CHAPTER II
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2.1 THE CONCEPT OF INFRASTRUCTURE:

Though the concept of infrastructure has been extensively used in the literature on economic development, yet it has not been explicitly defined in a precise and generally acceptable manner. A number of interchangeable terms such as ‘Social Overhead’, ‘Economic Overheads’ ‘Overhead Capital’, ‘Basic Economic facilities’, etc., have been used to denote services which one generally identifies with infrastructure. Even though all these terms are taken to cannot certain common services, each of them has its own special orientation and emphasis. As Youngson observes’ the title “Overhead Capital” is vague and misleading, and conceals difficulties rather than solves problems’. In recent years the term ‘infrastructure’ has been used more frequently in the literature on economic development and is often qualified by a prefix such as ‘economic’ or ‘social’ to distinguish different types of infrastructure.

The concept of overhead capital, which is often used as synonymous with the concept of infrastructure, was probably used for the first time by H.W.Singer who identified it with certain kinds of investments which are regarded necessary for development but which by themselves are not directly productive. To quote him: “Any economic system requires a certain number of installations or capital formation which is not itself directly productive, which is in the nature of an overhead cost..... there are certain overhead installations which must be present to enable production to take place, but which do not themselves directly result in the production of useable goods”.

2.2 CHARACTERISTICS OF INFRASTRUCTURE:

a. Essential but not directly productive:

The first feature which has been generally identified with infrastructural facilities is that these facilities are not directly productive. These facilities are universally required for carrying out any kind of production yet they themselves do not produce goods for final use. They provide support to
the directly productive activities and are, thus in the nature of overhead cost. They are not in the nature of goods meant for final use. At the same time they are distinguished from immediate goods like steel and cement which are used as inputs for producing different goods.

b. Pre-requisites of development:

Overhead facilities are normally created ahead of demand. Because of their universal requirement they are often considered as necessary pre-requisites of development. The expansion of production activities is unlikely to take place, beyond a level, without these services. Therefore, they have to be created in advance independent of the present extent and pattern of demand. Such facilities once created are expected to lead to their demand by inducing the investors to plan for larger production. Moreover, infrastructure services by their very nature have a long gestation period. Because of its bulkiness, an overhead facility like railway system, power house or irrigation dams take a long time. The time lag involved is, however, an empirical question which may vary from activity to activity and also on the technology involved and its place of execution. Once completed its services are utilized over a long period of time. Unlike double cropping or the application of chemical fertilizers, a railway system is unlikely to yield results in a year or two from the time its construction is undertaken.

c. Non-importability:

Another feature of social overhead capital which was enunciated first by Nurkse and later by Hirschman is that they cannot be imported from abroad. More often than not, the technical nature of these facilities is such that necessitate their creation or supply at the very place of their use. Facilities like roads or rails have to be built in areas they are intended to serve. In other cases like a power house or dam where the main plant may be located at a distant place, lines and channels have to be created to take their services to the place of their use. In such cases, it is proper to consider the central plant and the distribution system together as constituting the single infrastructure service. Thus, by and large, infrastructure services have a certain degree of fixity over
space and have to be usually created at or near the place of their use. However, it would be proper to point out that the above is not always true and in some cases like different forms of energy it may be possible to secure them through competitive imports.

d. Lumpiness:

Lumpiness is yet another feature attributed to social overhead capital. This feature emanates from what is described by Hirschman as "technical indivisibilities". These facilities cannot be built in bits and pieces and have to be provided in a minimum size. In some case, this may not be strictly true. For example, decentralized generation of electricity is possible from micro-hydro, bio-gas, solar system, wind electricity conversion system, gasifier system. However taken together the total cost of these decentralized systems may be quite large. In general a minimum quantum of investment, which is often large, is necessary for the creation of overheads. Rostow emphasizes this aspect with the illustration of a railway line: "You either build line from, say, Chikago to San Francisco or you do not: an incomplete railway line is of limited use, although many other forms of investment in industry and agriculture proceed usefully by small increments".

e. External economics:

Another distinguishing feature of infrastructure is that these facilities generate external economies, that is 'services (disservices) rendered free (without compensation)'. They have also been identified as those economies available to a firm for which it does not pay, resulting from the growth of some other firm. The essential point in all these cases is that the output obtained from given inputs without an industry or region are increased (or diminished) by activities which are external to the management of inputs themselves. There may be external benefits of an investment which is purely private in nature in the sense that it is done for one's own benefit, but it may be another matter that others may also benefit in that process like Pigou's example of the lamp erected at the doors of private people throwing light on the public street or
celebrated example of Meade of land owner who plants an orchard and thus raises the productivity of all bees and bee keepers in the neighborhood.

f. Provision of state:

Due to the very high investments involved and/or due to their inability to generate quick return to the investor, social overhead facilities are unlikely to develop on an adequate scale on the basis of private enterprise and therefore, require investment by the government.

2.3 SCOPE OF THE INFRASTRUCTURE:

There are no unanimity amongst development economists with regard to the list of items to be included in infrastructure. A large number of items extended from transport and power to education, law and order and social values have been included in infrastructure given by various authors.

Singer has included education system, health services, housing, transport, power and irrigation among overhead capital.

Nurkse identifies these activities as public utilities, transport facilities, training schemes, water works, power plants, hospitals, schools and various basic services.

North has identified banking, insurance, postal facilities, warehousing, the development of a distribution system for imports and early growth of roads and turn pikes connecting the hinterland with major ports as social overhead investments which facilitated the development of manufacturing in USA.

According to Hirschman the hard core of infrastructure can probably be restricted to transportation and power. But in the broader concept of infrastructure he has included law and order, education, public health and transport, communication, power, water supply as well as such agricultural overhead capital as irrigation and drainage system.

Healey is in agreement with the list enumerated by Hirschman above. In a later study he has included soil conversation, minor irrigation, irrigation and flood control, power, railways, roads, ports, civil, air, transport, posts, communication and inland water transport.
Kindleberger while making a distinction between economic and social overhead capital, identifies transport including ports, roads, railroads, electricity and gas production capacity, pipe line, transmission lines, communication network and also buildings needed for government, fire and police protection facilities to maintain roads, etc., as economic overhead capital and plant and equipments required for shelter, education and public health as social overheads capital.

Shah has made a broad categorization of infrastructure under 8 heads, viz., power, irrigation, transport, communication, education, research and development, health and other facilities. He gives a long list of items under each head. In the Indian context he would like decision making machinery and law and order situation as part of infrastructure.

The doyen of Indian Economists, Professor V.K.R.V Rao has made a very exhaustive categorization of factors of production that constitute infrastructure. He has divided them into following nine broad categories and he included 42 activities in it.

i. **Transport**: roads, railways, shipping ports and harbors, airports, transport equipments.

ii. **Communication**: posts, telegraphs, telephones, radio, tv, cinema.

iii. **Energy**: coal, electricity (hydro, thermal, nuclear), wind power, solar power, oil, gas, b.oegas

iv. **Intermediate Goods Output**: minerals, steel metals other than steel, basic chemicals, fertilizers and pesticides, machinery and machine tools

v. **Increasing Productivity of Natural Resources**: reclamation of lands, irrigation (major, medium, minor) drainage, contour bunding and land reshaping, consolidation of holdings, high yielding bovine varieties, fishing boats, fishing equipments and refrigeration, afforestation and development of commercial forests.

vi. **Science and Technology**: teaching, basic and applied research, national laboratories, liaison with production units.
vii. **Information System**: mass media, libraries and museums, fiars and exhibitions, books and journals.

viii. **Finance and Banking**: saving institutions (public, private and co-operative sectors), credit and lending institutions (public, private and co-operative sectors), capital market health,

ix. **Human Resource Development**: drinking water, disease eradication, public hygiene, family planning, medical facilities; education – literacy, schools, colleges and universities, professional education, technical and industrial schools, development disciplines.

### 2.4 TYPES OF INFRASTRUCTURE:

Most of the development economists who have written on the subject have divided infrastructure into two broad categories, viz., ‘Economic’ and ‘Social’. Another classification has been made by Rosenstein Rodan on the basis of different stages of development, i.e., development and rehabilitative. One can also distinguish between different items of infrastructure on the basis of specific sectors or areas which they primarily serve such as industry and agriculture or urban and rural. We can also distinguish between institutional and non-institutional infrastructure. Brief discussions of these classifications will clearly bring out the rationale of division as well as the distinction between different types of infrastructure.

**a. Economic and Social Infrastructure:**

This is the most commonly used classification. Though the term ‘social overhead capital’ is used in a comprehensive sense referring to all social facilities constituting infrastructure, a distinction is very often made between ‘economic’ and ‘social’ services. In the economic category all these facilities are included which are directly required for economic activities such as power, transport, communication, etc.,. The term ‘social infrastructure’ is then used to refer to those overhead facilities which tend to improve the quality of human agent involved in the process of production. This group includes facilities like education, health, housing, etc., in this...
sense; this category is synonymous with the concept of human capital while the first category takes the form of material capital. Human capital plays very important role in the process of economic development. Hence expenditure on social infrastructure should be regarded as investment rather than social consumption. Thus both the categories, i.e., economic and social infrastructure are equally important for carrying on of general economic activities and the distinction only points to the difference in their content or form rather than their role or importance.

b. **Rural and Urban Infrastructure**

While the overhead facilities serve the needs of the economy in general and the same facility may be used by different sectors, it may be useful to distinguish between facilities which primarily cater to specific sectors or segments of the economy. One may then talk of industrial or agricultural infrastructure or upon or rural infrastructure, the two categories being overlapping. To illustrate, irrigation facilities primarily serve the agricultural sector. The training facility required by industry and agriculture would be of different types. Similarly while credit marketing or warehousing services are commonly needed by both the sectors, the specific types of these services differ. In our country, for example, these services are being provided by cooperative societies in the rural sector but private or public institutions are providing these services in the urban areas. Therefore if one is interested in examining the productivity and growth in different sectors of economy, it would be appropriate to take into account the infrastructure specific to the sector rather than overall development of infrastructure. Similarly one may examine the level of development of infrastructure in the rural and urban areas separately to find out the geographical spread of these facilities.

c. **Institutional and non-institutional infrastructure**

The recent tendency has been towards an enlargement of concept of infrastructure including various items like law and order, administrative and extension agencies, financial and other organizations, etc. in this
context, it would be appropriate to draw a distinction between institutional and non-institutional infrastructure. The governments of the developing countries have been taking increasingly the responsibility of creating a number of institutions or organizations to promote the pace of development ranging from financial institutions and extension agencies to marketing and general administration. Many of these developmental institutions fulfill most of the criteria of infrastructure. Hence the concept of institutional infrastructure would cover the developmental institutions providing different kinds of services to encourage investment. The provision of other types of overhead facilities may be included among non-institutional infrastructure.

In the light of above discussion, we propose to classify the in terms of infrastructure into the following three categories:

1. Economic infrastructure:
   - Transport
   - Communication
   - Irrigation

2. Social infrastructure
   - Education:
     i. General
     ii. Technical
   - Health: Water supply, sanitation, etc.

3. Institutional infrastructure
   - Extension and Research institutions:
     i. General
     ii. Technical
   - Financial infrastructure
     Institutions providing supportive services like:
     Marketing, warehousing, industrial estate, etc.
The basic nature of economic, social and institutional infrastructure has been classified earlier. To recapitulate the discussion briefly, the first type, i.e., economic infrastructure includes those items which provide general facilities for carrying of economic activities. These facilities normally take the form of physical capital formation. These are sometimes called the hard core of infrastructure and are basic for general economic activity. The second category dealing with social infrastructure broadly covers facilities which lead to human capital formation. The last category includes various developmental organizations. It may be added that the classification given above is only suggestive and not fully comprehensive or watertight. It is, however, expected to provide a convenient analytical framework to discuss the role of infrastructure in economic development.

2.5 SOCIAL INFRASTRUCTURE AND HUMAN DEVELOPMENT:

A nation should have a vision to develop and to develop fast. Then it will design a strategy for development based on technology and modern thought. The backwardness of a nation can be erased provided backwash (negative) effects, initially powerful unless reined in, are eliminated and spread (positive) effects encouraged to gain strength to speed up economic progress. The latter is possible only when education and health gain momentum with the support of government policy. This has been amply proved by development strategy followed by many countries.

2.5.1 Education and Human Development:

Prof. Amartya Sen calls “enhancement of basic human capabilities” as “Eastern Strategy”. Human development is very essential for any country as it goes beyond formation of human capital. First, the Eastern strategy contributes to quality of life (more literacy, expansion of life expectancy, reduction of morbidity rate, etc.) despite the absence of its impact on economic and industrial expansion. This is an important point to remember as the aim of public policy should be enhancement of human life and freedoms. Secondly,
human development (basic education, health care, etc.,) highly helps economic and industrial expansion, and improves the efficiency and wide reach of the market economy. These in turn facilitate in raising quality of life. Thus there are both direct and indirect gains.

2.5.2 Health and Human Development:

There is a close link between rise in the reach of education and health, through higher rates of social provisioning, and rise of happiness welfare and fall in poverty percentages. Health and poverty or vice versa (poverty and health) is closely related. If poverty is eliminated then the health can easily be elevated.

Deprivation means something taken away from people so as to maintain them in a state of poverty to which they will never become accustomed. This situation justifies the system that lays a waste a world without meeting more than a fraction of human need. To break or overcome such situation particularly for the poor, the intervention f the government is very essential to ensure higher provisioning for health and education sectors for securing decent and quality life.

In a recent study by Mr. Adrian White, Analytic Social Psychology at the University of Leicester, United Kingdom, happiness is found to be most closely associated with health, followed by wealth and education. According to Mr. Adrian White, India is the 125th happiest country in the world, Denmark is the happiest country in the world and Burundi in Africa is the unhappy nation.

2.5.3 Economic Expansion and Human Development:

Western thought ignored for a long time the strong link between economic expansion and human development, but now it is fully recognized and accepted. The recent East Asian miracle closely related to the eastern strategy clearly accepts genuine complementary between the State and the market. The
World Bank, overcoming doubts in this regard, began to recognize the strong linkage. For example in 1993, it emphasized the role of public education.

The third linkage confirmed by empirical studies, is female education and fertility. Female education, in particular reduced fertility rates, increased young women’s freedom to choose the time of child bearing and rearing. This connection has definitely made women empowerment more effectively and also helped in reducing the fertility rates, moderating birth rates and in influencing family decisions. China’s achievement of lower fertility rates; severe legal restrictions role not withstanding like one child family insisted since 1979, is mostly to be traced to the expansion of women’s education and employment. In Indian where female education and empowerment more advanced than in China, the fertility rate is considerably lower than in China, in the absence of compulsion by the government or despite strong tradition – prone families towards bearing more children.

2.5.4 Human Resources and Economic Development.

The development of India is unquestionably a problem of effective Human Resources utilization. The effectively human resources utilization is primarily a matter of improving productivity and income generation. The state governments have also focused on directly improving the nutritional, health and educational states of the poor who are severally disadvantaged in all these areas. Such efforts are intended both to raise standard of living and to develop grates earning capability.

Human Resources Development (HRD) encompasses elements of both consumption and investment. High levels of consumption of education and health services are generally associated with quite high income levels.

It must be stressed that effective human resources utilization is an important concomitant of any human development strategy. Effective utilization ties the consumption of education and health services are generally associated with quite high income levels.
It must be stressed that effective human resources utilization an important concomitant of any human development strategy. Effective utilization ties the consumption of education and health services to higher levels of productivity in both the formal and non-formal sectors. These conditions can occur in any economic with relatively rapidly expanding economic opportunities. In this case the record of the developing countries is uniformly discouraging. Not only is open unemployment a serious problem but the productivity of the labour force is less than the minimum subsistence level of income. HRD in India must therefore be complimentary with more rapid economic growth even if it is viewed as a direct welfare improving activity.

2.5.5 EDUCATION AND ECONOMIC DEVELOPMENT:

Economists right from Adam Smith have realized that education plays an important role among the factors that contribute to economic development. Marshall regarded education as a national investment and most valuable of capital & the most valuable of all capital is one that is invested in human beings. Studies in this regard are many and recent studies made by Schultz, Kuyznets, Denison and Bowman started a new era of economics — “Economics of Education”.

Schultz analysed the contribution of education to growth in national income in the United States from 1900-1956 and came to the conclusion that investment in education contributed 3.5 times more to the increase in gross national income than investment in physical capital. F.Denison estimated that investment in education contributed 25% of the growth of the real income and 42% of the growth of total national income per person employed in USA.

According to the estimation of economist Strumlin, education at primary and elementary level resulted in as much as 79% increase in the output and wage of a labourer in the erstwhile Soviet Union. Further studies have
established that secondary level prepares people for pre-of output in engineering, architecture and machine building etc.,

Stirred with the revolutionary economic thought of human investment, India too, like many other newly independent developing economies made heavy investment in education. The government accorded special importance to education not only in the country's constitution but also in the Five Year Plans. It was. However, the education commission (Kothari, 1966) that stressed the relationship between education and productivity and considered education as one only instrument of social change on grand scale in India.

T.W. Schultz has given three ratios in relation to education and economic growth.

- Education - Labour ratio to show the amount of human effort going into education relative to the total labour force.
- Education - Income ratio which relates the recourses entering into education to consumer income.
- Education - Investment ratio to show the relation between the recourses entering into education and the recourses going into reproducible Physical capital.

V. N. Kothari (1966) mentions Dennison's work about the share of education in the growth rate. Education accelerates human resources development. Education and development are not two different things but two sides of the same coin. J.P.Naik observed that education should lead to development and development should create the motivation for more education as well as provide tools for it. Education can help the society to overcome its ills and problems. It has to be taken to the door – steps of the villages without delay.

According to Rabindranath Tagore, the real ideas of education are not based on mere economic progress. The main purpose behind the system of national movement was to integrate the different currents of Indian culture on the basis of their inherent unity.
M.K. Gandhi was a practical educationist of modern India. He gave a wider meaning to education stands for the balanced and harmonious development of all the aspects of human personality.

In short, economic growth is necessary but not sufficient for human development. Commitment and political will are the constraints of economic growth and human development simultaneously. All countries are facing the problem of integration between economic growth and human development.

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While there is widespread interest in education as a means of furthering economic development, there has been remarkably little exploration into the various channels through which education promotes economic development. In this connection it may be of interest to go back to the classical writers. From the strictly economic point of view the classical writers did not see much need for mass education. Malthus, Mill, and Senior, however, though of education as promoting attitudes of abstinence, continence, and class peace and as increasing options to marriage and motherhood to women. Senior also emphasized the point that under compulsory education children would no longer be earning assets. In other words, education would dampen population growth and promote habits of saving. These two are relevant consideration for an underdeveloped country such as India but we do not find much discussion of these issues in the Indian literature on the subject. Probably, viewing education as a process of capital formation has led to a decline in interest in those aspects of education which cannot be treated as capital formation.

How does education affect economic development? It makes influence economic development through changing the attributes relevant to economic development or it may influence economic development in its capacity as a relevant economic input. Thus, to illiterate the former case, education may alter the attitude to work, consumption preferences, savings, propensities, economic rationality, adaptability, innovativeness, flexibility, attitude towards family
size, and various social attitudes relevant from the economic point of view. In the latter case, that is, as an input, education is considered to be a process of skill formation and in this aspect it is treated at par with the process of skill formation. It is obvious that the former set of influences is less easy to ascertain and quantify. Generally, some sort of a correlation approach between indices of educational development and level or rate of economic development is used to ascertain the direction and strength educational as an input are easier to quantify. The manpower planning approach and the aggregate production function approach of Denison are the two principal methods used in this connection.

The importance of education cannot be overstressed. Illiteracy is a prison and education frees one from that prison. It increases people’s awareness of opportunities for advancement and imparts the ability to seize them. Self help is easier for an educated person. Knowledge of one’s right empowers a person and a literate person is able to acquire that knowledge. Literacy is thus the first step to empowerment. It is estimated that economic returns – both private and social- on education are high. They are higher or at least comparable to returns on physical capital. Private returns to education are higher than social returns and returns to primary education are higher than returns to other higher levels of education (Tilak 1995).

Provision of universal primary education is also an effective anti-poverty measure that promotes equity. The poor are poor because they own very little assets of land, capital or skills. Land redistribution generates great social stress and opposition and in any case with limited land and growing population, such a measure can be effective only for a few years. Giving capital to the poor would require large resources and may not be very effective if they are not imparted the skills to use this capital efficiently. Providing skills is, however, not only possible but can be most effective. For this, the first step is primary education.
Education has become even more important today than before. An illiterate person cannot participate in the new, knowledge-based society driven by information technology (IT). Her/his exclusion would be total. Thus, there is a great urgency to bring about total literacy in the country within a period of three or five years. The digital divide between the illiterates and the literates should not become a deep chasm. Social stability cannot be maintained with high inequality.

Apart from the IT revolution, globalization has also increased the importance of education. Technical progress has been the main driving force of economic development around the world. In today's globalised world, the importance of innovations has increased manifold. Technical knowledge has become a central factor of production. Technical knowledge and innovations change the comparative advantage of a nation. Innovations depend upon the stock of knowledge which is growing rapidly and is accessible to more and more people. The number of scientists engaged in research since 1950 exceeds the sum total of the number of scientists who ever existed till 1950 in the history of mankind. Consequently new ideas, products, processes, innovations and inventions are emerging at an unprecedented rate. Firms have to recover their investments in research and retooling in much shorter periods. This in turn requires a large market. Globalization is the means through which massive global market – rather than any subset of it – is harnessed for this rapid recouping of investments. The information revolution provides an opportunities to developing countries to leapfrog and catch up with the developed world. To leapfrog, however, the frog has to come out of the well of ignorance. A 'keep-mandook' cannot leapfrog.

The modern economy, certainly the knowledge economy, requires highly educated people. Eight years of schooling is a critical factor and cannot be overemphasized. But going beyond elementary education, for running technology-intensive economy, we need a renewed effort to build institutions of higher education of the highest quality. Our experiences of recent years has
shown that even a few high quality engineers and managers have a disproportionate impact through the firms that they play a leading role in. It is not an exaggeration to give major credit for India’s software revolution to seven institutions; the five Indian Institutions of technology (IITs), National Centre for Software Technology (NCST), and the Indian Institute of Science (IISc). These institutions today face enormous constraints in terms of finance and operational autonomy. Their student intake in pitifully small when compared with the size of India’s economy. A large increase in the number of institutions of this quality would have a powerful impact upon our economic growth. Such ‘elitist’ institutions are consistent with democracy as long as admissions are open to people of all classes. In fact, they provide a way for bright persons from poor and backward classes to advance themselves. --- Parikh and Shah 1999.

National policy on education 1968, 1986 and 1992 (modified) emphasized the role of education. Considering, accounting role, they all led emphasize on universalisation of elementary education, equalization of educational opportunities for children from all strata and retention of children in the school. For secondary education vocationalisation of education was emphasized. They all led special emphasizes on improvement of quality in higher education and above all eradication of illiteracy was given top priority. Also a number of schemes and programs were launched over the past 55 years, especially after the constitutional amendment in 1976 vide which education was included in the concurrent list, making it a joint responsibility of State and Union. Some of the major schemes initiated were the Non-formal Education (1977) – later revised as Education Guarantee Scheme & Alternative and Innovative Education in 2000 for targeting out of school children. Operation Black Board (1987) for improving human and physical resources in schools. Teacher Education Scheme (1987) for teachers training., Mid-Day Meal Scheme (1995). Primary Education Program (1994) for achieving universal primary education and the UNICEF assisted Janashala Program (1998) for community participation in schools.
A landmark program Sarva Shiksha Abhiyana (SSA) was launched in November, 2000 as an Umbrella program. It was meant to suppose and build on primary and elementary education project. The program seeks to ensure five years of primary education for all children in the age group of 6-14 years by 2007 and eight years of schooling by 2010. Not only the constitution was amended in 2002 to make education a Fundamental Rights of every child. To make impetus to girl’s education two programs, National Program for Education of Girls Elementary level (NPEGEL) and Kasturba Gandhi Bal Vidyalaya (KGBV) – were initiated in 2003.

Consequent upon these efforts India made enormous progress in terms of increase in number of schools, teachers and students. The education system in India is the second largest in the world. The percentage of literacy which was hardly ten at the time of independence has risen to 52 in 2002. The expansion of education since the independence period has made significant contribution to economic growth. Both social and private rate of returns to education in India are reasonably high as compared to the international rate of return (Tilak 1987).

The economic returns on education in India are found to be fairly high as compared to rate of returns of education in other developing and developed countries of the world.

In case of India, as per one study the private rate of return per year of education increases as the level of education increases up to the secondary level. The returns to primary education were rather low and in general returns per year at secondary level. The returns to primary education were rather low and in general returns per year at secondary level were the highest. It was also seen that the returns to women’s education exceeded that of men at middle, secondary and higher secondary levels. Thought between 1983 and 1994 the returns to women’s education for primary and middle levels declined, there has been an increase in returns for secondary and college levels during the same period. For rural areas, there were higher returns for primary and secondary
levels as well as for technical diplomas whereas returns for higher secondary and college education were higher in urban areas.

In agriculture evidence show that education has positive effects on productivity and efficiency among farmers. There is evidence that adoption and spread of green revolution in the early years was faster among educated farmers. In industry mos: evidence suggests that at enterprise level educated workers are more productive.

In nutshell, as people became more healthy and educated, they contribute more to economic growth as education enhances their capabilities, efficiency and productivity. Its importance lies in the fact that development does not yield education, but education yields development.

2.5.6 HEALTH AND ECONOMIC DEVELOPMENT:

The adage ‘health is wealth’ is still, primarily, an intuitive proposition. A vast majority of researchers (e.g. Mckeown, 1976; Prichett and Summers, 1993) instead presents theoretical and empirical arguments of the reverse proposition, i.e. ‘wealth is health’. The latter view also attributes credit for recent improvement of health status to ‘higher incomes’ in promoting technical progress and dissemination of new health technologies (Easterlin, 1999; Cutler et al., 2006). Furthermore, the thrust of contemporary discussions on health reforms typically sees interventions that promote health and the delivery of health care as costs that need to be contained - implying that income is the main instrument and health outcomes the end-points of “development” objectives (Suhrcke et al., 2005). This may underestimate the role that health plays in economic development. Notwithstanding widespread recognition that Population health is an important factor in strengthening economies and reducing poverty, health and longevity have remained prominently as a subject in the field of epidemiology and demographics - with intermittent attempts by the economists to link it to the mainstream of economics.
A recent strand of the literature (see for instance Suhrcke et al., 2005; Alsan et al., 2006; Bloom and Canning, 2003a; Bloom, Canning and Sevilla, 2004; CMH, 2001; WHO, 2002) reflects changes in the perceptions: improvements of health and longevity are no longer viewed as a mere end- or by-product of economic development; but argued as one of the key determinants of, and therefore means to achieve, economic development and poverty reduction. Hence, better health does not have to wait for an improved economy; rather, measures to reduce the burden of disease, to give children healthy childhoods, to increase life expectancy etc. will in themselves contribute to creating richer economies (Alsan et al., 2006). What is still required from the research agenda is to justify this proposition with a sound theoretical and empirical basis, and measure quantitatively the ways health contributes to the improvement of economic outcomes. The economic valuation of health improvements provides new insights, and improves our understanding on why and how devoting resources to health improvements can be a powerful means of sustaining economic growth and mitigating poverty.

Health is the most important socio-economic aspect of every individual life. Its importance is evident in old saying “Health is wealth.” Health is not only basic to lead a happy life for an individual, but also necessary for all productive activities in the society. The whole development cycle of a person depends upon his intellectual caliber, curiosity and constructive thinking, but all these qualities depend upon his good health. Therefore, to meet this very important need of the healthy citizens of a healthy society, health services are “since-qua-non” for the government.

Health is an important constituent of well-being, sound foundation of prosperity and development of a country. World development report 1993 stated “Improved health contributes to economic growth in four ways:

I. It reduces production losses caused by worker illness,

II. It permits the use of natural resources that had been totally or nearly inaccessible because of disease,
III. It increases the enrolment of children in schools and makes them better able to learn, and

IV. It frees for alternative uses resources that would otherwise have to be spent on treating illness.

The economic gains are relatively greater are relatively greater for poor people, who are typically most handicapped by ill health and who stand to gain the most from the development of underutilized resources. Good health is both the means and end of development. A healthy population is a perquisite for economic growth; in turn this income growth can be channeled to improve human lives through the provision of a decent education, good healthcare facilities, increased job opportunities, improved job security, good governance and all other requirements for human well being.

The health of human capital generates both higher income and individual well being. Improved health generates economic growth and poverty reduction in the long run. Two key elements of human capital are the extent to which the labour force is educated, and the level its health. The role of health in influencing economic outcomes has been acknowledged at the micro level (Strauss and Thomas, 1998, Shultz, 1999). Thus improvement in health is an important engine of economic growth. If economic growth of a country is to be sustained, the provision of healthcare has to be more accessible and qualitatively better.

Health is important for welfare. As a Gujarati proverb says ‘the first happiness is health, the second is a full stomach’. One cannot enjoy food if one is not healthy. (Of course, one cannot be healthy if one does not have enough food). To lead a productive life one needs a good health. As Viner (1953) observed ‘the first requirement of higher labour productivity under modern conditions are that the masses of the population shall be literate, healthy and sufficiently well-fed to be strong and energetic’. Health like education is desirable in itself.
Sickness or illness imposes the burden on other members of the family and also on society. Absenteeism can result into loss of production and productivity. Thus, to emerge as a wealthy nation, a healthy society is desirable. Health, however, cannot be ensured simply by individual efforts. Social action is needed for sanitation, water supply, clean air, waste disposal and an environment which does not breed disease or result in epidemics. Public policy is critical in ensuring adequate infrastructure for a healthy society. Public action is particularly important for the health of the poor as they are not able to take care of themselves to the same extent as the rich.

Planning and targeting for health becomes a policy imperative for development and progress, in the context of a developing country with its objectives to achieve rapid and equitable growth the inter relations between health and economic development is central to the consideration of health policy.

The relation between health and economic development is a fait accompli and many researchers have established this in several contexts. Improved health has both short term and long term benefit from the point of view of the economy. It results in an increased supply of the individuals and, therefore, leads to increased income. More are the benefits of improved health that may come in the long run. Not only does the health status of a person have its impact on productivity it is an important part of his welfare. Economic development does not mean only increase in personal incomes they are rather a proxy for individual well-being which is not quantifiable as easily as money incomes. Good health is an important component of real income.

Health is not merely an individual and local issue. It is both national and international. Since disease and Squalor anywhere in the world are a threat to the health of mankind. The role of the international Organisations and especially the World Health Organisations in pioneering, directing and coordinating health Programs all over the world with major thrust against dreaded diseases needs no emphasis.
Health is both an instrument and product of development and is, therefore, a major factor in the development process. Health determines and is determined by the socio economic factors of education, nutrition, population growth, income and environment. The complexity of their relationship makes it difficult to isolate health from the rest of the factors. It becomes imperative that health and other development sectors work together to achieve the goal of health for all.
REFERENCE:


