CHAPTER 1

INTRODUCTION AND METHODOLOGY
Education is the process by which we conserve valuable elements in our culture and discard the wasteful. It is both a stabilising influence and an agent for change. By means of it we help the young to become good citizens of the country\textsuperscript{1}.

It is worth recalling the recorded views of the Father of the Nation, Mahatma Gandhi, on education. His views hold a lot of contextual relevance to the world as a whole. Mahatma was of opinion: "By education and mean an all-round drawing out of the best in the child and man - body, mind and spirit. Literacy is not the end of education nor even the beginning. It is only one of the means whereby man and woman can be educated. Literacy in itself is no education. I would therefore begin the child's education by teaching it a useful handicraft and enabling it to produce from the moment it begins its training...... I hold that the highest development of the mind and the soul is possible under such a system of education. Only every handicraft has to be taught not merely mechanically as is done today, but scientifically, i.e. the child should know the why and the wherefore of every process."\textsuperscript{2}

The general notion of education a few thousand years ago was that of some one assigning lessons to a group of young people and punishing them
for their mistakes. But now the introduction of several communication media in transferring the sophisticated knowledge into simple and understandable form and with substantial changes in the educational norms as well the norms of the teachers, the system of education is moving towards a speedy evolution.3

Education, culture and civilization are the triple basic ingredients, which form indispensable for human advancement and social progress. While society is a ship, education is the steering rod and the other two are its gyrating propellers to reach the destiny of its development. In other words, education plays a dominant role in making strides of sophistication and modernisation. If education is to be effective, it should result in changes in all the behavioral components.

Education as a concept is playing a major role in the task of transformation and broadening of human mental horizon and driving to the progressive environment and further filling the gap between conservative and innovative, stupid and intellectual and inept and germane. In fact, educational institutions today emerged as the agencies of eradicating the social evil of illiteracy in all advanced and Third World Countries. Institutionalisation of agencies of literacy has become one of the most accepted dominant approaches adopted by the Third World Countries during the present era with a radical switchover from their traditional
gurukula system to modern school and college system. In order to keep pace with the rapidly developing and advanced nations, India also made it necessary to go for establishment of institutions of knowledge, places of learning and temples of enlightenment. It is a fact that the civilization of any nation is reflected through the rate of literacy and the latter is a dependent factor on the growth and emergence of the quantum of these institutions as such. It is an accepted doctrine that civilization and education are the two sides of a coin and they always travel together. If there is any lapse from the angle of paying attention to the promotion of these institutions of educative life, simultaneously there would be a blow to the sober optimism of progress of civilization. Hence, literacy and civilization are the interdependent factors which in turn strive for the social, cultural political and economic growth of every nation at large, which can be made possible only through the enhancement of the status of educational institutions in the contemporary society. Thus, education is the backbone of a progressive nation, and the spirit of a country is inherent in its culture and the main function of education is to transmit the culture of the country to its future generations. It is this need for education that gradually gave rise to a Philosophy of education.
The Concept of Education

Education is a dynamic concept, it's biological, psychological and philosophical connotation varies from one another. Etymologically, the word 'education' is derived from the Latin word 'educatum' which again comprises two Latin 'E' and 'Duca.' 'E' means 'from internal' and 'Duca' means 'to lead.' Thus, the word 'Education' intends to bring the inside to outside. The function of education is to draw out rather than to put in. This means, through education inner capacities or potentialities of the pupil are developed and brought to light.

Educationalists also traced out the root of education in two Latin words 'educate' and 'educere', the former's meaning denotes 'enlightenment,' 'improve-ment' and 'progress' and bringing out. Therefore, education means the art of developing and enhancing the cultivation of various physical, mental and moral powers of the child. Education in one form or the other is very much required for the child since the time he attains the stage of perception and recognition. Education and practice followed by imitation should be the formula and strengthens the future of the growing child. Education as such is to be taken as a process, not as a product.

"Education" says Ruskin, does not mean teaching people to know that they do not know, what they do not know, it means teaching them to behave as they do not behave.
According to Plato, 'Education is the constraining and directing the towards that right reasons which the low affairs or which the experience of the best of our leaders has sanctioned as truly great.'

The process of awakening is education. To justify this fact, it is to quote Varro, a famous writer."\(^6\)

"Educit, obstrix, eduate, nutrixe, institute, pedagogues, docet, magister."

It means, the midwife brings forth, the nurse brings up, the tutor trains and the master teaches.

According to Mrs. Indira Gandhi, the Late Prime Minister of India, 'education is a life-long process.' She hoped and wished that humanism should flourish through education. She described education as process by which the inherent potential for excellence, creativity and receptivity which is present in all human beings would be developed to the maximum possible extent.\(^7\)

Sankaracharya, an epoch-maker, thinker and philosopher, was of the opinion that education is the best means for a person to be free from worldly allurements and temptations and ultimately to get himself absorbed in the truth.\(^8\)
As education is the most significant fact in development, this is equivalent to saying that entire future of the country would largely depend upon the development of Indian education. Education and teaching are two different terms and they are not one and the same. Teaching is much wider than educating. At present, any teacher is not merely a subject teacher who can transmit a prescribed quantum of knowledge in a particular subject or subjects. But the duty of an educator is to promote the all round development of the pupil's personality. That is why teaching is narrower in sense, whereas education is broader in its nature and scope.

Aims of Education

Education has the following aims:

(a) Development of the powers of critical independent thought;

(b) inducing sensitiveness of perception, receptiveness to new ideas;

(c) producing an awareness of the main stream of our cultural, literacy and scientific traditions;

(d) to make available important bodies of knowledge concerning nature, society, ourselves, our country and its history;

(e) to strive to cultivate loyalty to the ideas of the democratic community;
(f) to equip young women and men with the general skills and techniques and the specialised knowledge, which together with the virtues and aptitudes already mentioned, will make it possible for them to do some productive work related to their capacities and interests; and

(g) to strengthen the inner resources and traits of character which enable the individual to stand on his own legs as and when necessary.10

Types of Education

Broadly speaking education is divided into three branches viz., formal, informal and non-formal education. Formal education is deliberately and consciously planned and its curriculum is pre-designed and goals also pre-determined. It comprises direct schooling and tuition intended pupils of particular age group. For example, schools and colleges impart formal education. Informal education is predominant in the developing and underdeveloped countries and also in advanced countries. This is also called as incidental education, which received, by living with others. But it is not provided consciously and deliberately. Finally, Non-formal education if offered at any convenient place, time and level of understanding or psychological growth of children or adults. Education in India can be divided into the following sub-heads.
a) Pre-primary education  
b) Primary education  
c) Secondary education  
d) Social education  
e) Special School education  
f) Rural higher education  
g) Urban education  
h) Physical education  
i) Technical education  
j) College education  
k) University education  
l) Research & Training and  
m) Adult education

An analysis of Chart 1.1 shows that the educational system in India is inter-linked with each other type of education though the nature, purpose, mode, method and objectives vary from each other. The important arrangement in this system is educational facilities are available both at rural and urban levels. Physical education found its place in all levels and Research and Training is linked to both General and Technical Education. The adult education is also found its place with the participation of State Government, Universities and other Voluntary Agencies.
Agencies of Education

The agencies of education are generally divided into (a) Formal and (b) Informal. The formal agencies of education are those which are set up by men and less deliberately by society. The formal agencies of education are:

a) School
b) Library
c) Recreation Centres
d) Reading rooms and
e) Religious Institutions

The Informal agencies of education have a wider connotation. It should be understood in terms of learning. There are certain institutions other than formal agencies, which educate people without definite rules or special curriculum. Here people are educated with their own activities. The informal agencies of education are:

a) Home or family
b) Religious organisations
c) Dramas and Cinemas
d) Newspapers
e) Radio
f) Television and
g) Library.
Constitutional base of Education

The Indian Constitution has provided due place to the subject of education. Right to Education is one of the Fundamental Rights of the Indian Constitution. Articles 29 and 30 ensure every citizen of India with protection of their language, script or culture. Article 29 provides that:

"No citizen shall be denied admission into any educational institutions maintained by the States or receiving aid out of State funds on ground only or religion, race, caste, language or any of them."\textsuperscript{11}

Article 30

"Guarantees to all minorities whether based on religion or language the right to establish and administer educational institutions of their choice and clears that in granting aid to educational institutions, the State shall not discriminate against any educational institutions on the ground that it is managed by a Religious or linguistic minority."\textsuperscript{12}

The Part IV of Indian Constitution, which deals with the Directive Principles of State Policy under Articles 36 to 52, clearly mentioned that.

"The State shall strive to provide for free and compulsory education for all children until they complete the age of fourteen years."\textsuperscript{13}
It has been realised and also evident from the above that the elementary education should be the strong base on which the fabric of Secondary Education could be constructed.

Article of 46 of the Indian Constitution says that:

"The State shall promote with special care the educational and economic interests of the weaker sections of the people and in particular of the Scheduled Castes and Scheduled Tribes education."\(^{14}\)

The 42 Amendment of the Indian constitution in 1976 put education hither to the State subject, on concurrent list. This Amendment made Central and State Governments equal partners in enacting law in regard to education.

**ADVANTAGES OF EDUCATION IN INDIAN CONTEXT**

**Rate of Return on Education in Indian context**

Especially, in developing countries with scarce resource available, educational development should reveal a definite scale of priorities, which reflects however, in the monetary rate of return accruing to individuals in particular and to society in general. This would amount to a combination of rate of return and manpower approach, which are central to the theory of investment decision.

At this point, it may be necessary to relate the above background of thinking to the Indian Scene, which needs to be highlighted with the studies
of Herberger, Kothari, Panchamukhi, Nallagouneden and Pandit, pioneers in the field. In the Indian context, the national education expenditure has increased eight-fold while the national income has increased only three-fold during 1950-69. Expenditure on education constitutes an important form of investment in economic development.

Herberger derived age-earning data of workers employed in Hyderabad in 1956. Further, analysis of the assumptions of Herberger was made by Hansen in 1970. Herberger believed that his estimates understand the relative steepness of earning profiles as one moved-up the educational ladder. This has been supported by the actual age-earning profiles used by Blaug and Pandit.

Nallagounden for the first time used actual age earning education profiles of workers living in urban India covered by the urban Income and saving survey of the National Council of Applied Economic Research in 1960-61. His data was extensively used by Blaug in calculating the rate of return on Indian education. The latest study in this area is of Pandit's (1973), who used the All India consumer Expenditure Survey, NCAER (1964-65), the sample is drawn from rural and urban sectors of the country.

It is observed from the above studies that the earning profiles were steeper for higher education than for lower education. The earlier studies, however, have measured the economic value of education in terms of
formal schooling done by a person through educational process, which will later help him for increasing his life-time earnings of an educated person and the less educated is taken as a measure of return on investment made in additional education. Thus, it follows that an assessment of an educational project involves an analysis of resources used up in the educational process and the resultant increase in the earnings of the educated during the working life. It is commonly accepted that the development of human resource is the cardinal objective of education and investment, and it is the maximisation of return from this investment that determines its contribution to economic growth. In this context, the views of V.K.R.V. Rao, the then member of Planning Commission, are relevant. He affirms the importance of viewing education not merely as an end in itself and final consumption goods, but also as a means to an end and capital good that enables human being to get the best out of his environment. He, further, observes that education has got to be related to economic development and argues that the criteria that are applicable to investment in general also become relevant in education. According to V.K.R.V. Rao, Indian system of education taken as a whole is not giving a positive return, as there is a steady rise in incidence of unemployment among the educated population.

This raises serious doubts about the economic advisability of the large expenditure that we are incurring specially on higher education, which
involves enormous resources. Therefore, it is necessary to establish a much closer relation between higher education, especially in regard to Technical Education at secondary and first-degree (graduation) level, and manpower requirements of a developing economy.

While commenting on educational planning and economic criteria, Robert C. Young states that "the educational plan one of the more prominent facts facing the manpower planners of India is that Indians, for a longtime, to come must be trained to use their hands, not simply for holding books, slides rulers and chalk, but for holding screw drivers, wrenches, rivet guns and surveyor’s levels. The willingness to soil one's hands and feet daily is an essential part of a growing economy, and unless the educational system encourages and respects such occupations, the shortage of skilled labour will become an even greater bottleneck to development."\textsuperscript{16}

The argument put forward by Gautham Mathur falls in line with the above view where he suggests that a comprehensive educational plan should develop an appropriate utility system, to utilise the educational systems’ out\textsuperscript{17}. In other words, before one is able to indicate the need of an economy for various categories of specialists; and before one can accurately discern the nature of educational system to provide the
specialists, one must have available data concerning the capital, labour and their quality and quantity. So, that the graduates could be trained.

According to Panchamukhi education sector has significant amount of employment potentials and employment opportunity for the educated is generally higher than for uneducated. Education acts as an agent for distribution of earning power and the actual earnings in the economy will reflect in the distribution of employment opportunities. But one cannot afford to overlook the validity of Strumlin's fears that the market for specialised labour is limited, and the law of diminishing returns operates in the case of education also.

According to V.N. Kothari the private monetary returns to college education came to 14 per cent as against social returns of 13 per cent. However, in technical and engineering education the element of public subsidy is so high that the private returns exceed the social returns by fully 3 per cent, i.e., private monetary returns for technical and engineering education were 25 per cent. No wonder there is such great rush for admission to these courses.

Education and Lowering Fertility

Albert Berg observed negative association between national level and family size in many developing countries. There are many factors affecting fertility; like education, income, health, nutrition, urban vs rural
residence, female participation in the labour force. Of these, education of both, especially, of female is an important factor in deciding the size of the family. Majority of the studies conducted by Coherence find that where illiteracy rate was under 40.5 per cent, formal education to have a negative effect on fertility. But the results revealed that in cases where literacy rate was above 60 per cent, a negative effect was much more frequently observed for female than male persons; and for urban than rural areas.

World Development Report, 1980 observes that education and training, better health and nutrition, and fertility reduction is shown to be important not only in alleviating poverty directly but also in increasing the incomes of the poor and GNP growth as well.

**Education and Health**

Good health is an asset of an individual and healthy members of a society have the ability to increase the total production. Healthy citizens are important for the development of an economy.

Can education improve the health of the people? If so, what is the effect of education on health and helping the development of the man resource? The quality of life in the developing nation is reflected on the basic facts of mortality rates and the human potential preserved or actualized by their reduction.
Susan H., Cochrance\textsuperscript{23} in her studies on the effect of education on health arrives at the conclusion that there is a positive relationship between per capita income and life expectancy. She quotes, Samuel Preston and Robert Gardres (1976, P.s), given motivation, the level of mortality in a population must be product of two factors: The level of knowledge regarding ways to combat diseases and the means available for implementing that knowledge. These factors operate at both the individual and the societal level\textsuperscript{24}. After the review of literature and cross sectional analysis, Cochrance has come to the following conclusion.

a. Per capita income is highly correlated with life expectancy in all periods examined.

b. Income distribution and literacy are extremely important (in addition to per capita income) in explaining life expectancy at any point of time.

According to Donald J. Ohara, education is an important determinant of health, especially of parental education on children's health. Productivity should lead to increased expenditures in food, housing, and medical care, with improved health as a consequence... health through more nutrition diets, more consistent sanitation, earlier diagnosis of illness and mere effective purchase of drugs and medical care\textsuperscript{25}.
Education makes one to understand the importance of health and devote more time and resources for health care. An educated man can help and educate others to be healthy. Education of an individual for professional courses in health care may bring more awareness within the society. When the community as a whole is healthy, there can be better health for the individual members of the society. Parental education is very important for the child's nutrition status and general health. Parents should know what are the diseases that can easily affect a child and should be in a position to take necessary immunization. Maternal education is very significant for health and nutrition of the child. It is the mother who has the major role to educate the child about cleanliness and the adjustments in the early stages of life. Thus, education is important because it contributes to a better life.

**Education and Economic Growth**

Do we find a relationship between the quality of education and economic growth? Exposure to better environment and facilities at school and qualified and competent teachers do change the quality of education. The quality of education contributes to pupil's learning, career-development, qualitatively better life and earnings.

Christopher Colelough reviewing the evidence on the impact of the primary schooling on the economic development finds that the contribution
of primary schooling to economic growth is great. Primary schooling increases the productivity in both urban and rural areas. Qualitatively a better primary education is important for higher productivity\textsuperscript{26}.

Lewis C. Soloman reviewing the literature on the quality of education and economic growth has observed that more expenditure need not result in higher productivity. The resources available and the school characteristic do matter for the quality of education imparted. Educated parents can provide more compliments to the school by training their children at home. Children who attend primary school in low per capita incomes learn substantially less after similar amounts of time in school than do pupil in high-income countries. The lower the income of a country, however, the lower the correlation between the pupil, social status and their achievement, conversely in low-income countries the effect of school and teacher's quality upon student's academic achievement in primary school is greater. From the data in numerous studies it is possible to conclude that predominant influence on student learning is the quality of the school and teachers to which they are exposed\textsuperscript{27}.

Bruce Fuller and Others\textsuperscript{28} have studied how school quality among Mexico's 32 states affected the economic output from 1886 to 1945. They have observed that the level and characteristics of investment in schools
historically influenced Mexico's economic output, at least with the agriculture and manufacturing sectors.

Thus, improving the quality of education is significant for the economic growth of a nation, especially, for developing countries. Qualitatively better people will be better demanded in the employment market and leads to higher earnings and increased production. Improving the quality in education will be greater achievement of earnings in the developing countries.

Marlaine and others\textsuperscript{29} tried to synthesis the conclusion of a number of studies in 18 countries of the effect of a farmer's educational level and exposure to extension services on his productivity, using data from individual farms in low-income regions. They examined the correctness of three hypotheses.

i. That higher level of formal education increases farmer's efficiency.

ii. That education has higher payoff for farmers in a changing, modernizing environment than in a static, traditional one (as suggested by Schultz).

iii. Exposure to extension services improves the farmer's productivity.

Table 1.1 shows the countries of the study and of increase in output for one year of study.
Six of the sets of data (Table 1.1) found to have a negative but statistically insignificant effect; in the remaining 31, the effect is positive and statistically significant. The overall conclusion is that farm productivity increases on the average, by 7.4 per cent as a result of a farmer's completing 4 additional years of elementary education rather than none. A number of studies showed evidence of a threshold number of years (4 to 6) at which the effects of education become more pronounced.

Primary education increases productivity in the both urban and rural sectors. Economic returns to such investment are typically high. In addition, it reduces fertility, improves health and nutrition and promotes other behavioral and attitudinal changes which are helpful to economic development. Growth with equity is achieved through investment in primary education.

World Bank Report of 1980, concluded that the 'seemless web' of factors that entrap families in poverty can perhaps best be broken by providing primary education. Education improves agricultural efficiency, to make advantage of health and nutrition information and seek the method of family planning\textsuperscript{30}.

Albert Berg in his studies concludes that in the urban areas of developing countries, persons with completed primary education typically earn 60-100 per cent more than with no education. This corresponds to an
average increase in earning of about 8-12 per cent, with each year of primary education. Schooling imparts specific knowledge and develops general reasoning skill (cognitive effects); it also induces changes in belief and values and attitudes towards works and society. Studies on various countries have shown that modernity of outlook towards various activities of life like family planning; saving and working is more influenced by the level of individuals learning (Schooling) than any other factors. According to the World Bank Report, annual output of a farmer who had not been to the school, has been found to be lower. Some other studies by the World Bank, shows that rate of return to primary education (solely in terms of its contribution to farmer efficiency) to be between 7 and 11 per cent in Republic of Korea between 14 and 25 per cent in Thailand and between 25 and 40 per cent in Malaysia.

But, all of them agree on one point that formal schooling especially primary schooling is needed to enhance the productivity of the workers. What we can notice is that, there is one kind of truth in all these argument; so, what in actual terms we see is the combination of all these. When employer's employee not only the years spent or the grade alone is taken into account; but also, in grade and in some cases experiences all are taken into consideration. Udo Bude observed that spread of primary education brought about a beginning of change for development in South Africa.
Primary education brings changes in the rural areas. The upliftment of rural masses can begin by providing basic education to the people. Education is a double-edged sword that can pierce into the ignorance and low living standard of the people and remove the superstitions, inequality, and the structure of the society for the betterment.

Need and necessity of Education in India

The major problem facing India today is the prevalent of moral degradation of the society. The only way to fight this is through education. In the 50 years after independence it is witnessed that the number of schools, colleges and universities and the number of students taking higher education has increased enormously. Our technical education is on par with best in the world.34

But, have we fulfilled the fundamental goal of education i.e. character building? Character is destiny.35 Character is that on which the destiny of a nation is built. One cannot have great nation with men and women of small character. If we want to build a great nation, we must try to train a large number of young men and women who have character. We must have young men and women who look up on others as the living images of them. This attitude need to be inculcated more than ever before among the young men and women through quality education.
Review of related Literature

Since last few years, education has grown rapidly in developing countries and in economically advanced countries as well. This growth required increases in resources devoted to education and increase not only in absolute amount, but also relative to other components of national effort. Along with the growth in education, a considerable amount of literature has appeared on the problems of the financing of education and the economics of education in particular. This reflects a drastic shift in thinking on the potential role, education has to play in future society.

Researchers in this field, both in India and at abroad have selected different variables for their respective studies to examine the phenomena of differential income and the rate of return on education. Keeping the main focus of each study in view, which is relevant from the point of view of the present study a brief review of studies made abroad and in India is presented below.

Apart from these several empirical studies undertaken abroad, summaries of a few studies made in India have been of immense value for the researcher in understanding the dimensions of the relation between education and income.
Apart from the various variables involved for which adjustments had to be made, the academic achievement of the respondents has not been the concern of many social scientists working on this problem.

Although, all these studies have been undertaken independent of each other in different contexts by different investigators, using different techniques and research designs, a systematic review of the literature by the present researcher, is indicative of the fact that the major findings are in consonance with each other. This consistency in the major findings of the researchers, therefore enabled the reviewer to present a comparative picture of the returns for different levels of education, professional and non-professional, in relation to some of the variables examined by the different researchers in their studies.

The purpose of the study of Miller\textsuperscript{36} was to examine the relationship between income and education. The first two sections consider the findings with regard to annual income, and the third section presents some newly developed data on lifetime income for men with different amounts of schooling. The study makes no allowance for the individual and social costs incurred in the completion of additional schooling. The income gains associated with greater educational attainment as shown in his report are over-stated. Even if allowances were made for these costs, the evidence suggests that an investment in schooling pay, on the average, a better return
than most other investments. Although the figures reveal that there is a monetary return to the individual for an investment in education, there is no guarantee that such an investment will continue to earn this rate of return in any given case. There is always the possibility that the higher incomes of those with more years of schooling are party due to differences in intelligence, home environment, family connections and other factors which result from individual differences in ability and opportunity. Therefore, to some extent, they observed relationship between schooling and earnings. Miller felt, may be a spurious one. There is, however, some evidence in his study that ability as measured by scholastic achievement is highly correlated with earnings.

Seymour Harris\textsuperscript{37}, noting the rapid rise in the extension of higher education, has expressed concern about the possibility that the persistent increase in the supply of the college-trained workers will so flood the market that college students within the next twenty years are doomed to disappointment after graduation, as the numbers of coveted openings will be substantially less than the numbers seeking them. The same concern has been expressed by several noted educators, including James B. Conant\textsuperscript{38}, in 'Education in a Divided World'.

Barry R. Chiswick\textsuperscript{39} argued that schooling is a screening device used to shift out those who are to be rewarded handsomely by society from those
who shall receive less, that is the 'sheepskin' rather than the education that is rewarded. The argument has been presented in several forms by Arrow (1971), Berg (1971), Bowels (1972), Cohen (1972) and Taubman (1972).

The study of Paul C. Click and Herman P. Miller, 'Educational level and Potential Incomes'' brings out special significance of important factors in determining the occupational and income levels of American youth in the last two decades. While discussing the potential rewards of completing successively higher levels of education, they feel that it is evident that a majority of youth in America who are able to continue their schooling can justifiably expect to receive considerably higher incomes in the long-run. However, the evidence in support of the above study is limited to men between the ages of 45 and 54 years, because men in this age group usually experience their peak earnings. It is apparent from the study that there is a progressive increase in the average amount of annual income associated with an increase in education. The annual income associated with an increase in education. The annual income of college graduates exceeds that of men who have not attended college. Thus, the results show a significant increase in annual income associated with extra-schooling. This economic return tends to grow progressively as one reached higher educational levels through college education. Further, the statistics show that graduation at any level generally yields a bonus
amounting to about twice the increment realised by the average man who drops about. It is found in the study, that the differences in vocational opportunities are responsible for dissimilar relationship between education and income among white and non-white men.

In estimating the lifetime returns, Glick and Miller assured that survival rates for man in each educational level would remain the same until they reached the age of 74. Thus, the evidence presented in the study concludes that the completion of college education is associated on the average with increased earning power, but this relationship is much less pronounced for non-white than for white man.

Taubman and Wales, in their study "Education as Investment and as a Screening Device", on the basis of information at several later points in the lives of a group of World-Water II Airforce officers conclude that the unadjusted rate of return on the costs of College graduate education has to be reduced by about 16 per cent to take account of difference in ability and family background. This sampling of studies generally agrees that comparisons of the earnings of College graduates with the earnings of high school graduates over estimate the rate of return that should be attributed to higher education per 16 to 33 per cent. The study also shows the importance of ability as an indicator of earnings, and three-fourths of the difference in earning in the above two studies represent a real economic
benefit of higher education. They have compared the earning advantage of college graduates with high school graduates of equal intellectual ability. This revealed a definite percentage by which earnings of the college group exceeded those of the high school group. College graduation or an advanced degree is clearly of greater financial advantage to student in the top 20 per cent of the range than to one of lesser ability.

Ashenfelter and Mooney\textsuperscript{42} have reported supporting evidence in their analysis of the 1996 earnings of males. In this highly selected group of young men, mathematical ability is positively related to earning among natural scientists and social scientists. Earnings are also related in the study of the degrees earned especially in specific fields of science.

Denison\textsuperscript{43}, in an epochal analysis of the factors that contributed to the economic growth of the United States from 1929 to 1957, believes that in addition to the classic variables of capital and labour, one of the important contribution is a steadily rising average level of education. In a further analysis of this component of national growth, and on the basis of empirical data reported by Wolfie and Smith, Denison concludes that about two thirds of the income-differential between high school graduates and college education, and about one third with differences in ability, family status and geographic region.
Martin Corony attempted to draw implication of investment in schooling, which are more directly applicable to less advanced stages of development. The first part of the paper deals with marketability of skills in Mexico. It gives a more detailed account of returns of skills for Latin American and is of particular interest in view of the three decades of rapid and sustained economic growth. The returns are compared with returns for comparable levels of education, found independent studies for Chile, Columbia, Venezuela, and United States. It is based on cross-sectional sample of 4000 male urban wage earners in 1963.

The results indicate that education explains a significant part of income differences among Mexican Wage earners. When schooling alone is used as an explanatory variable, 43 per cent of income variance is explained by schooling differences. Of all the variables used, schooling is the largest single determinant of income differences. The rates of return estimated are for males and females for primary, secondary schooling, technical and general (secondary) schooling. Highest rate of return of 20 per cent accrue to Chile. Colombia and Venezuela, which is favourable, even when compared to the returns to physical capital which predominates in Latin America. The estimates of returns contain an upward bias as they are not corrected for unemployment at each level. In addition, earnings
foregone have been omitted from the costs of primary schooling in all the three countries.

'Education and Income' by Houthakker is an analysis of incomes received by people of different ages starting from 14, and educational histories during a single year. Relevant data from 1950 Census of population is used and only males, irrespective of colour are considered. Mean income before tax, by age and years of school completed were estimated.

In order to provide some insight into the variability of income, coefficients of variation are also estimated. It was noticed that on the whole, a longer school attendance is positively correlated with higher mean income except of the age groups below 30. In all education groups, annual income rises with age until a maximum is reached in 45-54 age group and for those who never attended school, it fell between the age of 55-64. After that the peak mean income falls first slowly and then rather sharply. In order to give proper weights to the different ages, the chance of survival according to the morality experience of 1949-51 was taken into account.

Houthakker also estimated that capital value of lifetime income at age 14, both before and after tax for four different rates of interest. The study reports that the capital values increase uniformly with level of schooling for all discount rates considered. In other words, the increment
in capital value associated with each successive level of education is always positive.

Weigh and Krpoiff\textsuperscript{46}, in an empirical study 'Monetary Returns to College Education, student ability, and College Quality' analyse the earnings histories of 7000 male graduates of many American Colleges and Universities, who had been employed in 1956 by the American Telephone and Telegraph Company for 3 to 50 years. These authors have no comparable data for high school graduates who had not gone to college; but on the basis of some reasonable assumption derived from their data, they are found that about one-fourth of the difference between the mean earnings of college graduates and the United States, results from differences in ability and other personal factors. It is found that the top 10 per cent of the college graduates progress in salary more rapidly than others.

Bridgeman\textsuperscript{47}, studied the lifetime gains of males with college education, as compared to school education in the United States (1949-56). It is noted, that the differences between the incomes of those who had only high school education and of those had the additional advantage of college education were considerable and increased steadily between 1949 and 1956. The changing demand and supply position of educated people was not taken into consideration.
In an empirical study by Earnest Hollis\textsuperscript{48}, the monetary advantage realised by a graduate is four times higher than the investment made in U.S. Government bonds. On the average, a direct mean outlay of about $7000 is required to graduate from a college U.S., and the author did not take an account of the cost of subsistence, since the youth or their parents would incur normal living expenses whether he attended college or not. In order to find out the relative advantage of a lifetime income of graduates from the age of 22 to 74, the study assured constant survival rate for the above age group. Alternative investment in U.S. Government bonds would produced barely one fourth of the lifetime income of graduates.

Becker, Garry S.\textsuperscript{49}, study on "Human Capital: A theoretical and empirical Analysis with special Reference to Education", can be traced both to the finding that a substantial growth income in the United States remains after the growth in physical capital and these issues by bringing together readily available information from 1950 Census reports on the incomes of persons with different amounts of education, and estimates of costs were obtained from the office of education. Part one of this study treats the theory of investment in human capital in detail and reveals the importance though the wide variety of economic phenomena that it encompasses. Chapter two derives a number of important effects of such investments on earnings and employment; while Chapter three explains the procedures of
estimation of total amount invested and subsequent changes when the anticipated gains change. Part two of the study presents various empirical tests. The monetary gains from college education in the United States are present in Chapter four and five. Costs and returns of education are worked out for white male college graduates. Detailed attention paid to the effect of the correlation between education and ability and to the variation in the gain from college education. Social as well as private gains from colleges are estimated, and both are compared as corresponding estimates for physical capital. Chapter six extends the discussion to high school education, considering social as well as private costs and returns and the effects of differential ability. The implications of the theoretical analysis concerning the effect of human capital on the shape of age-earning profiles are enumerated subsequently.

Jocob Mincer (1964)\textsuperscript{50}, Pointed out in this paper "Job Training, Costs, Returns and some Implications", that formal education and training on the job are usually complementary rather than substitutes.

David C. McClelland (1966)\textsuperscript{51}, tested his hypotheses made in his study "Does Education Accelerate Economic Growth ?" showed that higher education attainment accelerates economic growth. He found that countries with relatively higher levels of education embodied in the population developed at a higher rate.
Sen, A.K. (1966)\textsuperscript{52}, pointed out his paper, "Education, vintage and Learning by doing", about the complementarily between formal education and informal education because formal education can be considered as substitutes to a very limited extent and in relation to specific kinds of human capital.

Ladinsky, J. (1967)\textsuperscript{53}, in his paper, "The Geographic Mobility of Professional and Technical Manpower" observed with reference to U.S. economy that professional and technical manpower is the fastest growing segment of the labour force. Its rate of increase is almost twice as fast as the increase for all occupations.

An O E.C.D. report\textsuperscript{54}, emphasises the point that any consideration of the problem of "Technological Growth" must pay attention to the development of the human resources through education, which is one of the main bases of capability in science and technology. Creation, transmission and reception of knowledge, require well-developed human capacities.

Lester Throw\textsuperscript{55}, observed in his "Investment in Human Capital" that the marginal product of education, holding experience constant is U-shaped, while the marginal product of experience, holding education constant is high in early years and decline as experience increase.

Anne May Hew\textsuperscript{56}, in his article, "Education, Occupation and Earnings" stated that there is a strong relationship between occupational
and educational profiles of the labour force, recent empirical evidence suggests that entry into various occupations should be considered independently of the variations in the year of schooling.

Fredrick, Harbison\textsuperscript{57}, in his book "Human Resources of the Wealth of Nations" stated that a country that cannot develop the skill and knowledge of its people and put them to effective use would not able to develop anything else.

Veena\textsuperscript{58}, expressed view in her paper "Pattern of Education and Economic Development" that there is a considerable need to derive relationships between different types/levels of education and different economic activities or indicators to explore the possibilities for maximum utilization of educational resources.

Tilak\textsuperscript{59} in his paper, "Contribution to Economic Growth in Andhra Pradesh" stated that the contribution of primary education is higher than that of any other level in rural areas and the secondary education is higher in urban areas.

Yoram Weiss, Arden Hall, Hall, Fred Dong\textsuperscript{60}, study on "The Effect of Price and Income on Investment in Schooling" indicated that a person with low wearing ability with high opportunity or with short expected work (or consumption) horizon may, find that the marginal costs exceed the marginal benefits even at zero level of investment.
Veena, in "Education and Economic Growth" quotes that "the education is a more important factor private returns and results of that is a constant upliftment of the economic situation and social justice". But only in private returns, a small proportion of the community is able to proceed with higher education for one reason or the other.

Rajaiah stated in his book "Economics of Education" that the measure of human capital depends on some explicit and implicit assumptions, the additional to human capital are the result of formal education.

Laxmi Devi in her book "Economics of Education" refers to the fact that over the years the expenditure on education has increased as a proportion of the GNP. At the inception of planning (1950-51), India was spending 1.2 per cent of the GNP and by 1984-85 this proportion increased to about 400 per cent. In absolute terms this increase at National level was more impressive; the educational expenditure increased by about 130 times from Rs. 550 millions in 1947 to Rs. 71740 millions in 1985.

Need for the Study

The review of related literature clearly indicates that none of the studies have focussed attention solely to present the educational advancement and education expenditure both at the National and the State levels. Besides this hitherto there are no studies on the Residential schools
which are of recent origin in Andhra Pradesh. It is, therefore, an attempt is made in the present study to conduct study on educational expenditure with special reference to draw a comparative picture of the pattern of educational expenditure adopted in the APSWRS and the APRS.

**Statement of the Problem**

Since 'Women hold up half the Sky' their potential should not be left untapped for the national building activity. It is now increasingly felt that no nation cannot make rapid strides in social and economic spheres without adequately promoting the educational levels among the women. Education, apart from freeing women from the clutches of age-old tradition and customs allows women to develop knowledge and skills to capture economic opportunities and thus increase their income levels. This provides the basis to capture further opportunities. Education also leads to improvement in other critical areas such as health and family planning. Educated women can take better decisions about nutritions and healthcare for their families. They are also more open to family planning and have a fewer children. In addition, greater literacy and basic education help women understand their needs and demand services. This expands facilities for the public and, at the same time, improves the utilization of these facilities. Education, thus, empowers women.
In 1951 less than 8 per cent of the women population in Andhra Pradesh were literates and gradually it increased to 33 per cent in 1991. But literacy rate in the case of women that belonged to SC's and ST's in 1991 was very poor and it was 21 per cent and 9 per cent respectively. In order to boost up literacy rate and educational levels among these women, the State Government has been striving hard through various methods. And one such method happened to be organisation and establishment of Andhra Pradesh Social Welfare Residential Schools, exclusively for rural SC and ST girl students and Andhra Pradesh Residential Schools with a larger proportion of seats to SC and ST rural girl students. The present study besides analysing the educational expenditure at the National and State levels and expenditure pattern in the above said schools also evaluates the schools in meeting the educational needs of the SC and ST girl students in Anantapur district, one of the most backward districts in the country next only to Jaisalmar in Rajasthan. The district is known for frequent droughts and famines; famines upon this district almost ones in every three years and sometimes more frequently. As such village people are deprived of the barest necessities of life leave alone sparing money to educate their children. The conditions prevailing in the district calls for the increase in the number of the Residential schools to promote educational levels among SC and ST girl students.
METHODOLOGY

Objectives

The present study is based on the following objectives:

1. To analyse the educational expenditure during the Plan Period, both, at the national level - India, and at the State level - Andhra Pradesh.

2. To explain the origin and objectives in establishing Andhra Pradesh Social Welfare Residential Educational Institutions (APSWREIS) and for the sake of brevity, the schools started by this society are simply addressed in this thesis as the Andhra Pradesh Social Welfare Residential Schools (APSWRS) and the Andhra Pradesh Residential Schools (APRS).

3. To study the expenditure pattern followed both in the APSWRS and the APRS in the State.

4. To study the Socio-economic conditions of the Scheduled caste (SC), and Scheduled Tribe (ST) girl students' parents in Anantapur district; and
5. To evaluate the impact of APSWRS and the APRS in catering to the educational needs of the SC and ST girl students in Anantapur district.

Hypothesis

1. The pattern of educational expenditure of the APSWRS and the APRS are not different;

2. The APSWRS and the APRS are not catering to the educational needs of the SC and ST girl students in the Anantapur district; and

3. There is no change in the consumption patterns of the sampled households even after the admission of their daughters in the schools.

Significance of the Study

The APSWRS and the APRS are relatively recent origin. As such there are no studies relating these schools. The present study, besides studying the origin and objectives of these schools, it is also attempts to compare the expenditure pattern that has been followed independently by these schools.
In spite of many concessions offered by the Union and the State Governments, improvement in the literacy rate of girl students in the country seems to be not very impressive.

Since Anantapur is the most backward district, next only to Jaisalmar in Rajasthan, in terms of rainfall and other development indicators in the country, has been selected the study area to assess the impact mode by these schools on the educational improvement the SC and ST of girl students.

The study concludes with the suitable suggestions for the better improvement of these schools to serve the educational needs of the girl students in the rural areas.

Source of Data

The study makes use of both the primary and the secondary data.

The primary data have been collected with the help of a structured schedule from 200 households of the girl students' parents.

The secondary data have been collected from the following sources: Documents of India's Five Year Plans, starting from the First Plan to Eighth Plan; similarly Andhra Pradesh Five Year Plan documents; Budget documents of both the Union and the Andhra Pradesh State Governments;
data/information from Societies of both the APSWRS and the APRS, 50 years of Andhra Pradesh document; Andhra Pradesh 2020 Vision document. Annual issues of "India", published by the Publication Division, Ministry of Information and Broadcasting, Government of India; and the relevant data have also been collected from the period publications of the National Institute of Educational Planning and Administration (NIEPA), New Delhi.

It may be mentioned here that all efforts have been made to collect the needed data/information from the various above referred sources but the Societies concerned find it difficult to provide access to all documents of 'Confidential matters'. It is because of this constraint, data gaps have became inevitable while comparing the expenditure pattern of the APSWRS and the APRS.

SAMPLE DESIGN

While collecting the primary data necessary care has been exercised to consult 100 households whose daughters have studied in the APSWRS at Kurugunta, a School 10 Kms away from Anantapur town, located on Anantapur-Kalyanadrug road. Similarly, another 100 households whose
daughters have studied in the APRS at Goody town have been consulted to record their responses to the schedule canvassed designed for the purpose.

The Survey has been conducted during the academic year 1998-99.

The data thus collected have been tabulated and analysed with the statistical tools, like averages, percentages and regression techniques.

Limitations

The present study is confined only to the educational expenditure in the country, which includes the states of Andhra Pradesh, with special reference to the APSWRS and the APRS in Andhra Pradesh. The period of the study is limited to 12 years from 1987-1988 to 1998-1999.

The survey results are drawn with particular reference to Anantapur district alone and they need not be the generalised ones for the State of Andhra Pradesh as a whole.

Chapter outline

The thesis is presented in Six chapters. The chapter outline is indicated as under:
Introduction and Methodology are presented in the First chapter; the Second chapter deals with the analysis of educational expenditure during the Plan period in India and in the State of Andhra Pradesh; the origin and objectives in establishing the APSWRS and the APRS have been explained in the Third chapter; comparison of expenditure pattern of the APSWRS and the APRS has been dealt in the Fourth chapter. The impact of the educational facilities provided by the APSWRS and the APRS on the Socio-Economic conditions of the parents of the SC and ST girl students is presented in the Fifth chapter and the Summary of the findings of the study and suggestions are spelt out in the Sixth and last chapter.
Table 1.1
Farmer's Education and Output

<table>
<thead>
<tr>
<th>Countries of Study</th>
<th>Estimated increase in output for one year of study</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Brazil, (Pachico and Ashty 1976)</td>
<td>2.69</td>
</tr>
<tr>
<td>2 Brazil, Garibaldi (Pachico and Ashty 1976)</td>
<td>4.60</td>
</tr>
<tr>
<td>3 Brazil, Gurani, (Pachico and Ashty 1976)</td>
<td>1.49</td>
</tr>
<tr>
<td>4 Brazil, Taquari (Pachico and Ashty 1976)</td>
<td>5.53</td>
</tr>
<tr>
<td>5 Brazil, Alto Sao Fransisco (Patriconal ke hr bag 1973)</td>
<td>-1.29</td>
</tr>
<tr>
<td>6 Brazil, (uniccieacao de castelo)</td>
<td>-0.70</td>
</tr>
<tr>
<td>7 Brazil, Paracatoo (uniccieacao de castelo)</td>
<td>-1.69</td>
</tr>
<tr>
<td>8 Brazil, Resende (Parti &amp; Kehberg)</td>
<td>1.01</td>
</tr>
<tr>
<td>9 Brazil, Vicosa (Parti &amp; Kehberg)</td>
<td>2.33</td>
</tr>
<tr>
<td>10 Colombia, Chinchina (Haller, 1972)</td>
<td>-0.29</td>
</tr>
<tr>
<td>11 Colombia Chinchina (Haller, 1972)</td>
<td>6.10</td>
</tr>
<tr>
<td>12 Colombia, Malaya (Haller, 1972)</td>
<td>3.09</td>
</tr>
<tr>
<td>13 Colombia Manque (Shaller, 1972)</td>
<td>-3.12</td>
</tr>
<tr>
<td>14 Greece (Yolopoulous, 1967)</td>
<td>6.47</td>
</tr>
<tr>
<td>15 India, (Punjab, Hariyana and U.P)</td>
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</tr>
<tr>
<td>16 Indian, Punjab, (Sishu, 1976)</td>
<td>1.49</td>
</tr>
<tr>
<td>17 Indian, Punjab, (Sishu, 1976)</td>
<td>1.41</td>
</tr>
<tr>
<td>18 Israel, Sadam (Nachmrose Bar-Lee)</td>
<td>Marginal value of education was $21 per year of wife's Schooling (1.08% of gross value added of production).</td>
</tr>
<tr>
<td>19 Japan (Honsha, Shikoku, Kyusha)</td>
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</tr>
<tr>
<td>20 Kenya, Vishga (Moock, 1973)</td>
<td>1.73</td>
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<tr>
<td>21 Kenya (Hoporapl, 1974)</td>
<td>-3.26</td>
</tr>
<tr>
<td>22 Korea (Hong, 1975)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>23 Korea (Jamison and Lau)</td>
<td>2.22</td>
</tr>
<tr>
<td>24 Korea (Jamison and Lau)</td>
<td>2.33</td>
</tr>
<tr>
<td>25 Malasys, Kedah and Pertils (Jamison and Lau)</td>
<td>5.11</td>
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<td>26 Nepal, Nunakol (Callkin, 1976)</td>
<td>Could not be computed</td>
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<td>27 Nepal Bara (Pudasainis a 1976)</td>
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<tr>
<td>28 Nepal, Rpanchi (Sharma, 1974)</td>
<td>5.09 (Computed using literates as equal to 3 years of education)</td>
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<tr>
<td>29 Nepal, Rupandchi</td>
<td>2.85 (Computed using literates as equal to 3 years of education)</td>
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<td>30 Philippians, Laguna, 1963 (Halilur 1976)</td>
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<td>31 Philippians, Laguna, 1973 (Halilur 1976)</td>
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<td>32 Philippines, Laguna, 1968 (Halilur 1976)</td>
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<td>33 Taiwan (Wu, 1971)</td>
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<tr>
<td>34 Taiwan (Wu, 1971)</td>
<td>3.87</td>
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<tr>
<td>35 Taiwan (Wu, 1977)</td>
<td>0.87</td>
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<tr>
<td>36 Thailand, Chiang Mui (Jamison and Lau)</td>
<td>3.15</td>
</tr>
<tr>
<td>37 Thailand (Jamison and Lau)</td>
<td>2.43</td>
</tr>
</tbody>
</table>

Chart 1.1

Educational System in India Education
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