within, the production apparatus, and to insufficiency of effective demand, there is a considerable part of industrial labour which is underemployed, because of lack of scientific co-ordination in the production process, of inefficiency of managerial and administrative staffs, and of inefficiency of primitive techniques adopted in production.

These various forms of unemployed and unproductive labour in the non-agricultural sectors, while contributing nothing to national output, are maintained by a considerable part of the economic surplus produced by the productive labour.

c- Waste caused by the existence of unutilized and underutilized natural resources:

Ample amounts of existing natural resources in underdeveloped countries are completely unutilized. Unutilization of existing natural resources is due to various reasons such as lack of necessary machines and equipments, shortage of technicians and skilled labour, inadequacy of transport means, ... etc. The existing unutilized resources represent a tremendous waste of potential funds available for investment purposes which, if fully utilized, would markedly affect the pace of economic development in underdeveloped countries.

In addition, underutilization of existing tapped resources is a common feature of all underdeveloped economies which results in the reduction of output markedly below what could be attained with the same amount invested of material resources if they are fully utilized. Underutilization of material resources results from various reasons such as the prevalence of low levels of skill among labour, lack of high levels of managerial and administrative abilities, use of primitive and inefficient techniques of production, the existing

of small inefficient and redundant plants in the various sectors of the economy, ...etc.

It is difficult to measure and calculate the existing unproductive excess capacity, yet we can imagine that the waste caused by underutilizing the material resources in underdeveloped countries must be enormous if we consider estimates of unproductive excess capacity in an advanced economy like that of the American economy. For instance, an estimate of unproductive excess capacity in industry in the period 1925 to 1929, undertaken by the Brookings Institution, reveals that in this period, available plant was used between 80 and 83 per cent of capacity.¹⁾ Another estimate, undertaken by another investigator, reveals that in the boom year 1952, merely 55 per cent of capacity in American industry was in use.²⁾ These estimates may be subjected to wide margins of error; yet such estimates which at least reflect roughly the scope of unproductive capacity in an advanced economy, may throw light upon the enormous waste in an underdeveloped economy which, one might expect, arises from underutilization of existing material resources.

c- Waste caused by excess consumption and spending on non-productive purposes:

In underdeveloped countries, a significant part of national income far above what is required for necessary consumption is squandered on non-productive purposes. Being peasant economies, a considerable part of national income in underdeveloped countries is generated in agriculture and accrued to landlords who spend the greater share of their incomes foolishly on consumption and non-productive purposes, such as building or buying more lands, travelling abroad for tourism, ... etc..

1) Baran, op.cit., p. 35.

2) Ibid., p. 36.

In addition, a large part of profits accrued to monopolistic concerns in underdeveloped countries is not rechanneled into productive purposes. It is neither ploughed back into their own firms, nor is it re-invested in new enterprises. It is often wasted either as excess consumption or spent on non-productive purposes such as buying lands or used in speculation and usury.

Excess consumption and the spending on non-productive purposes by landlords and monopolistic concerns in underdeveloped economies, constitute a major part of potential economic surplus, which if not mobilized and devoted to productive purposes, underdeveloped countries could not attain high rates of investment required to step the rate of economic development up to the desired level.

(- Other forms of waste:

Besides the main forms of waste mentioned above, there are still other forms of waste in underdeveloped countries, which need to be mobilized and channeled into investment purposes. For instance, first, there is a significant part of dividends, interests and rents which accrues to foreigners but which is not re-invested domestically and remitted abroad. Second, there is a considerable waste usually arises in monopolies, because, being protected by their monopolistic positions, need not care to adopt scientific and efficient methods to reduce costs and maximize productivity and efficiency. Third, because of inadequate banking services and facilities and lack of investment opportunities in underdeveloped countries, too much savings are kept idle or hoarded in gold and precious metals. And fourth, a great deal of loss and waste arises in agriculture during the plantation period and storage of many plants and crops caused by agricultural and stored-grain pests.

These are the most important forms of waste in underdeveloped countries which involve the greater part of potential economic surplus. These forms of waste should be identified, measured and then mobilized. The identification and measurement of these forms are encountered with difficulties. It is not an easy task to identify, for instance, essential consumption, or to measure unproductive labour or disguised unemployment. In addition, inadequacy of statistical data required for measuring different forms of waste, hinders the undertaking of this task. Yet, it should be recalled that without eliminating these forms of waste and channeling the greater part of the potential economic surplus into investment, underdeveloped countries will not be able to attain the possible highest rates of investment.

II. The mobilization of potential economic surplus in underdeveloped countries:

The mobilization of potential economic surplus means increasing production as much as possible and deciding how much of total production should be channeled into investment. Mobilizing the potential surplus in underdeveloped countries requires radical changes in their apparatus of production and structure of distribution. It necessitates rationalization of apparatus of production to eliminate all kinds of unproductive work and unemployment, and all forms of waste in resources in both agricultural and non-agricultural sectors. It necessitates far-reaching changes in distribution structure to eliminate all kinds of excess consumption in the society.

We shall consider here certain vital measures required to mobilize the main forms of waste in underdeveloped countries:

(a) The mobilization of potential economic surplus in the agricultural sector:

In most underdeveloped countries which are mainly peasant backward economies, the potential economic surplus generated in agriculture constitutes a very considerable part of the potential economic surplus in the whole economy. Therefore, the mobilization of agricultural potential surplus and the productive use of this significant share of national product are of crucial importance to the development process in underdeveloped countries.

The mobilization of the greater part of potential economic surplus in agriculture could be undertaken mainly through (1) embarking upon land reform, and (2) shift of unproductive rural surplus to productive work.¹⁾

(1) Through land reform it would be possible to devote the largest possible part of income generated in agriculture, over what is socially considered as necessary for essential consumption, to productive purposes instead of being squandered by landlords. The decisions as regards the form and the size of agricultural ownership regulated and determined by land reform, and the part of income from agricultural property which has to be mobilized through land reform, are political decisions which should be decided in the light of the prevailing political circumstances.

The embarking upon land reform should be associated with establishing a proper co-operative movement in agriculture; to provide the peasants with the basic requirements needed for developing agriculture on efficient and scientific basis so as to attain the highest possible output, to eliminate all kinds of intermediaries performing unproductive work in the agricultural sector, and to organize and control the marketing process, so as to ensure the channeling of the greater

1) In over-populated countries.

part of potential economic surplus to investment purposes. It should be recalled that the organizing and controlling of marketing agricultural output should be decided in the light of political considerations as well.

(2) It has been noted before that a considerable part of potential economic surplus is wasted because of the existence of disguised unemployment in agriculture on a large scale in over-populated countries. The waste is represented, as mentioned before, by the fact that the rural surplus labour, while contributes nothing to agricultural output, is maintained and sustained by a part of production of the productive farmers. In other words, the productive farmers are performing "virtual" saving, in the sense that they produce more than they consume.¹⁾ But the difference between their production and consumption runs to waste, because of the unproductive consumption of the rural surplus labour who could be dispensed with, without resulting in a reduction in agricultural output. In this respect, Nurkse states that the virtual abortive saving performed by the productive rural population represents a very important source of capital formation, if the rural surplus workers are shifted from agriculture to other activities where they can be set to work on productive projects such as irrigation and drainage schemes, roads, railways, ... etc., and at the same time they continue to be maintained as before by a part of production of the productive farmers. Here the unproductive consumption of the unproductive rural surplus labour would become productive consumption, and the abortive saving of the productive farmers would become effective saving.²⁾

1) Nurkse, op. cit., p. 37.

2) Ibid., p. 38.

But it should be recalled that this suggestion expressed by Nurkse encounters, as he mentions, certain difficulties when considering its practical application. Leakages may develop in the potential saving available for productive purposes, resulting from probable increased consumption by the remaining productive farmers and by the new productive workers who have been transferred from agriculture to work on new capital projects.¹⁾

However, regardless of these leakages, the mobilization of disguised unemployment in agriculture and the removal of the rural surplus labour from agriculture to other activities constitute a major source of capital formation in overpopulated underdeveloped countries.

In addition to the embarking upon land reform and the shift of rural surplus labour from agriculture to other activities, there are other measures to be taken to ensure the mobilization of the greater part of potential economic surplus in agriculture, such as following a scientific conservation policy to minimize the waste in agricultural crops during their storage, establishing a sound health policy to preserve the rural population from diseases seriously affect their productivity, ...etc.

In conclusion, the mobilization of the greater part of potential economic surplus originated in agriculture in peasant backward economies, contributes positively to raise significantly the prevailing low rate of investment.

b- The mobilization of potential economic surplus in the non-agricultural sectors:

- 1) The minimization of unemployed and unproductive labour, and of waste in material resources:

As has been mentioned before, the existence of unemployed and unproductive labour, and the existence of unutilized

1) Ibid., p. 39.

and underutilized material resources in non-agricultural sectors involve a considerable part of potential surplus available for economic development,

Industry should be rationalized, in the sense that scientific methods should be introduced to minimize the waste resulting from underutilization of employed material resources, time and motion studies should be applied to eliminate all forms of underemployed labour, and co-ordination within the production apparatus should be attained to reduce unemployed labour. Also, the production apparatus should be well equipped and provided with all necessary requirements to ensure the use of all existing unutilized material resources.

In addition, the government sector should be rationalized so as to eliminate all redundant employees and all kinds of unproductive work in the various departments. Also, measures should be taken to eliminate all redundant merchants, money lenders and intermediaries of all kinds, such as encouraging the establishment of co-operative societies in the various fields of the economy.

It should be recalled that complete elimination of unemployed and unproductive labour and absolute abolition of waste in material resources could not be accomplished in a short period. For instance, the serious problems of unemployment, open and disguised, could be completely solved only in the long-run, through launching bold development plans. However, the minimization of these forms of waste will substantially step up the rate of investment in underdeveloped countries.

2) The elimination of excess consumption:

The elimination of excess consumption in agriculture, through land reform, should be associated with similar measures to eliminate excess consumption in non-agricultural sectors.

As has been mentioned before, a large part of profits earned by monopolistic concerns is squandered on unproductive purposes. Effective mobilization of potential surplus generated from monopolies can be performed through nationalization. Besides, measures should be taken to earmark the greater part of other industrial and commercial profits, and of other revenues such as those generated from big and magnificent dwellings for investment purposes. The mobilization of these profits and revenues can be accomplished through taxation and any other form of fiscal policy.

It should be stressed here that nationalization and the widening of the public sector are among the most effective measures to eliminate excess consumption in non-agricultural sectors, and to ensure re-investment of a considerable part of incomes originated in these sectors.

c) Increasing the investible surplus through foreign trade:

Foreign trade policy may contribute effectively to increase the investible surplus. Underdeveloped countries should stop all luxurious imports and all imports that could be produced domestically; the foreign exchange thus released could be used to import producers' goods necessary for the development process. Besides, all unnecessary disbursements abroad should be cut down. Strict regulations should be imposed upon travelling abroad. All capital remittance abroad should be inhibited. Also, it is advisable to reduce to the lowest possible level, all payments of interests, rents and dividends accrued to foreigners abroad. In short, strict measures should be taken to reduce unnecessary payments abroad and to save as much as possible foreign exchange to be used for importing machines and equipment required for the development process.

In addition, as mentioned above, the embarking upon land reform and nationalization of monopolies, and the mobilization of the greater part of other industrial and commercial profits, will drastically cut down excess consumption. It follows that part of the goods previously consumed domestically are released and thus can be exported. In order to find markets for these new exports, as well as to secure capital and other development goods, the authorities concerned should adopt a well studied foreign trade and exchange control policies to achieve these aims.

In summing up, foreign trade policy, through converting a part of national product from being wasted as excess consumption into investment fund, contributes effectively to the raising up of the rate of investment in underdeveloped countries.

In conclusion, these are the most important and effective measures to be taken in underdeveloped countries to mobilize the greater part of potential economic surplus, through which the rate of investment will be markedly high, and the growth process will become self-sustained. Finally, it should be stressed that the magnitude of the "economic surplus" devoted to investment purposes should be decided in the light of political and social considerations, account should be taken of the effects of any level of consumption on incentives and efficiency.

Balanced or Unbalanced Growth in
Underdeveloped Countries

One of the most controversial issues in the process of economic development in underdeveloped countries is the pattern of growth, in the sense that which is more appropriate to the development of these countries, should it be balanced or unbalanced.

Historically, unbalanced growth came first.¹⁾ An early example of unbalanced growth is England's industrial development, its early theory is contained in Ricardo's doctrine of comparative advantage, as becomes apparent when one reformulates this doctrine of comparative advantage in terms of growth theory.

The problem is how to develop an economy whose different industries have different productivities? What would be more appropriate, balanced growth of all industries or expansion confined to the more productive industries? According to the comparative advantage doctrine, the real additional output will be greater if expansion is confined to the more productive industries.

The unbalanced composition of output which results from the concentrated growth in the more productive industries is a problem which the country has to face its effects by foreign trade. Ricardo advocated that the country which concentrates upon the most efficient industries, can use foreign trade to convert the resulting unbalanced composition of output into a more balanced pattern of output.²⁾

1) T. Scitovsky, "Growth-Balanced or Unbalanced", in The Allocation of Economic Resources, Essays in Honor of B. Haley, 1959, P. 207.

2) Ibid., p. 209.

But here arises a problem, how can a country depend on foreign trade to convert its unbalanced pattern of output into a balanced pattern without turning the term of trade against itself to the extent that may offset the advantages of unbalanced over balanced growth. For instance, the rapid development of England in the nineteenth century was due to the concentrated growth which was intensified mainly by her increasing reliance on foreign trade. One would expect this trend to have worsened England's terms of trade; but the statistical evidence shows that the terms of trade, while they turned against England, did not change very much. It seems therefore as though England had retained most of the benefit from her unbalanced growth; accomplishing this through the opening up of underdeveloped countries, the construction of their transportation systems, and the export of British capital that implemented these developments; for all this must have raised the demand for England's exports, lowered the cost of imports, and thus helped to prevent the terms of trade turning more sharply against her.

But the circumstances of the nineteenth century of world trade have been radically changed because of the severe competition in world markets, the division of world markets into various trade area blocks, and balances of payment difficulties. Therefore, the complicated situation of world trade has rendered dangerous and undesirable a great divergence between the pattern of output and consumption needs, and the consequent great dependence on foreign trade. This was first pointed out almost 100 years ago by F. List who advocated economic self-sufficiency. His argument could be considered as an early statement of economic interdependence and balanced growth.

I. The case for balanced growth:

One of the most persuasive arguments in favour of balanced growth is based on the recognition of economic interdependence, both in production and consumption.¹⁾ As to interdependence in production, Scitovsky mentions that to produce a good is more profitable, the greater the availability of the goods that serve as factors of production in its manufacture, and of the goods with which it is combined in the manufacture of other goods. Since this statement holds true of all goods, it is generally desirable to expand simultaneously the production of all goods whose relation to each other is that of factor to product, or common factors to the same product. These relations are called interdependence in production, and the effects of such interdependence on the profitability of investment are usually discussed under the external economies.²⁾

As to interdependence in consumption, Scitovsky mentions that production generates income, which gives rise to consumers' demand for an entire range of goods. Hence, an increase in output increases demand in a given pattern for a whole range of goods; and the profitability of output expansion will be maximized if the pattern of output expansion conforms to the pattern of demand expansion created by the additional income paid out in producing the additional output.

From the above statements Scitovsky defines balanced growth as a "simultaneous advance on all fronts, a many-sided expansion of productive capacity that maintains the product mix in conformity both with consumers' preference (interdependence in consumption) and with the technical requirements of the productive system (interdependence in production)".³⁾

1) Ibid., p. 210.

2) Ibid., p. 211.

3) Ibid., p. 212.

Scitovsky advocates that balanced growth assures the greater profitability of investments, avoids shortages and bottlenecks in the productive resources, and minimizes inflationary pressures.

The case for balanced growth is advocated also by Nurkse in his book "Problems of capital formation in underdeveloped countries" advocating balance in demand. Dealing with the demand side of the problem of the "vicious circle of poverty" in underdeveloped countries, Nurkse mentions that the inducement to invest is limited by the size of the market. In underdeveloped countries, the use of capital in production for the domestic market cannot be applied profitably by any individual entrepreneur because of the small size of the internal market. He mentions that a modern machine can produce in very few hours a sufficient supply of a certain commodity to last a country for a year. Therefore, he thinks that the small market is an obstacle to development generally. He mentions that the difficulty caused by the small size of the market relates to individual investment incentives in any single line of production taken by itself. This difficulty vanishes in the case of a more or less simultaneous application of capital to a wide range of different industries. Here is an escape from the smallness size of the market, here the result is an overall enlargement of the market. The wide range of different industries are complementary in the sense that they provide a market for, and thus support, each other. He mentions that this basic complementarity stems from the diversity of human wants.

Nurkse mentions that balanced growth may be a good thing for its own sake, but here it interests us mainly for its effects on the demand for capital. It is an essential means of enlarging the size of the market and of creating inducements to invest.

In his opinion, the rate at which any one industry can grow is inevitably conditioned by the rate at which other industries grow, although naturally some industries will grow faster than others since demand and supply elasticities will vary for different products. Through the application of capital over a wide range of activities the general level of economic efficiency is raised and the size of the market enlarged.

Another reason why Nurkse advocates balanced growth is that, if underdeveloped countries to concentrate on the lines of primary production activity, the expansion of primary production for export is apt to encounter adverse price conditions on the world market, unless the industrial countries' demand is steadily expanding as it was in the nineteenth century when both population and production in Western Europe were growing rapidly, when artificial fibres had not yet been discovered. In the present century conditions have changed. There has been sluggishness in the industrial countries' demand for primary products. Therefore, to push exports of primary commodities in the face of an inelastic and more or less stationary demand would not be a promising line of long-run development. So, it is desirable under the conditions indicated, that economic growth in underdeveloped countries should take the form of increased production for domestic markets. But this line of production to be successful and profitable in underdeveloped countries, production has to be expanded over a wide range of activity. And so long as this development increases the real purchasing power of the peoples of underdeveloped countries, it will tend in the long run to help rather than hinder the growth of international trade.

While Nurkse stresses balance in demand, A. Lewis in his book "The Theory of Economic Growth" stresses balance in supply. Lewis mentioned that the secret of most development

problems is to maintain a proper balance between the different sectors of the economy. All sectors of the economy should grow simultaneously so as to keep a proper balance between industry and agriculture, and between production for home consumption and production for export.¹⁾

Lewis states that the various sectors of the economy must grow in the right relationship to each other, or they cannot grow at all. He expresses this relationship between the different sectors of the economy as follows: if we consider the economy as divided into three sectors. A for agricultural production for the home market, M for manufacturing production for the home market, and X for production for export.²⁾ If M expands it will lead to an increase in the demand for the product of A. If the increased output of M substitutes for imports, the foreign exchange thus released may pay for the increased imports of A. If not and, if A is stagnant while M is expanding, either A's prices will rise or imports will rise, creating a balance of payments deficit, and either of these events will check the expansion of M. The expanding demand, on the the other hand, could be met by increasing agricultural imports through the expansion of X. So an expansion of M must be accompanied by an expansion of either A or X or by import substitution, if it is to continue. Similarly, an expansion of A must be accompanied by an expansion of either M or X or by import substitution. It is only X which can expand continuously by itself without being checked by a failure of either A or M to expand, for the demand generated by an expansion of exports can be met by imports, for which the exports provide the foreign exchange.

1) A. Lewis, "The Theory of Economic Growth", 1957, p. 283.

2) Ibid., p. 277.

Lewis mentions that in a closed economy while it is necessary for manufacturing industry and for agriculture to grow together, they do not have to grow at the same rate. The income elasticity of demand for manufactures exceeds unity, and the income elasticity of demand for food is less than unity. The income elasticity of demand for services is higher even than for manufactures. Hence, economic growth is associated with services growing most rapidly and with total manufacturing output growing more rapidly than the total-output of agriculture. He means by growth "in balance" or at "appropriate rates", that the rates of growth of manufacturing industry and agriculture (in the case of a closed economy) are determined by the community's marginal propensity to consume agricultural products as compared with manufactured production.¹⁾ The open economy is more complicated since the growth of manufactures for home consumption can be balanced by the growth of manufactures for export, instead of by the growth of agricultural production, so in the real world we have to keep a balance between import, export, manufactures and agriculture, and not just between any two of them.

II. The case for unbalanced growth:

One of the most distinguished opponents to the balanced growth theory is Hirschman.²⁾ In his opinion, this theory fails as a theory of development.³⁾ Development means a process of change of one type of economy into some other more advanced type. He mentions that such a process is given up as hopeless by the balanced growth theory which finds it difficult to visualize how the "undevelopment equilibrium" can be broken into at any one point. The argument is reminiscent of

1) Ibid., p. 278.

2) A. Hirschman, "The Strategy of Economic Development", Yale University Press, 1959.

3) Ibid., p. 51.

the paradox about the string that is equally strong everywhere and that therefore when pulled cannot break anywhere first, it either will not break at all or must give way everywhere at once.

To Hirschman, the theory of balanced growth seems to be contradictory in itself, this is expressed in the way in which it combines a defeatist attitude towards the capabilities of underdeveloped economies with completely unrealistic expectations about their creative abilities. In his opinion, this theory is unrealistic for the inconsistency inherent in its formulation. He could not see how a people that is assumed to be unable to do any of the productive activities and that is therefore entirely uninterested in change, is then expected to marshal sufficient entrepreneurial and managerial abilities to set up at the same time, and under these circumstances, a whole flock of industries that are going to take in each others' output.¹⁾

He mentions that the application of the balanced growth doctrine requires huge amounts of initiative and creative abilities which are seriously lacking in underdeveloped economies. It is inconceivable that a one-floor economy could set up such a "second floor" with its own forces or even with limited help from abroad.²⁾ As Singer points out that the initial resources for simultaneous developments on many fronts are generally lacking. In other words, if a country were ready to apply the doctrine of balanced growth, then it would not be underdeveloped in the first place.

Hirschman mentions that according to the balanced growth theory, the role of the state is to assure that simultaneity of investments over a wide range of activities, is

1) Ibid., p. 53.

2) Ibid., p. 53.

needed to ensure the success of the individual projects. In this respect he advocates that a country cannot undertake any number of projects just because they would turn out to be profitable if it undertook them simultaneously. At any one time, the available developmental skills of a country set some kind of a ceiling on the number of projects that can be undertaken simultaneously.

Also Hirschman disagrees with balanced growth doctrine because it is usually, in his opinion, invoked to provide a justification for centralized governmental direction and coordination of the development process. He mentions that centralized investment decisions may be expected to be biased against innovations whose introduction might cause losses to existing projects.

Hirschman criticizes the concept of balance in supply¹⁾ which states that if growth is not to be checked, the various sectors of an economy will have to grow jointly in some proportion, no sector should get too far out of line, not because of demand but because of supply consideration. He mentions that if we look at an economy at two different points in time, we will find that a great many parts of it have been pushed ahead, at their own average annual rate of increase. But surely the individual components of the economy will not actually have grown as these rates throughout the period under review. Just as on the demand side, the market can absorb "unbalanced" advances in output because of cost-reducing innovations, new products and import substitution, so we can have isolated forward thrusts on the supply side as inputs are redistributed among users through price changes and at the cost of some temporary disequilibria in the balance of payments or elsewhere.²⁾ Hirschman advocates that development has proceeded in this way, with growth being communicated

1) Ibid., p. 62.

2) Ibid., p. 62.

from the leading sectors of the economy to the followers, from one industry to another.¹⁾ In other words, the balanced growth is the end result of a series of uneven advances of one sector followed by the catching up of other sectors. If catching-up overreaches its goal, as it often does, then the stage is set for further advances elsewhere. Thus development proceeds ahead in an unbalanced manner. The advantage of this kind of seesaw advance over balanced growth is that it leaves considerable scope to induced investment decisions.

Therefore, Hirschman advocates that development policy should maintain tensions, disproportions and disequilibria, so as to push the economy ahead. In his opinion the sequence that "leads away from equilibrium" is precisely an ideal pattern of development: for each move in the sequence is induced by a previous disequilibrium and in turn creates a new disequilibrium that requires a further move.²⁾ This is achieved by the fact that the expansion of industry A leads to economies external to A but appropriate by B, while the consequent expansion of B brings with it economies external to B but subsequently internal to A (or to any other industry), and so on. At each step an industry takes advantage of external economies created by previous expansion, and at the same time creates new external economies to be exploited by other industries.

The advocacy of unbalanced growth is based on the following arguments:

(1) One argument is a classic one, stating that the obtainable gain from concentrating on the production of goods in whose manufacture one has a comparative advantage is a genuine gain;

1) Ibid., p. 63.

2) Ibid., p. 67.

and even this gain is obtained at a cost—the uncertainty that dependence on foreign trade involves—it is still believed that within limits the gain is worth the cost. In other words, the problem here is to weigh the benefits of the higher income obtained from concentrated growth against the disadvantages of the greater uncertainty that it involves, and to push the degree of concentration to the point and no further than the point at which the two are equated at the margin.

(2) A second argument is based on technological consideration. This argument has to do with economies of scale. Economies of scale render production cheaper and investment more profitable above a certain minimum level of output and productive capacity. Conversely, investments in the case of balanced growth, will be less efficient, output smaller and growth slower than they could be, because resources are allocated and spread over a wide range of industries.

There may be a stimulus to technical innovation, for the fact expansion of output in one field or at one stage of production (resulting from concentrated growth) is likely to create shortages of resources in closely related fields or at other stages of production within the same field; and the desire either to eliminate such shortages or to find new methods that economize the resources in short supply is known to be among the most powerful stimulants of technological progress.

.....

Having enumerated the arguments both for balanced and unbalanced growth, one may ask what conclusions can be drawn as regards that pattern of development considered as most appropriate to accelerating the pace of development in underdeveloped countries.

Having in mind the basic characteristics of underdevelopment, it seems more appropriate for an underdeveloped economy to follow a planned balanced pattern of development as to take full benefits of external economies resulting from production interdependence, to maintain sectorial balance and proportional development, and to avoid the adverse conditions of demand for primary products on the world market.

It should be added, however, that within the framework of balanced proportional development, there always exists an important question of priorities, of giving preference to certain strategic leading branches in the economy. That is to say, the process of planned balanced pattern of development is to proceed ahead through predetermined and predesigned sequences of unbalanced sectorial growth, placing each time more emphasis upon certain leading lines of investment which drive the economy forward and help realise the most efficient sequences of expansion.

Problem of Industrialization of Underdeveloped Countries.

Industrialization means the growth, in both absolute and relative terms, of manufacturing and closely related activities, especially those involved in the building and operation of a modern economic infrastructure.¹⁾ This growth may be measured in terms of employment or in terms of the contribution of the respective sectors to national product. A good deal of controversy has arisen concerning the problem of industrialization of underdeveloped countries.

Historically, the development of the new industrially advanced countries in the last 150 years has proved that economic development is mainly promoted through the shifting of emphasis from primary production to industrial production. It is unquestionable that most industrial countries are advanced economies, while most non-industrial countries are underdeveloped economies.

The mere emphasis on improving technological methods of primary production does not result in an effective and lasting solution for the economic problem of underdeveloped countries; this approach, while temporarily improving the living standards of the population, will not put an end to the state of backwardness of underdeveloped countries.

The fact that industrialization is of vital importance to the development of underdeveloped countries may be justified on the following grounds:

(1) Since national income in underdeveloped countries is very low and the majority of the population is engaged in agriculture, it follows that the per capita income in the agricultural sector is extremely low. It seems to be generally true that

1) United Nations, "Economic Development and Planning in Asia and the Far East-Industrialization", Economic Bulletin for Asia and the Far East, Vol. IX, No. 3, December 1958, p. 4.

per capita income in agriculture tends to be around two-thirds of the national average. H. W. Singer in his article "Problems of Industrialization of underdeveloped countries expresses this relation as follows: "In a typical underdeveloped country with a per capita national income of \$ 100, and a per capita income in agriculture of \$ 65, and with 75 per cent of the population in agriculture, the average non-agricultural income must be \$ 205".¹⁾ This is due to the fact that productivity in agriculture is lower than the average productivity of the country in underdeveloped economies. In other words, the value of per capita product in non-agricultural sectors in underdeveloped countries tends to be higher than that in the agricultural sector. Therefore, a substantial change in the internal employment structure of underdeveloped countries in favour of non-agricultural activities tends to bring about a significant increase in total national product.

Moreover, in overpopulated underdeveloped countries, marginal productivity in the agricultural sector is so negligible that the transfer of the surplus labour from agriculture to industry, while leading to an increase in total national product, does not reduce the aggregate agricultural output.

(2) A continued improvement in agriculture results in higher incomes. As incomes rise, the demand pattern will change. According to "Engel's law" structural change in the necessary sequence to improvement: as incomes increase, a smaller amount of the increase is spent on food, and a greater amount on other things mainly manufactured consumer goods.²⁾ It follows, therefore, that development of agriculture requires, side by side, the promotion of industry; otherwise underdeveloped countries have to encounter the unfavourable price conditions of agricultural and primary products on the world market.

1) H.W.Singer "Problems of Industrialization of Underdeveloped Countries" - published in "Economic Progress", Papers held by the International Economic Association, Edited by L.H. Dupriez, 1955, p. 173.

2) Ibid., p. 178.

(3) The existence of mass unemployment in agriculture, open and disguised, in overpopulated underdeveloped countries represents a potential source of savings and investment. Social customs and traditions in underdeveloped countries often secure for the unemployed and underemployed agricultural workers a level of consumption in excess of their contribution to production. This implies that production of some producers in agriculture exceeds their own consumption and savings; the excess sustaining the unemployed and underemployed peasants as transfer payments.

Industrialization through creating numerous employment opportunities helps diminish these transfer payments. It follows that producers in agriculture would have available additional resources, part of which may be available for investment.

(4) The pressure on the cultivable land in overpopulated underdeveloped countries depresses the level of wages in agriculture. This low level of wages is an obstacle to the mechanization of agriculture; thus leading to low productivity. Therefore, transfer of the surplus labour from agriculture to industry results in higher wages, which in turn will lead to the mechanization of agriculture. Thus, productivity in agriculture is raised; hence rapid growth in agriculture.

(5) Agricultural promotion in overpopulated underdeveloped countries is relatively expensive as to industrialization, because where there is pressure on the cultivable land, it is likely that agricultural development without transfer of the surplus labour to non-agricultural activities will require expensive investments to reclaim and expand the cultivable land.¹⁾

On the other hand, since the establishment of public utilities and other construction activities is necessary for

1) Ibid., p. 177.

the promotion of manufacturing industry, and since these activities can be undertaken by hand, without involving substantial demands on equipment, therefore industrialization can be carried on relatively cheaply through transferring the surplus labour in agriculture to construction activities.

(6) Industrialization is highly important to the development process in underdeveloped countries because the scope for internal and external economies in industry is greater than in other activities. Moreover, industrialization is accompanied with the promotion of mechanical knowledge and managerial abilities which are beneficial to the development process generally.

(7) Since the beginning of the twentieth century primary products have encountered adverse price conditions on the world market, because of the sluggishness in the industrial countries' demand for primary products. Terms of trade have moved against primary producing countries; they have shown a long-term tendency to deteriorate. Therefore, industrialization of underdeveloped countries helps avoid the unfavourable conditions of their foreign trade.

Moreover, underdeveloped countries are heavily dependent on exporting one or two primary products and hence vulnerable to acute fluctuations in their incomes (because exports' proceeds in underdeveloped countries constitute a considerable part of their national incomes). To reduce the effects of these sharp fluctuations, underdeveloped countries should diversify their exports, not only by promoting primary production, but mainly through industrialization which helps bring about greater stability.

From the foregoing considerations we may say that industrialization is inevitable in a developing country. Development plans in underdeveloped countries, if they are to lead to rapid economic progress, must lean on the side of industrialization. This does not mean that agriculture should not be promoted;

on the contrary it should be developed as well. Underdeveloped countries should depend upon both agriculture and industry with special interest in industry.

The growth of both industry and agriculture fosters the way of growth for each other. As A. Lewis mentions, a rapid growth of industry calls for a rapid growth of agriculture; workers in industry will want more food, factories will want more labour and agricultural raw materials, and the expanding market of the rural population will be required to absorb the output of manufactured consumer goods.¹⁾ Similarly, if agriculture is growing it will need a developing industry to consume its products, to absorb its labour and to provide agriculture with manufactured consumer and capital goods.

Therefore, the question of agricultural development versus industrialization seems to provide merely a false alternative. An improvement in agriculture is bound to lead to a structural change in favour of industry; also industrialization is bound to lead to improvement in agriculture. So, it may be more sound to consider industrialization as a process of addition rather than one of substitution.

The pattern of industrial development under a planned economy:

One of the main issues of the optimal allocation of resources, which the authorities have to deal with when considering the planned rate of growth, is whether industrial development at the initial stages of economic development should be embarked upon through placing more emphasis upon producers' goods industries than upon consumers' goods industries. A good deal of controversy has arisen as regards this significant issue of economic development.

1) W. A. Lewis, "The Theory of Economic Growth", Allen and Unwin Ltd., 1957, p. 388.

1) The classical pattern of industrial development:

The sequence of industrial development according to the classical pattern may be summed as follows: first, the extraction and preparation of raw materials, then, their transformation and fabrication, and finally, the manufacture of producers' goods. Those in favour of the classical pattern argue that placing more emphasis upon consumers' goods industries only at the initial stages of development, followed at a much later stage by the development and promotion of producers' goods industries, is the more natural pattern of industrial growth,

This classical argument is usually justified in the light of the following considerations:

a) Consumers' goods industries, being less capital-intensive than producers' goods industries, are claimed to be more compatible with existing factor-proportions in under-developed countries - at their initial stages of development - when labour is often relatively abundant, and capital is relatively scarce. Moreover, consumers' goods industries usually require smaller maintenance and replacement as compared with producers' goods industries.

b) Consumers' goods industries yield much faster returns than producers' goods industries. Thus, standards of living in underdeveloped countries may improve more quickly, and inflationary pressures will be less acute.

c) Consumers' goods industries such as food or textile industries can make use of raw materials domestically produced. At the same time, the market for the products of consumers' goods

industries is immediately in sight, whereas the market for the products of goods industries is seriously lacking in underdeveloped countries.

d) It is much easier to set up consumers' goods industries than to set up producers' goods industries; it is much simpler to train labour, for instance, in food processing industries or textile industries, than in heavy industries such as the iron and steel industry for example. Meanwhile, the experience gained, with the passage of time, in consumers' goods industries will help in the attainment of more advanced skills which are necessary to embark on producers' goods industries later on.

2) The pattern of industrial development under a planned economy:

The classical pattern of industrial development is the pattern which might be expected to dominate in an economy developing spontaneously in response to the forces of the free market. Under the conditions of atomistic market economy industrialization, being promoted in response to ordinary private incentives, naturally starts, at its initial stages, with developing consumers' goods industries only. It is not until the development of consumers' goods industries has reached a stage at which favourable conditions and circumstances are created for the products of producers' goods industries that these latter industries can be developed.

But under a planned economy, the situation is quite different. When embarking on industrial development plans,

planning authorities take into account, long-term social returns which result from the investments under consideration, whereas under an unplanned economy the individual entrepreneur takes into consideration only short-term private returns. Moreover, the state is more capable than the individual entrepreneur in mobilizing resources, setting up training centres and establishing public utilities, required for the development process. Also, planning authorities take into account the projected aggregate demand, whereas the individual entrepreneur takes into consideration only the expected individual demands. Therefore, under a planned economy one would expect the pattern of industrial development to be completely different from the classical pattern.

Industrial development under planned economy should be moulded in such a way as to create a firm foundation for future building. In order to pave the way for establishing a healthy economy, planning authorities should aim - at initial stages of development - at a relatively high rate of expansion of producers' goods industries. One of the immediate tasks of the planning authorities is to enlarge the country's stock of capital and to build the whole economy on an advanced technical basis. The expansion of producers' goods industries at initial stages of development is an essential pre-requisite for sustained growth of the economy as a whole.

The argument in favour of expanding producers' goods industries at the initial stages of development runs as follows:

An expanding economy necessitates continuous technical progress. Continuous improved and advanced technology levels require increasing utilization of capital per unit of labour. Therefore, an expanding economy requires that the rate of expansion of producers' goods industries must be greater than the rate of expansion of consumers' goods industries.¹⁾

Although consumers' goods industries yield faster returns, yet these industries are less promising in raising standards of living if a longer time-horizon is taken into consideration. To place more emphasis upon producers' goods industries at the initial stages of development and to bear certain temporary difficulties for the sake of long-run progress, seems to be preferable to concentration on consumers' goods industries which achieve short-run benefits and never manage to shake off backwardness and stagnation. This is due to the fact that the more the country's richness in capital accumulation, the faster the rate of investment and productivity will be stepped up.

Therefore, the greater the expansion of producers' goods industries, the sooner will the turning point, at which the development process becomes self-sustained and self-perpetuating, be attained, whereas the greater the expansion of consumers' goods industries, the more delayed the attainment of this critical point of take-off will be, and the longer

1) Oscar Lange, "Essays on Economic Planning", Indian Statistical Institute, Asia Publishing House, London, 1960, p.5.

the economy will be dependant on foreign markets in importing machines and equipment required, not only for producers' goods industries, but also for consumers' goods industries.

If consumers' goods industries expand at a greater rate than producers' goods industries the pace of further progress of consumers' goods industries will slow down, because producers' goods industries lag behind the desired level required to provide the basic requirements for both capital replacement and new investment in the expanding consumers' goods industries.

Meanwhile, the expansion of producers' goods industries, at the initial stages of development, creates favourable conditions for promoting and developing consumers' goods industries rapidly and cheaply, in the sense that the establishment of an industrial base of the economy raises productivity in the various activities, thus raising the real purchasing power and expanding the domestic market for consumers' goods. Moreover, with the creation of the industrial base, consumers' goods industries can be provided with their requirements of tools and machines cheaply.

Conclusion:

From the above discussion, it can be seen that the expansion of producers' goods industries at the initial stages of development is the basic instrument for establishing a healthy and a strongly built economy. These industries lay the solid basis for a self-sustained and cumulative growth in future. The existence of an industrial base is the principal

requisite of the development of all industries.

But there is one possible risk involved in the expansion of producers' goods industries at the initial stages of development, namely the inflationary pressures which will result from a high rate of development expenditures without, at the same time, increasing the available supply of consumers goods. Therefore, some rise in the output of consumers' goods industries is required and desirable.

It should be recalled that the failure to realize a certain amount of expansion in consumers' goods industries is very likely to hamper the realization of the targets determined by the plan. Therefore, for a smooth advance of the development process, the planning authorities should maintain a certain proportion between the output of producers' goods industries and the output of consumers' goods industries. This proportion, determined by the planning authorities, depends on the planned rate of growth and on the planned degree of improvement of production techniques.¹⁾

1) Ibid., p. 5.

The choice of technique in underdeveloped countries

The problem of the choice of technique, most suitable and appropriate to development in underdeveloped countries is of vital importance for economic planning. The main aspect of the problem is whether underdeveloped countries should adopt the technology appropriate to their existing factor-proportions, or whether they should adopt advanced methods of technology before their factor endowments are suitable for these methods. In other words, the question is whether underdeveloped countries - at their initial stages of development with capital relatively scarce and expensive, and often with labour relatively abundant and cheap - should adopt capital-intensive methods used by the highly developed countries where capital is relatively abundant and labour relatively scarce, or whether they should adopt less capital-intensive and more labour-intensive methods.

The case for labour-intensive technique:

Those favouring labour-intensive technique argue that the relative abundance or scarcity of factors of production affects their combination in the production process. Technological methods used in production differ from one country to another according to their existing factor-proportions. What may be considered as rational use of resources in one country may be considered as irrational in another, where relative supply of factors of production are quite different. The optimal use of available resources involves the combination of various factors of production in different proportions determined by the relative supply of each production factor.

Relative scarcity of capital and relative abundance of labour are two of the basic common features of most under-

developed countries. Relative scarcity of capital is reflected in higher capital price, and relative abundance of labour is reflected in lower labour price. Since the proper choice of technology should be weighted by the relative factor prices prevailing to realize the best utilization of factor combination, underdeveloped countries should choose those investments that would minimize the use of capital. In other words, underdeveloped countries should select from available techniques those of labour-using and capital-saving type. This type of technique contributes effectively to the solution of the serious problem of unemployment in underdeveloped countries. In this respect, Nurkse, dealing with the problem of disguised unemployment resulting from the existence of a large rural surplus population, mentions that in underdeveloped countries the same degree of capital intensity as those used in advanced economies is not required.¹⁾

The advocates of labour-intensive technique assert that the attempt to adopt modern technology by underdeveloped countries at their initial stages of development is often an unsuccessful attempt; for an essential pre-requisite for using modern technology is the existence of certain basic facilities such as electric power stations, means of transportation, training centres, ... etc., which are seriously lacking in most underdeveloped countries. As Hayek²⁾ clearly states" a

1) R. Nurkse, "Problems of Capital Formation in Underdeveloped Countries", Oxford 1958, p. 45.

2) F.A. Hayek, comment on S.Kuznets, "Toward a Theory of Economic Growth", in Lekachman (ed.), "National Policy for Economic Welfare at Home and Abroad", Doubleday & Company, New York, 1955, p. 89.

country which cannot hope to reach within foreseeable time a capital supply per head equal to that of the United States will not use its limited capital resources best by imitating American production techniques, but ought to develop techniques appropriate to a thinner and wider spreading of the available capital".

Other major obstacles to the application of modern technology in underdeveloped countries are concerned with the backwardness and rigidity of their social structures. The modern technology being developed and promoted in the advanced countries, reflects certain socio-economic characteristics which are quite different from those prevailing in underdeveloped countries. Therefore it is unlikely that modern technology can be successfully absorbed unless social and economic institutions in underdeveloped countries undergo radical changes. In other words, underdeveloped countries should introduce gradual improvements in technology, keeping step with gradual changes in their social structures.

The superiority of capital-intensive technique

(a) Productivity, rate of investment and employment

From what has been mentioned above it is clear that the main argument in favour of labour-intensive technique in underdeveloped countries is based on considerations relating mainly to existing factor-proportions; given existing conditions where labour is relatively abundant and capital is relatively scarce, the only form of investments that is appropriate to the existing factor-proportions and secures a high level of employment is that form which is labour - using and capital-saving.

This basic argument in favour of labour-intensive technique seems invalid; for it is based on static considerations; it may be appropriate to conditions already existing at a certain time, yet it is not suitable as a basis for change and development. The choice of technology should be determined in the light of other particular considerations relating mainly to the planned rate of investment, and not to the existing factor-proportions. This is clearly expressed by M. Dobb¹⁾ as follows: "... the choice between more or less capital-intensive forms of investment has nothing to do with existing factor-proportions, which are commonly asserted to govern such a choice. It depends, not on the existing ratio of available labour to capital ..., but on precisely the same considerations as these which determine the choice between a high and low rate of investment ... namely the importance to be attached to raising consumption in the immediate future compared with the potential increase of consumption in the more distant future which a particular rate of investment and form of investment will make possible. In other words, the same grounds which would justify a high rate of investment ... would justify also a high degree of capital intensity in the choice of investment-forms; and vice versa".

Low rates of investment in underdeveloped countries is the most crucial factor leading to their stagnation and economic backwardness. This prevalence of low rates of investment is due, among other factors, to the fact that the techniques adopted in these countries are so primitive and inefficient that production is just sufficient to meet the minimum requirements of consumption, leaving only a very small and negligible surplus available for investment purposes. It

¹⁾ Maurice Dobb, "On Economic Theory and Socialism", Routledge & Kegan Paul LTD., London 1956, p. 149.

should be emphasized here that the rate of investment is not independent of the techniques which are adopted; as can be shown from the following analysis.

The pace of economic development depends, among other factors, upon the rate of investment. The rate of investment should be directed mainly to the expansion of producers' goods industries if the pace of development is to be stepped up and the process of growth is to be self-sustained. The expansion of the producers' goods sector implies an increase in the number of workers employed in this sector. This increase number of workers has to be maintained by a larger surplus arising in the consumers' goods sector, through enlarging the gap between the production level and the consumption requirements in the consumers' goods sector.¹⁾ To widen this gap simultaneously without any reduction in the level of consumption among those who are employed in the consumers' goods sector, underdeveloped countries should change over, from primitive and labour-intensive technique to advanced and capital-intensive technique in the consumers' goods sector. It is only through the maximization of the capital-labour ratio that labour productivity can be raised; and consequently the gap between production and consumption in the consumers' goods sector is enlarged. Thus the surplus available for investment in producers' goods sector is augmented.

In this respect, I should not forget to stress the fact that capital-intensive technique should be adopted, not only in the consumers' goods sector as outlined above, but also in the producers' goods sector. It goes without saying that there is hardly any capital good that can be produced by labour-

1) C. Bettelheim, "Studies in Theory of Planning", Asia Publishing House, London, 1959, p. 297.

intensive methods. In fact the technique required to produce, for instance a tractor or any other similar equipment, leave relatively little room for choice between capital-intensive and labour-intensive techniques.

From what has been mentioned above, it becomes clear that it is more vital and appropriate for underdeveloped countries, when new investments take place, to introduce advanced techniques which will create the possibilities of increasing the rate of investment, even if the number of workers employed by these techniques will be smaller, at the beginning, than the number of workers who would be employed if primitive and labour-intensive techniques are adopted. The introduction of capital-intensive technique creates the conditions necessary for economic progress; every use of capital-intensive technique furnishes the basis for further technical advance.

As regards the employment situation, the introduction of capital-intensive technique will lead in the long run, through enlarging the surplus available for investment purposes, to an increase in new employment opportunities greater than would be the case if labour-intensive technique is adopted, which would generate less surplus available for investment purposes, and consequently less new employment opportunities. In other words, over a longer-period increases in productivity - through the introduction of capital-intensive technique - and in employment are closely interrelated. Even in the short-run, some capital-intensive projects might contribute indirectly and immediately to the promotion of employment; the economies resulting from the establishment of

such projects might lead to an immediate increase in employment opportunities in other activities.

(b) Modern technology and inexperienced labour and management:

It has sometimes been found that unskilled and inexperienced labour can be used effectively and economically only if capital-intensive technique is introduced. Unskilled labour is likely to operate better in processes and operations performed by machines. In this respect Hirschman¹⁾ states " ... machine-paced operations provide for steadiness of pace and regular brief rest periods which the inexperienced self-paced worker has difficulty in observing".

Also, modern technology helps to enhance the efficiency of management in which most underdeveloped countries are seriously deficient. Poor management creates managerial and administrative difficulties which adversely affect labour productivity; while high level efficient management helps to raise labour productivity. As Hirschman, referring to this issue, states "By predetermining to a considerable extent what is to be done where and at what point of time, the machines and the mechanical or chemical processes they perform reduce these difficulties immeasurably in comparison with a situation where work schedules depend exclusively on the convergence and coordination of many human wills and actions",²⁾

From what has been mentioned above, the superiority of capital-intensive to labour-intensive technique as to the

1) Albert O. Hirschman, "The Strategy of Economic Development", New Haven: Yale University Press, 1959, p. 145.

2) Ibid., pp. 146-7.

pace of development in underdeveloped countries becomes quite evident. It seems quite illegitimate to underrate the striking advantages of capital-intensive technique, particularly its effect on speeding up the low rate of investment in underdeveloped countries, while overrating the argument based on considerations relating mainly to existing factor-proportions to justify the suitability of labour-intensive technique to the prevailing conditions in underdeveloped countries. The significance of a certain project should not be viewed and considered only in the light of its capacity to absorb labour; many projects of the highest priority and utmost importance to the progress of backward economies are by nature capital-intensive.¹⁾

Those favouring labour-intensive technique argue that one of the reasons justifying the suitability of this technique to underdeveloped countries conditions is that abundant labour in these countries is cheap. This argument also seems unsound. Abundant labour might not be cheap; because of low wages, unskilled abundant labour suffers from mal nutrition and physical weakness; hence lower efficiency and lower productivity result. Accordingly, labour-intensive technique might be costly in comparison with capital-intensive technique.

Furthermore, abundance of labour in underdeveloped countries may be only a temporarily prevailing factor preceding the realization of the development plan. During the execution period of the plan, labour may become a relatively scarce factor instead of being a relatively abundant factor.

1) A.H.Hanson, "Public Enterprise & Economic Development".
Routledge & Kegan Paul LTD., London, 1959, p. 99.

From the historical point of view, the history of economic development demonstrates that the introduction of advanced technology in backward economies has always contributed to a high speed of development. Industrialization always seems the more progressive, the greater the dependence upon capital-intensive technique. As the Pakistan planners, in this respect, say "the history of economic development shows that improved techniques, while causing immediate disturbance to employment, having contributed to expanded production, consumption and employment. Progress, indeed, would be inconceivable without them.¹⁾

Conclusion:

Having stressed the superiority of capital-intensive to labour-intensive technique, a word concerning the relation between the two techniques in underdeveloped countries should be mentioned.

As regards producers' goods industries there is little room for labour-intensive technique; these industries are by nature capital-intensive investments as mentioned before. As to consumers' goods industries, capital-intensive technique should be introduced so as to enlarge, as has been mentioned before, the surplus available for investment purposes; yet labour-intensive technique can be used in certain industries, for instance, in industries producing fancy and ornamental goods. In construction activities the chance for labour-intensive technique is much greater.

As regards agriculture we should differentiate between underpopulated and overpopulated countries. As to underpopulated countries, capital-intensive technique should be

1)Ibid., p. 100.

introduced in both the initial and later stages of development, so as to raise and promote productivity per worker in agriculture, and to transfer as much as possible rural workers to industry and construction activities.

But as to overpopulated countries, the existence of the acute problem of unemployment, open and disguised, is a consideration which should receive its due weight. At initial stages of development, when the objective in agriculture is to raise productivity per acre, and when the industrial sector has not yet substantially developed, labour-intensive technique should be adopted in agriculture. Also it is desirable, at initial stages of development, that small scale and cottage industries should be encouraged to absorb the excess rural workers. Then at later stages of development when industry becomes big enough to absorb the excess rural workers, and when the objective in agriculture is to raise productivity per worker, capital-intensive technique should be introduced in agriculture.

In conclusion, broadly speaking, underdeveloped countries should not adopt labour-intensive technique simply because it creates jobs. This inefficient technique will not contribute positively to the solution of the problem of unemployment in underdeveloped countries. Unemployment could be solved only through the embarking upon huge developmental plans. Through economic planning, unemployment is likely to be turned into a labour shortage. Therefore, underdeveloped countries should introduce the most advanced technique so as to attain higher levels of productivity in a sustained manner. Yet at the same time it is advisable to establish small scale and cottage industries so as to absorb unemployed labour for a temporary transition period.