CHAPTER 1

Introduction

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1.1 **Introduction**

The subject of economic growth has attracted the attention of economists, since classical times. However, the systematic study of the problems and processes of economic development in the Third World has emerged only after the World War-II. Traditional economics is concerned primarily with efficient allocation of scarce productive resources and their growth overtime so as to produce an ever-increasing flow of goods and services. Development economics is an important extension of traditional economics and Political economy goes deeper than traditional economics and studies the social and institutional processes through which certain groups of economic and political elite influence the allocation of scarce resources now and in future for their own benefit, or for the wider benefit of longer population. Economic Development emphasizes the social, economic and institutional mechanisms, which are necessary for rapid and large-scale improvement in the levels of living of vast majority of human kind living in the Afro-Asian and Latin America countries. But there is no magic formula for economic development and growth, because the arithmetic of development has its own limitations. Not only as an economist, but also on human grounds, we are interested in economic development, which depends upon the acquired abilities of human beings.

Abilities and skills of human beings are acquired through constant struggle as well as through constant investment in human beings. Development of human resources i.e. development of manpower is a

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1 Tadaro, Michael, Economic Development of Third World p-8
necessary condition for economic development. Manpower is a precious capital at the command of a nation, which has constantly been committed in the economic growth plans. It is universally accepted that human factor has the most crucial and lasting impact upon development. There is no doubt that the underdeveloped and developing economies need high-level manpower as they need capital. Most economists would probably agree that it is the human resources of a country, not its capital or material resources that ultimately determine the character and pace of economic and social development. Professor Frederick Harbison\(^2\) of Princeton University has rightly remarked that “Human Resources constitute the ultimate basis for wealth of nations. Capital and natural resources are positive factors of production, human beings are the active agents who accumulate capital, exploit natural resources, build social, economic, political organisations and carry forward national development—clearly. A country which is unable to develop the skills and knowledge of its people and utilize them effectively in the national economy will not be able to develop anything else. Certainly all countries should try to measure, examine and analyze periodically their stock of human capital. Their failure to do this is an important weakness in their ability to plan intelligently for future prospects.

Progress is basically the result of human efforts. Rapid and smooth economic development takes human resources to mobilize capital, to exploit natural resources, to create markets and to carry on trade. Therefore, development of human resources is a more realistic and

\(^2\) Harbison, F.H. (1973), Human Resources as the Wealth of Nations, Oxford University Press, London
reliable indicator of economic development and is also one of the necessary conditions for all kinds of social, political, cultural and economic growth. Development of human resources is a continuous process of increasing the knowledge, skill and working capacity of all people in a society. The objective of the strategy of manpower development is to build the skill and knowledge, required for all kinds of growth, which provides avenues of participation in the creation of a better society for all who seek them. The most valuable of all capitals is that which are invested in human beings. The world is rocking with change and we need a high capacity for adjustment to changed circumstances. The solutions we hit on today will be outmoded tomorrow. Only high ability and sound education equip a man for seeking new solutions. The term human resources have multiple meanings. Human resources can be considered as the total knowledge, skills, creative abilities, talents and aptitudes of the work force as well as their values, attitudes and beliefs of the people in general. Adam Smith included the acquired and useful abilities of human beings in his analysis of capital. Likewise, Alfred Marshall considered the investment in human beings the most valuable of all capital. According to Schultz\(^3\) “Capable people are the key to the abundance of a modern economy. They are the major sources of economic growth. Economic growth is neither interesting nor rewarding if we neglect improvement in the skills of the people”.

So, it is decided to look at economic development from a new perspective i.e. economic development from the perspective of

education, training and nutrition. According to Paul Streeten⁴ “Better education, nutrition and health are beneficial in reducing fertility and raising labour productivity, enhancing people’s capability and adaptability and capacity for changing and creating suitable social and political environment for stable government. Basic education, for example, improves the impact of health services and better health enables children to benefit from education. The effect of investment in sanitation on health status depends on educational levels and these in turn will promote human capabilities to yield a return to the society no less than return from physical capital.

**Education And Economic Growth**

As noted above, investments in education promote economic growth. Various studies have been conducted by economists in the West to assess the contribution of education in economic growth. To give just one instance here, Edward F. Denison estimated that investment in education contributed 23 percent of the growth of total real income and 42 percent of the growth of real national income per person employed in the U.S.A. during 1929-57. According to Todaro, education contributes to economic growth in the development in the following ways:

1. It helps in creating a more productive labour force and endowing it with increased knowledge and skills;
2. It helps in proving widespread employment and income-earning opportunities for teacher, school and construction workers, textbook and paper printers, school

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uniform manufacturers, etc; (3) it helps in creating a class of educated leaders to fill vacancies left by departing expatriates or otherwise vacant positions in governmental services, public corporations, private business, and professions; and (4) it helps in providing basic skills and encourages modern attitudes in the diverse segments of the population.

**Education And Reduction In Income Inequities**

Though the linkages between education and economic growth are very much in evidence in both, developed and developing countries, those between education and reduction in income inequalities (and poverty) are difficult to establish. Most of the Third World countries have launched upon programmes of universal education in the hope that they will improve the human capacities of the poor people and enable them to increase their family earnings. In short education was seen as a great egalitarian measure which would help in improving the human resources in general on the one hand and on the other would enable the less privileged and poor classes of people to improve their economic lot.

However, while it can be said that the first objective has to great extent been achieved, we cannot say so in case of the second objective. Despite universal education and educational reforms carried out by the governments, it is the rich and middle income groups that have benefited from the educational system the most. This is due to the reason that the institutional and social structure, within which the educational system has to function, is in egalitarian and perpetuates inequalities. The childhood of the poor children is characterized by poor nutrition and illiterate home environment which has negative mental effects. Even if they are able to
complete their education, they find it difficult to procure jobs which are concerned by children belonging to the relatively rich classes on account of their better social contacts and influences.

**Education And Rural Development**

Education can contribute significantly to rural development in a variety of ways. By widening the horizons of knowledge of the rural people, it can enable them to overcome ignorance and superstitions. Adoption of new agricultural techniques and new methods of production is rendered easier if the farmers are educated. Education can be oriented as to impart skills and attitudes useful in improving the quality of family life (for example, through education on subjects such as health and nutrition, home repairs and improvements, family planning and child care, etc.). In labour surplus economies like India, education can help rural people in acquiring skills to set up cottage industries on their own so that the disgustedly unemployed people can be fruitfully employed in the villages themselves.

However, the actual education programmes carried out in the developing countries like India have failed to accomplish these objectives. They have concentrated mainly on general and basic education and have failed to evolve educational strategies keeping the needs of the rural population in view. Agricultural extension programmes are weak and mass of the people (rural people, small subsistence farmers, women, children and youth) is left out of the educational programmes. Even the children attending schools are given education that has practically no relevance to their environment. A majority of them
drop out at the primary education level itself as their families require them to work on farms and supplement family income. The remaining students who complete secondary education become 'alien' to their own surroundings as the curricula they go through contains a very strong urban bias. The natural tendency of these persons is to migrate to urban areas. Therefore, the educational systems of the developing countries serve as instruments to siphon off the skills and talents acquired by the younger generations of the rural areas and to transplant them in urban areas. The urban-rural dichotomy is further strengthened.

These observations point to the necessity of reorienting the educational system to the requirements of the rural population. If such a thing can be accomplished, there is no doubt that education will contribute significantly to the process of rural development in the developing countries.

**Education and Family Planning**

Education helps in modernizing and revolutionizing the ways of thinking of the people. It enlightens them of the need to improve their standards of living and, for this purpose, to restrict the size of their families. Therefore, education serves as the best method of family planning in the long run. Also, as more and more women get education and seek employment, the fertility rates show a tendency to decline because upbringing of children is a comparatively difficult task for working women.
Other Benefits Of Education

In addition to the benefits discussed above, education confers a number of other benefits on the society. A long, but nevertheless incomplete. List would be a follows: (1) the current spillover income gains to persons other than those who have received extra education; (2) the spillover income gains to subsequent generations from a better educated present generations; (3) the supply of a convenient mechanism for discovering and cultivating potential talents; (4) the meeting of the skilled manpower requirements of growing economy; (5) the provision of an environment that stimulates research in science and technology; (6) the tendency to encourage lawful behavior and to promote voluntary responsibility for welfare activities; (7) the tendency to foster political stability by developing an informed electorate and competent political leadership; (8) the supply of certain measure of 'social control' by the transmission of a common cultural heritage; and (9) the enhancement of the enjoyment of leisure by widening the intellectual horizons of both the educated and the uneducated."

Role Of On-The-Job Training

As stated earlier, productivity of physical capital is substantially enhanced if an improvement in human capital is effected. It is on account of this reason that many firms provide on-the-job training to their workers. Such training has the advantages that it can be provided fast and without much cost. Also, on-the-job training can be tailored to the learning capabilities and peculiarities of the individuals working on
particular machines. Such training increases the skill and efficiency of the workers and leads to an increase in production and productivity. Investment in human capital in the form of on-the-job training is mostly undertaken by the firms themselves and they are the direct beneficiaries of the increased production that thus materializes. However, since industrial production as a whole also tends to increase. The nation also benefits.

**Role Of Health In Economic Development**

Improvement in the health of masses increases their productive capacity and leads to qualitative improvement in human capital. Therefore, expenditure on health is important in building and maintaining a productive labour force as well as in improving the lives of the people and the quality of society. Basically, expenditures on health take the form of investment in medical knowledge, in disease prevention and in treatment and rehabilitation. Because a large number of poor living below subsistence levels in underdeveloped countries suffer from malnutrition, the health care programmes in these countries can be taken to include all steps aimed at improving the level of nutrition of these people. In a narrow sense, programmes included under health care are as follows: (1) expanding medical knowledge through increased basic research in the life sciences; (2) faster dissemination of new information and techniques to help policy-makers and the public; (3) more and better organized health facilities and manpower, including research laboratories and medical schools, general hospitals and nursing homes, highly trained specialists and nursing aids; (4) improved financing of
medical services; and (5) free medical aid to the poor and downtrodden and other poor sections of the population.

Since all those activities that increase man's productive capacity are included under human capital formation, we can see that it is practically impossible to measure its contribution to economic development. Most of the attempts in this field have been directed at measuring the contribution of education of economic growth (though some attempts have also been made to measure the contribution of health to economic growth). Even here, we are not on sure ground since, as noted earlier, the list of benefits accruing from education is very large and most of these benefits are 'non-quantifiable.' To measure the contribution of education in economic development, the principal approaches adopted are the following: (1) determination of the relationship between expenders on education and growth in income or in physical capital formation over a period of time in one country; (2) the residual approach in determining the contribution of education to gross national product (GNP); (3) calculation of the rate of return from expenditures on education; and (4) making inter country correlation's of school enrollment ratios and GNP.

1.2 **Objectives Of The Study**

The broad objectives of the study are as follows:

1. To assess that the development of manpower is a necessary condition for Economic Development.

2. To examine and analyze the Development of human capital particularly in Meerut district.
3. To examine the efficiency of human resources to mobilize capital, to exploit natural resources, to create markets and to carry on commerce and trade.

4. To analyze manpower development to build skill and knowledge required for all kinds of growth.

5. To examine the Uttar Pradesh and Central Government role in the development of human capital in the state.

6. To analyze the broader aspects of development from the perspective of education, employment, training, health and nutrition.

7. To clear the concepts of inter-relationship of human resources and economic development applying in the economy of Meerut District.

1.3 **Review of Literature**

Different economists and social scientists in India and abroad have conducted various macro as well as micro level studies on Human Resources Development and Economic Development. Their main findings have been discussed in the following paras:

The *Human Development Report*[^1] lays down that for sustainable growth, countries must attain basic thresholds in several key areas: governance, health, education, infrastructure and access to market. The policy cluster to help countries overcome poverty traps lays down that the countries most invest early and ambitiously in basic education and health while fostering gender equity. These are the preconditions to

sustained economic growth. Growth, in turn, can generate employment and raise incomes feeding back into further gains in education and health. The report further stipulates that democratic governance and human rights should be promoted to remove discrimination, secure social justice and promote the well being of all people. Lack of education robs an individual of a full life. It also robs society of a foundation for sustainable development because education is critical to improving health, nutrition and productivity. Thus education helps in promoting human resource development and hence long-term economic development.

Till recently in India, the concept of development meant to be material attainments but this was against the spirit of development envisioned by Pt. Jawaharlal Nehru, First Prime Minister of India, in his Address to the Constituent Assembly, New Delhi on August 14 and 15, 1947, he laid down that\(^6\) "That future is not one of ease or resting but of incessant striving so that we may fulfill the pledges we have so often taken and the one we shall take today. The service of India means the ending of poverty and ignorance and disease and inequality of opportunity. We have to build the noble mansion of free India where all her children may dwell."

"The future beckons to us. Whither do we go and what shall be our endeavor? To bring freedom and opportunity to the common man, to the peasants and workers of India; to fight and end poverty and ignorance and disease; to build up a prosperous, democratic and progressive

nation, and to create social, economic and political institutions which will ensure justice and fullness of life to every man and woman.”

National Human Development Report⁷ lays down that keeping in view these ideas, development process has to be ultimately assessed for impact on quality of life and human well-being. There has been, in recent years, a conceptual broadening in the notions of human well-being and deprivation. The notion of well-being has shifted away from just material attainment or the means for development, to outcomes that are either desirable in them or desirable because of their role in supporting better opportunities for people. There is, today, a broad-based consensus to view human development in terms of three critical dimensions of well-being.

- Longevity - ability to live long and healthy life.
- Education - the ability to read, write and acquire knowledge.
- Command over resources - the ability to enjoy a decent standard of living and have a socially meaningful life.

Allocation of adequate public resources for furthering human development alone is not enough. It is equally important to use them efficiently and effectively.

Sh. A.P.J. Abdul Kalam,⁸ The Hon’ble President of India indicated that the database for traditional knowledge has to be converted and harnessed towards marketable products and systems for national economic growth. The economy and industry should work for the betterment of the people and eco-friendly economic development. For

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overall development of the country four kinds of connectivity are necessary - physical, economic, electronic and knowledge, he added. In the 21st Century, a new society is emerging where knowledge is the primary production resource instead of capital and labour. Efficient utilisation of knowledge can create wealth in the form of better health, education, infrastructure and other social indicators. This knowledge society has two components-societal transformations built on education, healthcare, agriculture and governance and wealth generation. The core strengths of India - the vast coastline, mineral deposits, bio-diversity and human resources on value addition - will achieve the desired goal of food, social and health security and economic prosperity. There is continuous change in the employment pattern with people moving from agriculture to industry and services and a corresponding reduction in the share of GDP for agriculture and an increase in the share of industry and services. It is necessary to design, develop and deploy the high technology tools and methods in the agriculture sector to meet the increasing food demands. With training, the surplus manpower from agriculture can be deployed in other sectors. Competitiveness and innovation are necessary ingredients for the growth of the knowledge society.

Rizwanul Islam9 specifically points out that rapid economic growth in East Asia in the last decade has been based not entirely on quantitative expansion of the inputs of production. The amount of capital per worker in those countries remains considerably lower than in the rich

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industrial countries. Apart from high rates of domestic savings and investments, and success in attracting foreign direct investment as well as in achieving high rates of exports growth, a major factor contributing to their success is skill accumulation. Policies and supporting institutions in countries like Malaysia, Republic of Korea and Singapore led to rapid skill development along appropriate lines. This extended beyond basic education. In the Republic of Korea, the State played a very important role in vocational training, although enterprises also contributed either by organizing in plant training or paying a training levy. In Singapore and Malaysia, the government collaborated effectively with the private sector to provide necessary skill training.

Indonesia has expanded its network of vocational training institutes, in-plant training and community training centers to supplement the government network. Thailand, in comparison, has been less conscious about the importance of in human capital formation and is currently facing shortages of skilled manpower as well as difficulties in redeploying workers rendered redundant by industrial restructuring. Thus to have rapid economic growth, apart from basic education and skills, the workers will need to be retrained almost on a continuous basis so that adjustment at the enterprise level can proceed smoothly. This will require the creation of a training culture where the workers have to be willing to undergo training to keep them abreast and employers prepared to invest in such training. Rizwanul Islam believes that to remain competitive and to be able to maintain growth when further increases in capital per worker are not possible (as in the case of India), improvement of productivity of both capital and labour is extremely important. Investment in human resource development facilitates the growth process.
Arvind Singhal\textsuperscript{10} depicted that the prospects of the Indian economy are quite good in the near future. But ironically one of the biggest hurdles likely to be faced by resurging India is an impending crunch in availability of human resources required to start up and operate/manage these new business start-ups. In the specter of an increasingly more assertive and more demanding group of customers and consumers, the real competitive edge for a business in almost any industry would be the quality of its human talent. Product and process innovation will be imperative for sustained survival and success, and this can be managed only through the availability of well-qualified and well-trained human resources. Unfortunately, Indian industry has given human resource development practically no priority. As a result, when the companies are now planning expansion or new business start-ups, they find themselves scraping at the bottom of their very shallow existing HR talent pool and then resorting to poaching perceived talent from competitors. Unfortunately, there are no shortcuts for overcoming this challenge. The starting point for various companies has to acknowledge that there is a problem and that they need to allocate substantial corporate attention and financial resources for developing the human talent for their future growth needs. Otherwise, a nation of a billion inhabitants may soon have to start importing managers as well.

Lei, David\textsuperscript{11}, in his paper “The Empathetic Organisation” highlights the emergence of a new business model, which goes beyond commercial value. The unique distinguishing organisational and strategic

\textsuperscript{10} Arvind Singhal, Business Standard, January 24, 2004, Mumbai.
\textsuperscript{11} Lei, David and Green, Charles R, 2003, “The Emphatic Organisation”, Organisation Dy namics 32(2), 142- 164
characteristics are isolated on the basis of examination of empathetic organisation from four very widely divergent industries, namely, Apple Computers, Container Store, Harley-Davidson and Mary Kay. The management of these organisations lay a great stress on Human Resource Development by spending heavily on training and development, comparatively high compensation, openness and empowerment, high selectivity in training, trust and caring for employees. It is believed that this notion of organisational empathy would lay the foundation for an alternative set of business strategies and organisation designs that are particularly suited to compete in today's era of industry wise consolidation.

In line with western organisation, Indian companies have also started taking steps towards human resource development.

Oil and Natural Gas Corporation (ONGC)\textsuperscript{12} is the flagship company of India; and making this possible is a dedicated team of nearly 40,000 professional who toil round the clock. The company has adapted progressive policies in scientific planning, acquisition, utilization, training and motivation of the team. At ONGC, everybody matters, every soul counts. The company has the following HR vision, "To attain organizational excellence by developing and inspiring the true potential of company's human capital and providing opportunities for growth, well-being and enrichment." The HR mission is, "To create a value and knowledge based organisation by inculcating a culture of learning, innovation & team working and aligning business priorities with aspirations of employees leading to development of an empowered,

\textsuperscript{12} ONGC : our company : our people, called from ONGC.com.
responsive and competent human capital." HR policies at ONGC revolve around the basic tenet of creating a highly motivated, vibrant and self driven team. The company cares for each and every employee and has inbuilt systems to recognize and reward them periodically. In order to keep its employees motivated the company has incorporated schemes such as Reward and Recognition Scheme, Grievance Handling Scheme and Suggestion Scheme. An integrated part of ONGC’s employee-centered policies is its thrust on their knowledge up gradation and development. To move towards world class systems, processes and practices, a project for integrated system of Human Resource Automated Management Information of KAIZEN (SHRAMIK) based on platform SAP/R/3 has been launched which is an attempt to address key issues in HRM through comprehensive process, re-engineering and remodeling of HR functions.

Law, KS and Tse\textsuperscript{13} investigates the significance of how firms manage their human resources within the confines of powerful social institutions in a transitional economy, the People’s Republic of China. This study looks at the impact of two variables- the role of human resource management and employee’s perception of top level management on firm’s performance. Factor analysis using the data from 180 firms in nine cities in China establishes the importance of HRM to firm’s financial and operational performance.

David McDonald\textsuperscript{14} revealed that the main sources of productivity growth are technological change, increases in capital intensity, economies of scale and improvements in labour efficiency. Education and training will play a vital role in promoting labour efficiency through the enhancement of workforce skills, and the World Bank has emphasized the significant link between skills development and a country’s manufacturing export capacity (World Bank - 1993: 43-48). Training of workers in narrow skills is no longer appropriate. Modern technology is increasingly demanding broader skills and new mixes of previously quite distinct skills. In addition, the rapid pace of technological change demands an ability to adapt quickly; so, the formation of skills has to rely not only on initial training, but also equally on opportunities for retraining and upgrading existing skills. To achieve the objective of a skill and creative workforce, employers might examine a range of initiatives in collaboration with government. These could include medium-size and large companies (including MNC’s) pursuing particular initiatives in relation to the development of critical generic or industry-specific skills, and the possible implementation of payroll levy/subsidy schemes or other fund-based arrangements to finance training initiatives.

Rajiv Raghunath\textsuperscript{15} disclose that the State of the World’s Children 1998, a report released by the Unicef recently makes an interesting observation of how private support can help in reducing malnutrition among children worldwide. The Kiwanis International Club, an US-based

\textsuperscript{14} David McDonald: "Industrial Relations and Globalisation: challenges for Employers and their organization, Presented at ILO WORKSHOP in Turin, Italy, 5-13 May 1997.

\textsuperscript{15} Rajiv Raghunath : Merge HRD with social development, Indian Express Newspaper (Bombay) ltd., Dec 22, 1997.
group of business executives, professionals and others, commands the support of 6,00,000 members in 83 countries. The members pledged to raise $75 million by July 1998 to eradicate Iodine Deficiency Disorders (IDD). This contribution has saved around three million children from irreversible mental disorders. The Kiwanian approach could serve as a model for the corporate sector in India, which in recent times has been taking a proactive stance on social issues. By engaging in social work, corporate managers feel that their employees get sensitized to the social realities, which are useful inputs in corporate planning and decision-making. Mukul Gautam, special representative in India, Unicef feels that economic development is not a pre-condition for ameliorating the problem of malnourishment of children. It is too simplistic to equate nutrition with food. Good nutrition calls for a trinity of interventions that include food, health care and caring practices. Dr. Ramaswamy, a leading name in the field of health-care and nutrition is of the view that 20 per cent of a country’s budget must be directed towards nutrition and health. There is a need for a partnership between the private sector and the government with respect to improving the nutritional levels. The Kiwanian example should become a benchmark for corporate organization in India seeking HRD through social development.

**Fukuda-Parr, Sakiko and Shiv Kumar**\(^6\) has the opinion that Human Development Reports are now globally recognized as a crucial aid in measuring, monitoring and managing socio-economic development. The rationale for treating human beings as ends for social

\(^6\) Fukuda-parr, Sakiko and Shiv Kumar AK (eds): Readings in Human Development: concepts, Measures and Policies for a Development Paradigm (Oxford University, New Delhi, 2003).
and economic development is the philosophical foundation of the new approach; which lies in the concern for the human being. Human capability has been traditionally treated as a commodity relevant for production of goods/services that contribute to the values of DGP/GNP as a manifestation of a society's economic standing and development. Human Development oriented scholars lay more stress on enrichment of life rather than economic development indicators alone. They further lay down that Human Development Index (HDI) continues to be an important measure of development for a social or political entity. HDI has been primarily computed as a composite measure of achievement in three aspects: longevity, education and income. They further suggest that there is a need for an inclusive democracy for a society to bring the values and efforts in the kind of social equality, justice and quality of human existence that Human Development Approach stands for.

Azim Premji\textsuperscript{17}, Chairman Wipro Ltd. points out that all the economies, which have prospered in the last century, have done so due to their ability to tap human potential. Growth cannot come from mere technological innovations, but is driven by systematic social choices. These choices are primarily investment in technological change and human capital enhancing activities like education, training and health. Hence it goes without saying that if we have to accelerate the economic development we have to look at these social choices. Human development is about people, about expanding their choices to lad lives they value. Development is certainly a broader and primary goal than

\textsuperscript{17} Building Human Capital for Economical Development: Keynote speech by Azim Premji in the world Bamb's Bank's Annual Bank conference on Development Economic, 2003.
mere economic development. Thus Human Development Index measures development in a more refined manner than national income. If Wipro is considered a reasonably successful organisation the reason for this success is “Our people”. To nurture young talent in the organization, a number of actions were taken like entrusting people with huge responsibilities early in life, trusting them fully, allowing them to make mistake, promoting professional, open and informal work environment. Most business people in the world will realize that the material investments made by them will depreciate with time and will have to be written off. Only one kind of investment will keep on appreciating irrespective of any sort of economic climate that is the investment in human capital.

Vepa Kamesam\textsuperscript{18} opines that conventionally three factors of production viz. land, labour and capital have been recognized as the sources of economic growth. The pace of economic growth differs primarily on account of capital accumulation. Nevertheless, the differences in the growth performance and living standards across countries can be attributed not only to the pace of growth of physical capital but also the investment in human capital, which in turn determines the quality of labour force and productivity. In fact, human resources in the growth process are as important as physical capital, technology and financial resources. The literature suggests that qualitative human resource is precondition for sustained human development and a sustained human development is precondition for

\textsuperscript{18} Vepa Kamesam, Deputy Governor, RBI in his address “Role of Quantity Human Resources in Target setting for Economic Growth” at a meet organised by Technology Information Forecasting & Assessment Council, July 25, 2003.
sustained economic growth. The sufficient condition for sustained human development emphasizes three elements viz. (a) longevity, (b) education and (c) command over resources. Technically these conditions are referred to as HDI. As regard education, a study (covering 31 countries) of United Nations Development Programme (UNDP) concluded that if a farmer had completed four years of elementary education, the productivity is higher by 8.5% than that of a farmer having no education. Another study of UNDP (from a sample of 88 countries) observed that an increase in literacy from 20% to 30% was associated with an increase in economic growth between 8 to 16%. Studies carried out by some economists for groups of countries or for individual countries and over time consistently show that social returns to investment in education, for example, are high and sometimes higher than returns to physical capital. Better health, also contributes directly to economic growth as it reduces production losses on account of illness of workers or potentially, also in terms of higher work productivity for healthy workers. Thus, besides its intrinsic value, a healthy and long life has an instrumental value in attainment of other valued goals in enhancing personal and social well being.

Review of Statistics\(^{19}\) shows that Singapore has invested heavily in the education and training of its people since internal self- government was installed in 1959. Public expenditure on education as a percentage of GDP has risen from 2.8% in 1980 to 4.1% in 1995. The features of Singapore's experience in education and training are as follows:

\(^{19}\) Human Resource Development for continued economic growth— The Singapore Experience (ILO) workshop on employer's organization in Asia-pacific in the 21st century. Turin Italy, 5-13 May 1972.
1. The Government played the lead role in development of education and training in Singapore. It laid down the policies, provided the funds for their implementation and set up the relevant institutions where necessary. However the employers, the unions and academia were consulted in the formulation and implementation of these policies.

2. The current and future needs of the economy as defined by the Government determined largely the development of the education and training system in Singapore. Employer's immediate training needs are only one input of the long-term plan to improve the education and training for new job entrants and to upgrade the skills of existing workers.

3. A technical education and training system was developed in tandem with economic development. It began with an early emphasis in the early 1960's when a technical bias was introduced in the secondary school system followed soon by greater emphasis from the late 1960's onwards. The technical education and training system was upgraded as Singapore moved towards middle and later high technology manufacturing.

4. The Government has collaborated closely with foreign governments and MNC's in the development of industrial training. It has sought to tap their expertise in training and in higher technology production and services so as to transfer "the hardware, software and teach ware" required for the development of knowledge and technology intensive industries. The collaboration with governments and MNC's continues.

The Task Force on Institutional Reform on Productivity and Quality Improvements is of the view that the manpower development is one of the three factors for rising its TFP growth. The other two factors are
managing economic restructuring (upgrading and restructuring all industries) and accelerating technical progress (technological diffusion and application). Singapore's emphasis on HRD will therefore continue into the 21st century.

NCAS\textsuperscript{20} revealed that economic planning must take into account the sources required for human development and human resources available for carrying out the plan. The successive five-year plans have provided the policy framework and funding for building up nationwide infrastructure and manpower. The country will have to face the challenge and utilize the impending increase in the population in 10-59 years age group to rapidly achieve both population stabilization and sustainable improvement in human development. Human resources should be used as the engine to hasten the socio-economic growth and improvement in quality of life.

According to George W. Gamerdinger\textsuperscript{21}, recognising the fact that by the year 2000 India will have another 100 million people seeking employment has encouraged the government to re-examine its national vocational training system (NVTS) in new ways. The Directorate General of Employment and Training (DCE&T) under the Ministry of Labour, Government of India has been encouraging the strengthening of the national vocational training system. One example of such a programme is the Craftsman Training Scheme, which is being carried out through Industrial Training (ITI's) throughout India. The output of this scheme has led to a variety of interventions including a closer relationship with

\textsuperscript{20} National Centre for Advocacy Studies: A fact file "Population- A Human and Social Development."
\textsuperscript{21} George W. Gamerdinger, Employer's Organisation and Human Resource Development in the 21st century; Views from south Asia (ILO workshop.)
employers organisations and the operation of many of its is by the private sector, developed to meet the training needs of young people. The industrial training institutes currently number 3000, 1000 of which are operated by the state government and 2000 by the private sector.

Robert W. Fogel\textsuperscript{22} clearly brings out the impact of health and nutrition on economic growth. He brings to light a very interesting fact that life expectancy in India almost more than doubled from 29 years in 1930 to 60 years in 1990, a fact which took almost 250 years in countries like England and France. The increase in life expectancy and resultant increase in population led to the fears that industrialisation may be hampered due to less availability of food. But if we compare the per capita availability of calories over a period of last forty years (1961-2000), we find that calories per capita per day in case of India has increased from 2073 to 2489, an increase of approx. 20\%. The most remarkable increase has been in the case of China (61\%) in spite of being a country with the largest population in the world.

He further lays down that both thermodynamic and physiological factors should be considered to study the impact of nutrition on economic growth. The combined effect of improvements in the environment and in biomedical interventions over the past century has greatly improved the health of the population at middle and late ages. A close insight into statistics clearly brings out the effect of increase in the amount of calories available for work on the growth rate of per capita income of countries like France and Great Britain. The thermodynamic effect

increases the labour force participation rate by bringing into the labour force the bottom 20% of the consuming units who, even if highly stunted individual with a low BMI (Body Mass Index, a measure of weight standardized for height, usually calculated as weight in kilograms divided by height in Square meters) had only enough energy above the maintenance for a few hours of strolling each day - about the amount needed for just 1 hour of heavy manual labour. Consequently, merely the elimination of the large class of paupers and beggars, which was accomplished in England during the last half of the nineteenth century, contributed significantly to the growth of the national product. The increase in the labour force participation made possible by raising the nutrition of the bottom fifth of consuming units above the threshold required for work, by itself, contributed 0.12% to the annual British growth rate between 1800 and 1980 \((1.25^{0.00556} - 1 = 0.00124)\). In addition to raising the labour force participation rates, the supply of calories per equivalent adult male available for work increased from about 848 per day in 1800 to about 1793 in 1980. The increase in the amount of energy available for work contributed about 0.19% per annum to the annual growth rate of per capita income \((1.417^{0.00556} - 1 = 0.00194)\). Between 1800 and 1980, British per capita income grew at an annual rate of about 1.14% Thus, through bringing the ultra poor into the labour force and through raising the energy available for work by those in the labour force, the thermodynamic effect explains about 30% of the British growth in per capita income over the past 2 centuries. The physiological effect relates to the efficiency with which is human engine converts energy into work output. Changes in health, in the composition of diets and in clothing and shelter can significantly affect the efficiency with
which ingested energy is used, the fewer incidences of infections, diseases increase the proportion of ingested energy that is available for work.

Hammer\textsuperscript{23} and others are of the opinion that infant and child mortality in Developing Countries analyses the robustness of determinants of infant and child mortality other than GNP. There has been an unending debate on whether income leads to higher human development or improving social indicators leads to rise in national income. The 1996 HRD report points out that while investing in human capital can lay the basis for subsequent growth, countries, which have focused exclusively on economic growth, have achieved neither sustained growth nor human development. The authors point out the link between economic growth and infant mortality. The mortality rates have continued to come down in Africa despite falling income but large reductions in mortality rates in Middle Eastern countries have been achieved after the substantial increase in income from oil in the 1970's. This clearly points out that there are certain exogenous components of mortality decline independent of economic growth and there is a lag in the link between income and mortality. To illustrate the lag factor, the authors cite the example of Oman which had an IMR of 210 in early 1960, compared to around 140 for the two countries with the nearest income per capita (cote d'Ivoire and Morocco) but by the second half of 1990, the gap came down drastically (22 vs. 20 in two nearest income group countries Uruguay & Cyprus). This means that expenditure on

social welfare has a certain impact on IMR but it takes sometime for that effect is robust. This becomes evident from the fact that for any given income per capita a country will have a lower IMR today than it would have 20 years ago.

Various cross-country regressions clearly bring out that income per capita has a strong correlation with IMR but along with it female literacy, raio of female to male education, gender equality, female participation rate, health expenditure, access to safe water, access to immunization etc. have a very robust correlation thus indicating that more investments in these sectors lead to reduction in IMR. (Boenmer and Williamson, Comia and Mwaber, Filmer and Pritch, Flegg, Isenman, Mwaber, Pritchett and summers, Rogers, Singh, Subbarao and Raney).

A. Vaidyanatham\textsuperscript{24} clearly lays down that that the transition from a high fertility-high mortality regime to one of low fertility-low mortality does not depend only or mainly on the level of per capita income. Large and rapid reductions in mortality can be achieved even in societies with low levels of per capita income by a vigorous public policy of promoting literacy (overall and female literacy in particular) both directly and by facilitating and encouraging non-government efforts; building a basic health network accessible widely and easily by all sections of the population, and preventive care by extending safe water supply and improving sanitation system. There is also a general consensus that these measures not only lead to a fall in mortality, especially among

infants and children but also in reducing fertility and that the two phenomena are inter related.

Elizabeth and Walter McMahon\textsuperscript{25} have used comprehensive regression estimates to show the direct and indirect effects of education on infant mortality, longevity, strengthening of civil institutions and political stability and investment in physical capital which have positive delayed feedback effects on the economic growth process in 52 sub-Saharan African countries. Strengthening investment in basic education is a non-controversial type of policy intervention and cost effective also because the cost is shared by the parents. Further, as parents bear foregone earnings costs, as they feed and house children, who are in school; this investment is financed by their forgone consumption, which is part of total saving investment in economic development that, would not otherwise be available. The cumulative effects of education large enough to affect the nation significantly cannot be expected for 25 years or more although some effects of this investment are immediate on employment, earning, better health and so forth.

The authors lay down that education is not the only major cause of economic development but it is a sustained and pervasive factor. The market outcomes of education are those that improve the productivity of individuals during the hours they are in the labour market. These are often measured in terms of earning in urban employment and in the case of the agricultural sector, which is very important in Africa, in terms of education's marginal contributions to increased physical output of

agricultural products. These increments to earning or real output are converted to economic rates of return, which for primary education in Africa run around 18-20 percent in urban areas and 27 percent of so for basic education for farmers. The growth equation is based on production function as below:

\[ y = F(\mu H, N, K)H^\alpha \]

Where \( y \) = output

\( \mu \) = The proportion of time the average worker uses his / her human capital in production of the job.

\( \mu H \) = education level of the employees with in the firm created by past investment in education plus related learning through experience and on-the-job training.

\( N \) = Number of workers

\( K \) = the level of physical capital stocks, created by investment

\( H \) = the average level of education in the community, created by past rates of investment in education reflected in past school enrolment rates.

Turning to non-monetary returns from education, the basic rationale is the individuals do not only use their human capital for a fraction of their time on their jobs, but they carry it home and continue to use it in productive ways using non-monetary satisfactions and participating in civic institutions during their leisure time hours. This household production of better health etc. also benefits from the average education level in the community and the knowledge and institutions in the community environment that this provides. Final satisfactions, \( Z \), are
produced using the household's human capital, $H$, for fraction of time 
$(1, - \mu)$ in combination with various market goods, $X$

$$Z = f_2 [(1-\mu) H, Xi] H^\beta$$

$Z$ - Final satisfactions
$(1 - \mu)$ = Proportion of time used in household production
$Xi$ = Market Goods
$H^\beta$ = the average level of education in the community, an externality.

The authors have developed various regression equations to know the market and non-market impacts of education on African Development.

$R^2$ in case of life expectancy and gross enrolment rates is found to be .973, quite strong relation. Similarly primary enrollment rates influence in a significant manner, infant mortality giving an $R^2 = .839$

Similarly higher female primary and Secondary involvement consistently lower fertility rates in the cross country regression ($R^2 = .787$)

Improvement in Human Rights depends heavily on democratization as well as on higher secondary education enrollment rates lagged ten years ($R^2 = .87$)

The market impacts of education on growth depend on investment in physical capital as a percent of GNP, on primary and secondary education gross enrolment rates lagged ten years and on slower population growth rates.
The results of this comprehensive research point out that the costs of the net benefits seen in the simulated outcomes can be estimated and expressed in relation to these net benefits of education that arise over time. A 2% increase in investment in education as a percentage of GNP leads to 2% increase in per capita income. An equal amount should be added for the consumption forgone by the parents and invested in children’s education. Thus the impact of expenditure on education (% age of GNP) is more than compensated in terms of increase in per capita income, increased longevity improvements in civil institutions etc. Another inference can be drawn from this research postulate in terms of the fact that these indirect feedback effects via eventual political stability also aid those facing economic stagnation.

A similar model was used by Indonesia about 25 years ago to achieve universal primary education and it is contributing to fragile democratization and development there. As a result thereof, Indonesia achieved universal primary education about 25 years ago, in spite of recent financial crises, raised its economic development index farther than any other country in the world in the last 25 years (United Nations, 2001). This is a lesson for all countries to lay due emphasis on spreading education universally.

Duraisamy26 examines the private and social rate of returns to education. The author refers to late Model Laureate. T.W. Schultz to point out that investment in human capital rests on the proposition that people enhance their capabilities as producers and as consumers by

---

investing in themselves. Investment in human capital is expected to enhance the skills and abilities of the individual and thus result in productivity increase which can be measured through growth in national incomes and higher earnings in the labour market. A survey on the U.S. economy pointed out that only 60% of the total growth of the Unites States real national income during 1948-63 was due to conventional inputs such as capital. It is estimated that the direct benefits of education accounts for 11% and the remaining 29% in due to the indirect influence in the form of advances in knowledge. A number of studies have estimated the private and social returns to education.

Table 1.1

Private and Social Rate of Returns to Education by Level of Education and Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Social</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary</td>
<td>Secondary</td>
<td>Higher</td>
<td>Primary</td>
<td>Secondary</td>
<td>Higher</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>24.3</td>
<td>18.2</td>
<td>11.2</td>
<td>41.3</td>
<td>26.6</td>
<td>27.8</td>
</tr>
<tr>
<td>Asia, Europe</td>
<td>19.9</td>
<td>13.3</td>
<td>11.7</td>
<td>39.0</td>
<td>18.9</td>
<td>19.9</td>
</tr>
<tr>
<td>East/North Africa</td>
<td>15.5</td>
<td>11.2</td>
<td>10.6</td>
<td>17.4</td>
<td>15.9</td>
<td>21.7</td>
</tr>
<tr>
<td>Latin America/Caribbean</td>
<td>17.9</td>
<td>12.8</td>
<td>12.3</td>
<td>26.2</td>
<td>16.8</td>
<td>19.7</td>
</tr>
<tr>
<td>OECD</td>
<td>14.4</td>
<td>10.2</td>
<td>8.7</td>
<td>21.7</td>
<td>12.4</td>
<td>12.3</td>
</tr>
<tr>
<td>World</td>
<td>18.4</td>
<td>13.1</td>
<td>10.9</td>
<td>29.1</td>
<td>18.1</td>
<td>20.3</td>
</tr>
</tbody>
</table>

Source: Psacharopolous (1994)
This tables shows that the social and private returns are the maximum in case of Primary education. The private returns are much higher than social returns. Review of Indian statistics points out more or less similar pattern as clear from the table 1.2 below.

**Table 1.2**

**Private and Social Rates of Return to Investment in Education in India**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>1961</td>
<td>1978</td>
</tr>
<tr>
<td>Coverage</td>
<td>All Urban India</td>
<td>West Godawari Distt.</td>
</tr>
<tr>
<td>Educational Level</td>
<td>Social</td>
<td>Private</td>
</tr>
<tr>
<td>Primary</td>
<td>20.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Secondary</td>
<td>17.0</td>
<td>19.0</td>
</tr>
<tr>
<td>Higher</td>
<td>15.0</td>
<td>19.0</td>
</tr>
</tbody>
</table>

Source: Psacharopolous (1994)

It has been observed in several studies that the returns to female education are higher than those to male education. Women's education is found to be more profitable compared to men's education for all except M.Phil and Ph.D. degree since the numbers of finales in these two levels are small.


<table>
<thead>
<tr>
<th>Education Level</th>
<th>All</th>
<th>Scientific and Social Science</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Technical Fields</td>
<td>Other Fields</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>PG Diploma Versus UG Degree</td>
<td>26.3 (26.3)</td>
<td>40.0 (40.0)</td>
</tr>
<tr>
<td>PG Degree Versus UG Degree</td>
<td>12.4 (6.2)</td>
<td>23.6 (11.8)</td>
</tr>
<tr>
<td>M.Phil Versus PG Degree</td>
<td>16.4 (16.4)</td>
<td>12.2 (12.2)</td>
</tr>
<tr>
<td>Ph.D Versus M.Phil</td>
<td>20.0 (10.0)</td>
<td>19.8 (9.9)</td>
</tr>
</tbody>
</table>

*Source: Duraiswamy & Duraiswamy (1995)*

It is estimated that one year increase in education of adults male and females results in an increase in daily wages in the rural labour market. Another area in which human capital has a strong positive impact is on the agricultural production. Chaudhari (1979) using agricultural production function shows that the education enhances farm output by 11%.
In addition to higher returns in labour market, education also leads to other benefits like reduction in fertility rate infant and child mortality etc.

**State Development Report**\(^{(27)}\) (SDR 2002-07) lays down that Meerut district has to develop a model of its own based on its limited natural resources, abundant human resources, wide base of agriculture and small scale industries and with many opportunities available in the field of Information Technology. All the potential that exists can be realized with the help of clear policy directions, which are required to be given to tap these resources. The greatest resource of Meerut district is the native genius, skill and work culture of its people. Once this is mobilised, the sky is the limit.

From the above review, it can be concluded that considerable efforts have been made to study human resources and its impact on economic development of a nation by providing good education, better health, nutrition, social justice, training and development openness and empowerment and caring for employees etc. But no such attempt has been made so far which may study the economic development of Meerut district through its human resource development. The present study is a humble attempt to bridge this gap.

**1.4 Hypothesis**

In this study an attempt will be made to test the following Hypothesis.

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1. Human Resource Development and economic development are inter related with each other.
2. Human factor has the most crucial and lasting effect on economic development.

1.5 Conceptual Framework

Human Resources

Human Resources spell the total sum of all the components (like skill, creative ability) possessed by all the employees and other persons (like self employed, employees, owners etc.) who contribute their services to attain the organisational objectives and goals. Human Resources include human values and ethos.

Human Resource Management

According to Lloyd Byars and Leslie Rue, “Human Resource management encompasses those activities designed to provide for and coordinate the human resources of an organisation. Human resource functions refer to those for co-ordinating human resources.

Human Resource Development

According to L.P. Singh, “HRD refers to the improvement in the capacities and capabilities of the personnel in relation to the needs of that particular sector. It involves the creation of a climate in which the flower of human knowledge, skills, capabilities and creativity can bloom. Human resources development seek to provide a package of systems and processes through which these can be cultivated and enhanced among the people forming part of the network of roles in that sector.”
**Economic Development**

Economic Development is related with the object of a country to exploit all of its productive resource with a view to increasing its real income. It is a process whereby the people of the country or region come to utilize the resources available to bring about a sustained increase in per capita production of goods and services.

1.6 **Research Methodology**

The present study proposes to develop certain parameters to evaluate the working population, their education employment, health, nutrition, and their direct impact on the economic development in Meerut district a highly prosperous area of Uttar Pradesh. The present study is an attempt to create relationship between human resources and economic development and to assess how industrial development, agricultural development, development of trade and commerce, development of transport and communication and infrastructure facilities are closely related with human factor.

**Sampling**

The universe of the study will be the territory of Meerut District which consists three Tehsils namely - Meerut, Mawana and Sardhana and Thirteen Economic development blocks viz; Meerut, Rajpura, Rohta, Jani, Kharkhoda, Mawana, Hastinapur, Machra, Parikshitgarh, Sardhana, Sarurpur Khurd, Daurala and Binauli. All the dimensions of the present study i.e. population, Education, employment, health, Nutrition, Agriculture, Industries and other infrastructural facilities will be
dealt with in relation to human factor in order to assess the present state of Development for the economy of Meerut District.

**Data Collection**

In this proposed study, both primary and secondary data is used in order to achieve various objectives of the study. Primary data is collected through personal enquiries and holding structural interviews. For this purpose the researcher has visited the different Blocks of Meerut District viz: Sardhana, Sarurpur Khurd, Daurala, Binauli, Mawana, Hastinapur, Machra, Parikshitgarh, Meerut, Rajpura, Rohta, Jani and Kharkoda. And various informations regarding population, education, employment health and nutrition have been collected from block development offices and structural interviews have also been conducted of block development officers, district magistrate and district rural development officer etc.

The secondary data is collected from Department of information and public relations of U.P. Government, National informatics centre, Uttar Pradesh, Censes report 2001 and U.P. at a glance. Various newspapers and Journals have also been consulted such as the Economic Times, Asian Age, Indian Express, The Times of India, India Today and Kurukshetra, etc. The publications of Ministry of Human Resources Development New Delhi and planning commission have also been consulted.

**Data Processing**

The collected data will be analysed with the help of computer. Various statistical techniques such as percentages, correlation and chi-
square test may be used to draw inferences of the study, to test the hypothesis and to achieve objectives of the study.

1.7 Importance Of The Study

The proposed study aims to examine the relationship between the development of manpower and economic development through education, employment, training, health and nutrition. On the other hand the examination will also focus how to mobilise capital, to exploit natural resources, to create markets and to carry on commerce and trade.

The study will be useful and helpful for researchers, Economists, Policy makers, Planners, administrators, Politicians, Social workers, non-government organisations and the students who are engaged in the research work in this field.

1.8 Limitations of the Study

Although an attempt has been made to study the issue under consideration in a very comprehensive manner, still some constraints like limited availability of time, resources and non-availability of some relevant information at the regional level (though available for the nation as a whole) have been faced during the course of this study. The researches have tried to the best of her capabilities and resources to overcome these limitations.