CHAPTER -II

ROLE OF EDUCATION IN HUMAN RESOURCE DEVELOPMENT

Introduction:

A Chinese saying rightly points out:

"If you are planning for one year, plant grains;
If you are planning for ten years, plant trees;
If you are planning for a hundred years, plant men."

The Golden Wisdom of this old proverb indicates that man is the measure of all things, and he is the key to all development for a longer period. Man power planning is always a long term one and of far-reaching significance. With a view to bringing about lasting improvement of society, it is felt imperative to develop its human resources, at first.

In this context, education is regarded as the potential investment of national development. Education mainly deals with improvement of human resources. It is through education that a nation transmits its heritage, recreates its culture, strengthens its economy and conserve its values. It is the means of promoting "individual excellence" as Nunn has said. It is due to such immense importance that education has been enunciated as one of
the fundamental human rights. The Charter of Human Rights framed by the United Nations Organization in 1948 declares:

(a) Everybody has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education will be compulsory. Technical and professional education shall be generally available and higher education shall be equally accessible to all on the basis of merit.

(b) Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups and shall further the activities of the United Nations (Francus, 1948)

Although there is still a vast gap between such announcement and real achievement, continuous attempts are being made at the national as well as international level for universalizing and reinforcing education. It is mainly through education that development of all nations has been or can be brought about. Since development is multi-dimensional, multi-pronged efforts are to be made for making education effective and relevant to the life, needs and aspirations of the society. Saxena (1979) has, therefore, aptly
observed, "government is a multi-dimensional process and it can be meaningful if the people are given opportunities to develop individual excellence and thus, contribute to the advancement of the society.

Education is especially an effective means of economic development. The relationship between education and economic development is very close and this has been realized even by the classical economists like Adam Smith, Alfred Marshall and so on. Marshall as a great exponent of such relationship has expressed his concern for the presence of a large number of unskilled workers whose working conditions were miserable and whose cultural as well as educational equipment was poor. He, therefore, strongly demanded for a high expenditure on education and bitterly criticized the people who denied necessary funds for financing educational programmes. Dr. V.K.R.V Rao (1964) said "He(Marshall) repeatedly emphasized the role of skills in increasing production and specifically identified education not only as a target but also as an instrument of economic development. But somehow the relationship between education and economic development, though fully described in Marshall's works did not catch the attention either of economists or educationists". It is only during the post-war period that
education has come into its own as both a condition and stimulant for economic growth.

Karl Marx laid emphasis on free universal education and pointed out that his desired class struggle could be promoted with the help of mass education. He also rightly observed that a society that is divided into an owning class and a working class would never have free and equal opportunity of education of the masses. Advocating for combining productive work with education, Marx appreciated the initiative taken by Robert Owen who set up a school in his factory in Scotland during 1799. The school was meant for the children apprentices to impart moral, physical and intellectual training. Marx (1954) mentioned, “From the factory system budded as Robert Owen has shows us in detail, the germ of the education of the future, an education that will in the case of every child over a given age, combine productive labour with instruction and gymnastics not only as one of the methods of adding to the efficiency of production, but as the only method of producing fully developed human beings”.

Development of Human Resources through Education:

Human resources are the most important factor in any economic endeavour. Particularly in the developing countries it is more significant in terms of trained and skilled manpower. The additional capital may be available from
which is generally used for formation of infrastructure and equipment. But human capabilities do not keep pace with physical resources and become limiting factors in economic development. According to Schultz (1964) the produce as followed for estimating physical capital formation can be followed for the formation of human capital, that is by the expenditure to produce them. Since the expenditure on human resources enhances knowledge and skill, they also increase the value productivity of human efforts and yield a positive role or return. The important programme that improve human capability are (a) health facilities and services that include all expenditure that affect life expectancy (b) on the job training, (c) formally organized education at elementary, secondary and higher levels, (d) study programmes including extension services (e) migration of individuals families to adjust to changing job opportunities. Thus, out of these education is a very important component and expenditure in education is regarded as investment.

Efficiency and working capacity can be increased by means of education and training. The acquired knowledge and skill that adds to productive capacity of an individual is taken as capital from economic point of view. Development of human resources through education and training is capable of bringing positive returns to the individual and community resources. That
is why, expenditure in education is productive in the sense that it pays back and leads to acceleration of economic growth. Rao (1964) has therefore, remarked, "since education is considered an investment leading to economic growth, this is a very good way of getting more funds for education. Many educationists, therefore, started talking of education and economic development to justify their demands for more money for education".

New Growth Theories and Higher Education:

The conventional neo-classical theory of growth had held that economic growth was the result of accumulation of physical capital and an expansion of the labour force, combined with an exogenous factor like technological progress, that makes capital and labour more productive. But it could not explain how to accelerate the technological progress.

During the late 1980s and early 1990s, new theories of economic growth underpinned the human development position, that the real motive force of economic progress is, people. Developed by eminent economists like Paul Romer and Robert Lucas, these theories have tested the effects of human capital on long term growth rates of countries. In the new theories, what increases productivity is not an exogenous factor, but endogenous ones,
related to the behaviour of people, responsible for the accumulation of productive factors and knowledge. Significantly, this behaviour can be changed by policy. Some of the new models argue that one of the crucial variables is an across the board increase in human capital. Others argue that the key source of productivity growth is research and development (R &D) though this too depends on human capital.

The human capital models show how education allows the whole production process to benefit from “positive externalities”. Educated people use capital more efficiently, resulting in improvement in productivity. Education also helps to devise new and better forms of production through innovation. Moreover, they spread the benefits to their co-workers, who in turn become more productive. Thus the rising level of education causes a rise in the efficiency of all factors of production. This helps to explain part of the disparity in income between the rich and poor countries as well as between any two sections within a country including India. It also partly explains why poor countries like India are not catching up with the advanced ones. India has failed to spend even the promised 6 per cent of GDP on human capital development that can augment productivity and enable the workforce to adopt front-line technologies. In any case, the less developed countries
lack financial resources—domestic external assistance—and therefore ought to concentrate on human resources.

The spillover benefit of higher education also helps account for certain important aspects of relationship between economic growth and physical capital. In the past, growth theories assumed that capital has diminishing marginal returns; that as more capital is accumulated, overall efficiency and growth rates will decline. But empirical evidence in many countries has disproved the hypothesis. The human capital model helps to explain as to how decreasing marginal returns to physical capital are offset by increased human capital efficiency acquired through higher education.

The new growth theories have important policy implications, since they suggest that growth could be stimulated by undertaking public investment in improving human capital and research and development. Hence, it can be argued that human resource development, right from primary to higher levels, ought to be treated as a continuum, with first a claim on the state's resources. Countries like Japan and South Korea, for instance, have attained the status of miracle economies, largely due to MFE (most favoured expenditure) treatment accorded to education by the government. The role
of high levels of human development in attaining high rates of real economic growth is undeniable.

The World Bank is experimenting with a new measure of national wealth. According to the Bank's assessment of 192 countries, while physical capital and natural wealth accounted for 16 to 20 per cent of the total wealth of the country respectively, the human capital is estimated to account for the remaining 64 per cent of the wealth. The dominance of human capital is particularly marked in high-income countries. In Germany, Japan and Switzerland, it accounts for as much as 80% of the total capital. On the other side, in sub-Saharan Africa, where human resources are very poorly developed more than half of the national wealth is still in the form of natural resources. This also explains the great divide between rich and poor countries.

The Bank has also begun to apply a mechanism of assessing whether total wealth is rising or falling. This measure of sustainability is called "genuine saving". It would show what a country adds to or subtracts from its net worth. From the output, the measure subtracts consumption, depreciation of physical capital and net depletion of natural resources. Depletion of human capital unfortunately is not included largely for want of appropriate data. The countries with the best record include Hong Kong, Japan, South Korea.
and Singapore. Indeed, East Asia has had a rapidly increasing genuine savings rate, estimated to be around 15% of GNP, since the early 1980s. At the other end of the scale sub-Saharan Africa has been dissaving at 13% of GNP, since the late 1970s.

In the light of the measures of national wealth relating to different countries, it is crystal clear that higher education does make a positive and significant contribution to the nation's social and economic progress. Besides, alleviating poverty and reducing income disparity, an investment in higher education is an investment in the future of the country.

Approaches to study the impact of education on economic growth:
Attempts have been made through theoretical as well as empirical studies to assess the economic contributions of education and several approaches have been developed by economists and educationists. There are mainly four approaches of determining the contributions of education to economic growth. There are: (a) the simple correlation approach, (b) the residual approach (c) the return to education approach and (d) the forecasting manpower needs approach. Explaining the first approach, Mishra (1975) has said, "The simple correlation approach consists of correlating some overall index of educational activity. Inter country correlations at a fixed
point in time constitute one of the well known member of this group. In this approach the emolument ratios and GNP per capita have been correlated. Similarly, inter-temporal correlations inter-industry and inter-firm have been made. In case of inter-temporal correlation approach, education and GNP within a given country over time are correlated. In case of inter-industry and inter-firm correlation approach such measures as proportion of work force that has had training beyond school level or percentage of gross receipt spent on research and development activities are adopted. Correlation can then be made between one of these indices of educational emphasis and the profitability of industry or firm.

The second approach of residual factors is the outcome of the economists' attempts to analyse the factors that contribute to the growth of the national economy and to an increase in the national income. It is realized that investment alone did not explain the whole process of economic growth. It is of course found that investment in terms of physical inputs like coal, steel, power, equipment and raw materials not only fails to explain the whole process of economic growth, but also can not account for the rate of economic growth. The economists have discovered "that besides capital there is another factor which may be desired as residual factor that contributes more than 50 per cent to the quantum of growth. This residual
factor consists of so many components including some invisible elements. Among these components education forms a significant part of the residual factor. The other components are science and technology, organizations and innovation and certain entrepreneurial qualities.

Thirdly, the direct return to education approach studies the economic consequences of education by contrasting the life-time earnings of people who had more education with those of people who had less of education. The additional earnings of the educated persons can be expressed as an annual percentage rate of returns on the cost of obtaining education. Thus, the educational benefits are related to educational costs in a way that provides useful information concerning the adequacy of overall level of investment in education and extent to which economic benefits accrue to private individuals. But there are certain difficulties in this approach for instance, persons with some educational qualification may differ in terms of other attributes which are likely to influence earnings. Besides, there may be some non-monetary attractions in direct benefit of jobs.

Fourthly, the forecasting manpower needs approach aims at providing educational planners with information as to likely future needs for personnel
with various kinds of training. Such forecasts may be expressed in terms of
broad aggregates of people (e.g. matriculates graduates etc) or in terms of
specific occupational categories (physicist, economists etc). The great
advantage of this approach is that it offers necessary guidelines for taking
decision in the planning process. But one serious difficulty in this approach
is that in a dynamic economy, future developments can not be foreseen
adequately.

Empirical Studies on Education and Economic development:

During the first quarter of the current century when Linen implemented the
first great industrial plan for USSR, the Soviet Economist Strumlin in a
communication to the Father of the Nation pleaded for adequate investment
in education and mentioned therein that the big hydro-electric power project,
steel mills and machined tool factories and mechanized farming would not
yield satisfactory results without suitable education and training. Lenin
appreciated the suggestions of Strumlin and changed the pattern of planning
by making necessary provisions for the mass education as a result of which
within a decade only more than 90 per cent of the Soviet people could be
made literate.

Similarly in the US, Benjamin Franklin was the first eminent American to
emphasize the practical contributions of education to agriculture, commerce
and industry. He prepared the classical education of the day in favour of the useful knowledge and century later that view gave rise to Land Grant University Movement which placed higher education at the service of the total economy and all elements of the population. Technical high schools and vocational specializations in the community colleges were the outcomes of the same trend. Kerr (1969) has aptly observed that economic growth is a complex phenomenon and its requirements vary from stage of development and one situation to another. The United States has had less access to vast new inputs of labour and capital investment on a percentage basis. It has had to rely more heavily on other sources of growth.

A recent study by Denisen (1967) shows education was a major source of growth. For the period from 1955 to 1962 Denison claims more than one-fifth of the increase in national income per person employed is explained by higher educational levels. Advances in knowledge “related particularly to higher education, added about one-fourth. It is also suggested by economists and educationists that even in future the US must rely increasingly on greater skill and better technology as sources of economic growth and both are based on education. Lastly, Kerr (1969) has concluded “whatever the exact measure, education has increasingly been shown to be a basic and
important element in carrying nations to higher levels of economic output as Benjamin Franklin intuitively sensed two centuries ago”.

After the Second World War, the United Kingdom faced a stringent economy for reconstruction and rehabilitation work in 1948. The Labour Party Government made comparatively less provisions for educations and more provisions for developmental works. The Education Minister, however, threatened to resign if the Education provisions are not adequately augmented. He forcefully declared on the floor of the Parliament, Education is not an expenditure but an investment in man. It was realized by everybody that development of human resources could not be ignored in view of the rapid reconstruction. Consequently, sufficient funds were made available for educational development by the British government.

Todaro in his ‘The Economics of Education’ points out that most people in the less developed countries do not demand education for its intrinsic benefits but simply because it is the only way to get highly paid employment. These derived benefits must in turn be weighed against the costs of education. There are two aspects here. One aspect is the difference in the wage or income differential between jobs in the modern sector and
those outside it which is generally called traditional sector. The demand for higher education is positively related to the modern-traditional sector wage differential. If we can reduce such wage differentials, we can restrict the demand for higher education to a great extent. And the wage differentials can be reduced provided the productivity of the traditional sector can be increased substantially through greater investment in infrastructure and other aspects of development.

A few empirical studies have also established the positive correlation between education and economic growth between education and enrichment of personality. The monumental study (Myrdal, 1968) "Asian Drama- An Enquiry into the Poverty of Nations" revealed this correlation in a lucid manner and emphasized the universalization of education for accelerating economic growth. Myrdal, the author of this study has put forth summary and conclusions in another publication entitled "The challenge of world Poverty: An World Anti-Poverty Programme". In outline he stressed the need for radical reform in the entire educational system mostly of qualitative nature in the underdeveloped countries. The reforms are not for the quantity of education, least of all, as simply measured by financial expenditure. Emphasis should also be given on "distribution spread" of the educational inputs among social classes and the two sexes. The reform should also
concern what is taught with what intention, in what spirit and with what effect for instance in regard to the willingness to perform manual work. Myrdal also points out that much education in the underdeveloped countries is mis-education and apt to raise impediments for development. He further argues that the investment in man model is a sort of extended capital-output model and so blocks the way to realistic and relevant research.

In an assessment of higher education, Moonis Raza also points out that education can be efficient and equitable if the majority of people, the poorer having proportionately more opportunities, are able to benefit from; it is both inefficient and iniquitous if only the affluent minority succeeds in garnering all the benefits. Education at higher level, particularly in developing countries should aim at

- changing social structures in response to the needs of time,
- assisting in the process of economic development, particularly of rural areas where vast majority of people live in poverty and squalor, and
- establishing close links with Indian cultural traditions.

Education is, of course, closely related to economic development. It should not be taken just as a functional concept. It should not be regarded just an instrument of economic growth. One should not take the impression that all
education is linked with economic development. Rao (1964) rightly emphasized, “it is important to realize right from the start that education has a dual aspect. While education is necessary for the promotion of economic development, education is also essential for enjoying the fruits of life. One needs to be educated in order to be a better man, to have richer life and to have a more integrated personality. We must never ignore what one could call the self-discovering and the self-fulfilling aspect of education, the aspect that relates to its enrichment of human personality. Thus, besides economic significance education has a great cultural importance which can not be estimated in terms of money or tangible results. Because, man does not live by bread alone as declared in the Bible.