A STUDY OF THE ECONOMICS OF GRADUATE TEACHER EDUCATION IN KERALA

THESIS

SUBMITTED TO THE UNIVERSITY OF CALICUT

IN PARTIAL FULFILMENT OF THE

DOCTOR OF PHILOSOPHY

By

SABUJI VARUGHESE

Pages 卌 31

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT
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DECLARATION

I, Sabuji Varughese, do hereby state that the work reported in this dissertation entitled **'A Study of the Economics of Graduate Teacher Education in Kerala'** is carried out by me under the guidance and supervision of Dr. R. Sukumaran Nair, M.A., M.Ed., Ph.D.. I further declare that this dissertation or any part thereto has not been previously submitted for any degree, diploma, associateship, fellowship or any other similar title to any other University.

Sabuji Varughese

Calicut University Campus,

6th..... October, 2005

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This is to certify that this thesis, **'A Study of the Economics of Graduate Teacher Education in Kerala'** is an authentic record of the work carried out by Sri. Sabuji Varughese. M.Sc., M.Phil, M.A., M.Ed., from December 2001 to September 2005 under my guidance and supervision in partial fulfilment of the requirement of the degree of Doctor of Philosophy under the Faculty of Education, University of Calicut.

No part of this thesis has been presented before, for any other degree.

Dr. (Prof.) R. Sukumaran Nair.

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Calicut University Campus,
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1

INTRODUCTION

CHAPTER I

INTRODUCTION

It is widely accepted that 'investment in teacher education gives rich dividend in the form of better standards of education'. Whatever may be the attempt to modernise the curriculum and provide suitable infrastructure, these will not be effective unless there is effective classroom transaction for which the 'teacher factor' is very important. Hence the National Commission Report on Education, 1964-'66 points out that 'the teacher is the pivot of whole education system'. The teacher efficiency depends to a large extend upon the quality of teacher education. Hence, it is reasonable to assume that efficiency of an education system is mainly depending upon the quality of the teacher which again depends on the type of teacher education programme.

Kerala claims to occupy the first place in India with regard to Universal literacy but regarding the quality of education, the state has to achieve more even to reach the national level in some aspects like performance in all India competition examinations. The investigator as a teacher in Kerala, wanted to study the

economics of teacher education programme especially for the secondary level with a view to finding out the economic commitment of Government in this sector and its impact. Considering the limitations of time and resource, the study is limited to teacher training programme of secondary schools of Kerala state conducted by Government, universities and management sector comprising of aided and un-aided sections.

The title of the study is : **A STUDY OF THE ECONOMICS OF GRADUATE TEACHER EDUCATION IN KERALA.**

Education is one of the basic needs of the child and an important instrument for unfolding his innate capacities in a more suitable manner to bring about all round development of personality. It is a tool which helps an individual to evolve and choose a suitable profession or vocation. It helps a person to imbibe the ethical, moral, social, cultural and spiritual values. It is a major instrument for economic and social development. Education reduces the poverty by increasing productivity in all fields of human endeavour. Thus, it is an important means for social progress through individual development.

Proper education strengthens the economic and social basis of a nation. Thus Burke said, "Education is the chief defence of nation". The development of a country is based on its ability to develop and utilise the innate capacities of its people. The most important economic resource of a nation is its manpower, that is, Human

Resource. Human Resource Development is the process of increasing the knowledge, the skills and capacities of people in a society. Thus Human Resource Development is a reliable indicator of modernisation.

According to Philip "the Economics of Education has been one of the neglected subjects in the science of Economics. Adam Smith and Alfred Marshal realised its importance. Prof. Schultz of Chicago, Gray Backer of Columbia, Saymour Harris of Harvard, the British economists Vaizey and Singer are pioneers in this field of study".

Natarajan says that Economics of Education is concerned with human welfare. Alfred Marshall defined Economics as a subject of study of mankind in the ordinary business of life. It examines that part of individual and social action which is closely connected with the use of the material requirements and well being of the society. Education broadens the mental horizons, enables the individual to enjoy the good things of life and raises his standard of living. The conference on 'Measurement of Cost Productivity and Efficiency of Education' held at Jaipur (1967) mentions the following advantages of studying education from the point of view of economics.

(1) the synchronising of the education system with social system.

(2) finding out the priorities in the National Policy on Education and their implications.

(3) helping the redistribution of resources and rearranging priorities.

(4) promoting needed changes in education and making it socially relevant and economically productive, and

(5) improving the techniques of educational planning and management.

Various roles have been assigned to education, among which the role in the economic growth through human resource development is the most significant at present. Harbison and Myers held the view, "the educational process of human resource development is necessary for the transformation of social and political institutions for which the people of the modernising countries strive". Human Resource Development of a country can be measured by its stock of human capital. Useful knowledge acquired and skills developed may be termed as human capital. According to Schultz, "education brings large increase in production. A rupee invested in the intellectual improvement of human beings will contribute to greater increase in national income than a rupee devoted to railways, dams, machine tools and other tangible capital goods".

The integral relationship between education and economy is reflected in the close nexus between education and occupation on one hand and education and production on the other. Education influences economic development by providing labour force that matches the needs of economy or by surveying a set of attitudes and values amicable for development. Jayaram has supported this notion by stating, "Education

seems to be an important agency for fostering values and attitudes among the people and preparing them for economic development. Thus education is capable of generating a climate for growth."

Reciprocally, economy constitutes the base for educational development. It raises employment opportunities and country's real income thereby making it easier for people to receive education. Deterioration of education will negatively affect the economic growth of a country and slow down its economic growth. This affects adversely the educational system. Jayaram remarked, "economic growth itself is one of the major stimuli to the demand for more and higher education".

A highly developed system of education can be supported only by a sound and developed economy. In the absence of the latter, education may lead to educated unemployment, social unrest and destructive frustration. Thus the relationship between education and economic development is not only reciprocal but also optimal.

Educational labour force and skilled manpower are assets to any country because education integrates, alters, modifies and re-migrates the factors of production as well as the force of production. Perlman observes, "the direct financial returns to education are the extra earnings received in later life that can be attributed to the schooling required".

1.1 EDUCATION AS CAPITAL

Alfred Marshal emphasised the importance of education as national investment. It is the most valuable among all capitals invested in human beings. The cost incurred by individuals in acquiring more education constitutes an investment in their own future earning capacity. In the words of economists: education nowadays is a profitable investment.

Rajaiah states "Through education, people acquire useful skills and knowledge and these are forms of human capital. The quality of human effort is greatly improved with the use of human capital, which accounts for the impressive rise in the real earnings per work hour. Education is helping the individual and society to move from a traditional to a more modern condition and fostering knowledge and skills and values for modern technological advance, production and consumption."

In some western countries, human capital has been growing at a faster rate compared with non-human capital. Education in a developing economy emerges as a very important physical capital and a country becomes more productive only if there is sufficient human capital. Underdeveloped countries need engineers, technicians, managerial and administrative personnel, scientists, doctors and such other professionals. If there is a shortage of human capital, physical capital cannot be utilised productively. So these countries import physical capital for the development, but they are unable to utilise fully due to lack of 'Critical Skill' required for its operation.

Thus the need for investment in human capital becomes a paramount importance in such countries.

Less developed countries are characterised by its economic backwardness. To remove economic backwardness,. it is necessary to increase the knowledge and skill of the people. Without improvement in the quality of human factor no progress is possible in an underdeveloped country.

Literacy is also a measure of human capital. Rajaiah said that the ratio of the enrolment of children in primary schools to the actual population in the age group of 5-14 years is given as an indicator of human capital formation. There are certain difficulties for measuring human capital. The addition to human capital is the results of formal education, non-formal education, the job training experiences, natural ability, social status or heredity and family income. It is difficult to make allowance for all these factors. Also, one level of education leads to another so that the comparison of those with primary education and those without primary education offer no components for conclusion.

Knowledge embodied in a person are physical capital and yielding income. Human capital has no observed market value like physical capital. The service of knowledge and skills embodied in a person is traded in labour market. Human capital, knowledge, skills etc. also depreciate after a critical age like physical capital. Depreciation defined as the negative changes in capital value, depends upon the

age of a person possessing knowledge and skill. It does not depend upon chronological time like physical equipments. Depreciation of human capital occurs as a result of increased probabilities of death and general deterioration of mental and physical capacities of a person. Acquisition of knowledge is not free, it requires expenditure such as resources, money, time and effort. Human capital is growing faster than physical capital. It is now generally accepted that investment in education is a liquid asset.

Like the physical, human capital needs maintenance and medical care and health services which are essential for maintaining human capital which deteriorates during the period of illness and unemployment. The earning power of a man is not a saleable commodity like the physical capital which is saleable in the market. The present capital value of future personal earnings has no financial meaning.

Education is a big industry as it employs manpower, money and materials. Institutions aim at producing better students with less cost. An industry is run for profit, an educational institution is motivated by service.

1.2 TEACHER EDUCATION

In the fast changing world around, the role of the teacher too, is changing so that any fixed amount of pre-service or in-service teacher education can hardly cope with the expectations of the society. The teacher remains no more as a mere transmitter of knowledge and culture. Teacher has to be a mobiliser, motivator and co-ordinator

fully aware of his/her responsibilities towards the society for the coming decades. Teacher is a pivotal point in the process of education. The poor performance of teachers has certainly a negative effect in the process and product of education.

Teaching is one of the most respectable professions. According to the Indian tradition, the teacher is considered as the spiritual father of the student. Hence the proverb very often quoted: *"Acharya Devo Bhava"*. Teachers had a respectable position in the ancient world because they were accepted as the role models, embodiment of knowledge and leaders of the society. Since teaching is both a science and an art, it provides the study of human minds and human actions. So qualities like intelligence, scholastic aptitude, emotional stability, good manners, pleasing voice and effective methods of approach are some of the pre-requisites of the teacher. Teacher has to be democratic, friendly, persuasive and above all sympathetic to the students. He should also be aware of the individual differences of his students, principles of learning, philosophical basis of the educational process and the social needs. Besides sincerity and devotion to the profession, teacher is expected to guide pupils in decision-making processes. Through democratic relationship with his pupils, he should guide them whenever necessary and particularly in difficult situations of decision-making and cultivate research attitude in a systematic way.

'Teachers are born and not made' is an age-old axiom. Eminent teachers of humanity like Krishna, Buddha, Christ, Nabi, Socrates and others were not trained in teacher

education. But such personalities are very rare in history. We require lakhs of teachers in general, professional and special education. Under this circumstance, they are to be selected very carefully and trained intensively. The necessity for teacher training was recognised from very ancient days. But during the middle-ages there was a deterioration in the quality of teachers because of the social conditions. But with the renaissance and scientific revolution new techniques and tools were used in education. Many of them, historians may claim, are traceable in early period. For example, the Gurukula system which existed in India with individual attention and monitorial system was really a process of selecting future leaders of education. The monitors were often trained to become future teachers. In ancient Greece, teachers trained suitable persons for discharging the duties of teachers for the future. Socrates, Plato and Aristotle are the typical examples.

The quality of education depends upon the efficiency of the teacher. Hence it is often said that the teacher is the pivot of the whole educational system. The quality of the teacher is directly linked with the quality of teacher education.

Training is absolutely necessary to develop required skills and competency for imbibing desirable attitude and love for the profession and to provide the basic knowledge and skills related to pedagogy. National Policy on Education, 1986, gives paramount importance to teacher status and their training. A very important factor of the quality

of teachers depends upon the quality of training received by them. Therefore teacher education has become an essential part of the system of education.

The National Commission Report on Education 1964-66 highlights this aspect. "A sound programme of professional education of teachers is essential for the qualitative improvement of education. Investment in teacher education can yield very rich dividend because the financial resources required are small when measured against the resulting improvement in the education of millions".

The secondary stage of education is of vital importance in any educational system. It is the terminal stage of education for a large number of pupils for preparing higher education and the others for a vocation of their choice. So teacher education for the secondary school is a vital process for the quality of education in general.

"Teacher is the pivot of the whole educational system" and hence the quality of education depends upon the quality of the teacher. The quality of teacher education determines to a large extent, the quality of the teacher. Hence, it is said, "investment in teacher education brings rich dividends in the form of better standards of education."

1.3 COST OF TEACHER EDUCATION

Cost of teacher education can be interpreted in two different ways.They are Private Cost and Social Cost.

1.3.1 PRIVATE COST

Private cost is the cost incurred by the student or his guardian on education. According to Kamat, it includes,

(1) Tuition and other fees

(2) Cost of books, equipments and stationery.

(3) Cost of maintenance, i.e., cost of boarding and lodging, and

(4) Other sundry expenses such as cost of clothing, cost of conveyance and similar miscellaneous items of expenditure.

Sometimes private cost includes opportunity cost also. Opportunity cost is the income of the student forgone in purposing his present education. That is the net income which he would have earned by working or servicing somewhere else instead of getting himself educated. The cost varies at the different levels of education.

1.3.2 DIRECT AND INDIRECT COST

Private cost can also be categorised as Direct Cost and Indirect Cost. Direct cost is again categorised as Academic Cost and Incidental Cost. Expenses which are directly related to instruction are termed as academic cost and expenses which are not directly related to instruction are termed as incidental cost.

Major components of academic costs comprise of pre-admission cost, fees given to college, cost of books and stationery, expenses for project / thesis work, expenses of study tour, and other instructional costs. Incidental costs consist of subscription, travelling expenses, cost of boarding and lodging, expenses for clothing, expenses for entertainments etc. For calculating costs of these items, additional expenditure are taken as the cost of education, since the student would have spent money for these items when he stays at home.

Direct private cost indicates the amount of physical resources spent for receiving education. This does not reflect spending of other resources, viz, sudent's time. The student's time can be allocated either leisure or doing some work and getting reward for that work. Thus , indirect cost of education can be valued either in terms of leisure or work foregone. It is very difficult to estimate the indirect cost in terms of leisure time or opportunity foregone. Hence the valuation of opportunity cost of education has to be done in terms of foregone earnings. *(Kothari & Panchamukhi, 1980)*

1.3.3 NET PRIVATE COST

Net private cost is the amount actually spent by the student or parent for the course. This cost can be estimated by subtracting the contributions made by government or other agencies and individuala by way of scholarships, stipends etc. from the overall expenditure incurred by the student.

1.3.4 INSTITUTIONAL COST

Institutional cost means the expenditure incurred by the government or institution for providing the facilities of education. It is the money spent by the educational institution either from regular budget or from grants and donations. It can be divided into two; (a) recurring costs and (b) non-recurring costs.

1.3.4.1 RECURRING COST

Recurring Cost comprises of components such as

(i) Teaching costs (Total salaries and allowances of teaching staff, Provident fund contributions and insurance premia etc.),

(ii) Administration costs (Total salaries and allowances of non - teaching staff, Provident fund contributions and insurance premia etc.),

(iii) Laboratory costs (Current expenditure on apparatus, chemicals etc.),

(iv) Subsidies (scholarships, stipends, lump-sum-grant, and other financial assistance),

(v) Maintenance costs (Maintenance of buildings, repair of furniture and equipments),

(vi) Library costs (Cost of journals and dailies in libraries),

(vii) Hostel expenses (Salaries and allowances of hostel staff and repair of hostel equipments),

(viii) Cost of conducting games and sports,

(ix) Examination costs

(x) Cost of general direction, and

(xi) Miscellaneous costs.

The Central and State Governments have introduced several scholarships and lump-sum-grants to socially and economically backward students. These amounts received is exempted from repayments, and so, it is treated as costs. Also, some loans are given to these categories of students under subsidised rates of interest. In this case, the difference of interest in normal rates and subsidised rates is treated as costs.

There are two ways for the treatment of library books. Educational insitutions are spending every year on library, and such expenditure is virtually necessary, both from the point of view of the students and teachers. Thus, it is included as recurring costs. Another argument is that the expenditure becomes essential when the knowledge and scope of the subject is increased. So they need not be bought every year. If there is no change in the content of the book, they can be replaced when they are worn out like other capital equipments. So expenditure on books and journal should be included under capital costs.

Hostel expenses are treated in two different ways. One method is, hostels are treated as business enterprise and income and expenditure on this account has been deducted from both sides. Hence, they may be excluded from the cost. Another method is, considering the hostel facilities as essential for running of an institution, and thus, hostel expenses are treated as costs.

1.3.4.2 NON - RECURRING COST

Non-recurring cost consists of capital cost and equipment cost. The main non - recurring costs are value of land, building, furniture, office, laboratory, library, equipments, library books etc.. Large amount of money is spent on the acquisition of assets each year. Such expenditure is treated differently by different economists. One of the methods is to treat the expenditure incurred during the initial year as capital expenditure and the expenditure during the subsequent yearas as current expenditure. Another method is to estimate the input rent which measures the annual value of the amount of capital used up each year by pupils. To calculate the value of used up capital, amortise all capital assets together with interest payment. Such payment may be reckoned in equal annual instalments over the estimated life of the assets concerned. This rental value may be computed by calculating annual

depreciation and interest rates.

1.3.5 NET INSTITUTIONAL COST

Institutions have several income sources which include admission fees, special fees, hostel fees etc.. The net institutional cost can be estimated by deducting the receipts from the expenditure of the institution.

1.3.6 UNIT COST OF TEACHER EDUCATION

Unit cost is defined as the cost of an educational unit. The selection of adeqate unit is difficult in cost analysis. There are three different approaches to calculate Unit Cost. They are:

(i) Cost per pupil enrolled named as normal cost

(ii) Cost per pupil actually attended the college

(iii) Cost per successful pupil as effective cost

Once unit is selected, the cost of education is obtained by dividing the total cost by concerned units.

1.3.7. SOCIAL COST

Social cost or total resource is the measure of what it costs to the society, for educating a student. It shows, how much costs the parent and the government bear in the total resource cost of a student.

1.4. BENEFITS OF TEACHER EDUCATION

Benefits of teacher education may be referred to anything which increases production possibilities, that reduces cost and increases welfare of the community. This can be classified into monetory benefits and non monetory benefits. Monetory benefits refer to the income earned in terms of money unit. The non-monetory benefits of teacher education are those benefits which cannot be expressed in monetory terms. They are helpful in personal growth and growth of the country.

Education and the development of a country are interrelated and interconnected. Natarajan remarks, "There is little progress without education, there is little education with poverty".

The Indian Education Commission (1966) was fully aware of the need to make education growth-oriented and its report itself was entitled 'Education and National Development'. The report says, "In a world based on science and technology, it is education that determines the level of prosperity, welfare and security of the people. On the quality and the number of people passing out of our schools and colleges will depend upon the success in the great enterprise of national reconstruction whose principal objective is to raise the standard of living of our people". Education influences economic development. It alters the attitude to work, consumption, preferences, saving propensity, economic rationality, innovativeness, flexibility, attitude towards family size and various social factors relevant from the economic point of view.

National Policy on Education, 1986 states, "education is an investment in the present and the future". The re-construction of the society and nation comes under the outcomes of education. Growth in Gross National Product (GNP) is another outcome of investment in education. Educational investment leads to increase in productivity. Education increases the level of knowledge and skill of persons engaged in production of materials, food and so on. It enables the human being to get freedom from the social evils and provides certain amount of insurance against exploitation. It helps the removal of casteism.

Investment in education is positively related to women empowerment. It develops spirituality, humanism and scientific outlook. Kothari Commission (1964) states, "the most powerful tool in the process of modernisation is education based on science and technology". Thus the investment in education results in modernisation.

Effective education develops life long learning skills in individuals. It promotes abilities for self-learning, enabling individuals to update their knowledge and skills to keep them fit to the changing circumstances. It helps an individual to get jobs and to get one trained to start business that improves his/her financial conditions and standard of living. Education helps people to become conscious of health hazards. It develops to go through general precautions regarding diseases and measures for family welfare, helps to decrease infant mortality rate and fertility rate of woman and promotes social and national integration by creating positive attitudes towards life and society.

1.4.1 AGE - EDUCATION - EARNING PROFILE

Age - Education - Earning profile is a device used for measuring the benefits of education. It is a profile showing different ages and the corresponding earnings at various levels of education. This method has been accepted by many scholars like Blaug, Nalla Gowdan, Lee Hanson, Goel etc. to explain the influence of education on economic developement. A well behaved Age - Education - Earning - Profile is expected to have the following characteristics.

(i) Earnings are highly correlated with education. Earnings rise at every age with each successive level of education and there is no crossing of profiles.

(ii) The profiles for higher educated individuals are steeper than those of the less educated.

1.4.2 ADJUSTMENT FACTOR - ALPHA FACTOR

Even though age and education are important in determining the earning capacity of workers, they are not the only factors that influence relative earnings. The other determinants of personal earnings are sex, race, native ability, social class background, place of residence, on-the-job training etc.. Hence the entire earnings differential between the more educated and the less educated cannot be attributed to education alone. The method for dealing with earnings-related variables other than education is the process of standardisation.

There are two methods for dealing with the problem. The first method is by applying adjustment factor. The factor popularised among educationalists and economists is **alpha factor** introduced by Blaug (1965). It is the coefficient that could express that portion of the earnings differential, that is directly attributed to education. The second method is regression analysis.

1.5 COST-BENEFIT ANALYSIS

Blaug observes, "Cost-benefit analysis of educational investment begins with cross-tabulations of labour force by age, earnings and educational attainment". The internal rate of returns on investment in education can be calculated as the discount rate which equates the present value of the extra lifetime earnings attributable to a certain amount. When earnings are taken after tax and costs are confined to out of pocket costs and earnings foregone, we obtain the private rate of return. When earnings are taken before tax and all resources costs are taken into account, we obtain the social rate of return. Social rate of return is relevant for the purpose of educational planning.

The cost benefit analysis provides a technique to evaluate a project in terms of its economic objectives. But its use in educational investment is different from that in physical or water resource projects. In the case of water resource projects, cost benefit analysis is applied before the projects are implemented to ascertain their economic efficiency and decide whether to accept or reject the projects. In the case of educational

projects, cost benefit analysis is used as a measure of the extent to which current supplies of educated people represented over or under-invested in the education industry unadjusted for possible future changes in supplies with a view to re-orient the pattern of investment according to the norms set in the future. This enables the planners to structure the educational planning in optional lines.

Cost benefit analysis is a technique for evaluating public investment projects that compete actually or potentially with similar projects in the private sector. It is an attempt to do explicitly what the price mechanism and implicitly to choose investment projects in order to benefit per unit of costs. Cost benefit analysis generally takes the form of calculating an 'internal rate of returns' as investment in education. This means that the discount rate which equates the present value of extra lifetime earnings is attributable to a certain amount or type of additional education with the present value of the cost of extra education. It is an application of the "discounted cash flow technique" to human capital formation and as such is something referred to as "rate of return analysis" of educational investment. By 'costs', it is meant not only the out of pocket costs of students in the form of fees, books and travel, but also the cost of teachers, buildings and equipments that the student may not pay for, but also the earnings forgone by students from being at school rather than at work. When costs are confined to out of pocket costs and earnings foregone and when the earnings attributable to education taken after tax, one speaks of the 'private

rate of return'. When all resources are taken into account and earnings are taken before tax, one speaks of the 'social rate of return'.

1.6 NEED AND SIGNIFICANCE OF THE STUDY

National expenditure on education has been increasing rapidly during the last three decades. At present, "almost every state budget spends approximately 30 percent of its total outlay on education. There are states like Kerala which spends more than 40 percent of their budget on education". This higher budgetary allocation of resources for education is mainly due to the realisation of the fact that investment in education is not less important than investment in physical capital. Our country has reached a stage of its economic and technical development when a major effort must be made to derive the maximum benefit from the assets already created and to ensure that the fruits of change reach all sections. Education is the highway to the goal (New Education Policy, 1986) of development.

Vasant states that the research studies undertaken so far in the field of teacher education can be classified under eight different categories. They are:

(1) Philosophical aspects of teacher education.

(2) Sociological aspects of teacher education.

(3) Student-teacher profile.

(4) Curriculum of pre-service and in-service teacher education.

(5) Methodology and strategies of teacher education.

(6) Physical facilities.

(7) Organisational structure of pre-service and in-service education.

(8) Finance of teacher education.

Of these eight categories, no specific work has been conducted so far relating to finance of teacher education.

Professional Education in Kerala especially Medical, Engineering and Teacher Education is very attractive to the parents and students considering the economic and social benefits that accrue out of them. Besides, the society ascribes high social and economic status to these professions. This has increased the demand for opening more institutions in these sectors during the past decade.

Recently the Government of Kerala started a large number of higher secondary schools all over the state under the government and aided management sectors. A large number of B.Ed degree holders were required for appointment as teachers. Thus the demand for B.Ed Degree course increased.

Calculation of cost and benefit are necessary for any business management. Thus cost-benefit analysis through the internal rate of returns takes into account the cost of education on the one hand and benefits on the other. It will help the planners to set out and evaluate the costs and benefits of investment in education and help to

decide whether or not such investment should be undertaken. Cost-benefit analysis in education determines the efficient allocation of resources in education.

Estimation of profitability of investment made in education by the parents as well as the government is essential. In this study, the investigator made an attempt in this direction. It is expected to unravel the cost-benefit aspects of graduate teacher education in Kerala. The study will benefit educational planners and administrators for effective manpower planning in these courses in the state. The study will also examine the rural-urban disparities in the earnings of teachers and also the intake and outturn of students from rural areas and from backward communities. Hence the study can, in some way, contribute to the process of rural development as well.

The study will also compare the economics of graduate teacher education imparted in government institutions, centres of teacher education established by universities, aided managements, and un-aided managements. It is expected that the results of the study may reveal the details regarding the trend in this field which may serve as guidelines for educational planning.

1.7 STATEMENT OF THE PROBLEM

The present study is an attempt to analyse the ratio of returns on investment in Graduate Teacher Education. This study is entitled **A STUDY OF ECONOMICS OF GRADUATE TEACHER EDUCATION IN KERALA.**

1.8 OBJECTIVES OF THE STUDY

1.8.1 MAJOR OBJECTIVE

Major objective of the study is to estimate the ratio of returns on investment in graduate teacher education in Kerala.

1.8.2 SPECIFIC OBJECTIVES

(1) To estimate the private cost or parental cost of graduate teacher education in Kerala.

(2) To estimate the institutional cost of graduate teacher education in Kerala.

(3) To estimate the social cost of graduate teacher education in Kerala.

(4) To study the pattern of earnings of graduate teachers belonging to various categories by constructing age-education-earning profiles.

(5) To estimate the Private Rate of Returns (Internal rate of returns) of graduate teacher education in Kerala.

(6) To estimate the social rate of returns of graduate teacher education in Kerala.

(7) To find out peak-earnings of graduate teachers in Kerala.

(8) To find out average lifetime earnings of graduate teachers in Kerala.

(9) To compare the cost-benefit analysis of graduate teacher education in Kerala according to government institutions, aided colleges, university centres and unaided colleges.

(10) To analyse the rate of returns of graduate teacher education in Kerala according to the place of residence of respondents.

(11) To study the non-monetary benefits acquired by graduate teachers in Kerala.

(12) To suggest measures for the improvement of graduate teacher education in Kerala.

1.9 DEFINITIONS OF TERMS

A number of key terms used in this study have been defined for precision and clarity. The operational definition of such terms in the context of the study are given below.

Economics:- The meaning of the word "Economics" is different in different contexts. In this study, the word "Economics" is used as the analysis of the ratio of returns on investment. It includes cost, benefit and wastage.

Graduate Teacher:- Teachers who have taken their B.Ed. Degree from any of the Universities in Kerala and have taught from Std.8 to 10 in Govt., Govt. aided, and Govt. recognised schools in Kerala.

Graduate Teacher Education :- Courses recognised by the universities in Kerala for giving B.Ed. Degree.

Kerala:- The State of Kerala is one of the states in India and located at the south-west end of the peninsula.

1.10 LIMITATIONS OF THE STUDY

There are a large number of B.Ed training colleges in Govt., Aided, University centre and Un-aided sector all over Kerala. Out of these, only one of the colleges from each category is taken for study. The data collected from these colleges may affect the institutional cost and thus the findings of this study.

Its is difficult to include all B.Ed colleges in Kerala in the study because the time and resources available are limited.

For private cost, the data is collected through questionnaires. Thus there may be a chance to hide the actual costs and attitude towards non-monetary benefits by the respondents.

1.11 RESUME OF THE REPORT

The report consists of five chapters. An introductory overview of Economics of Education with special reference to B.Ed Degree education is presented in the first chapter. Review of related literature is given in the second chapter. In the third chapter, Methodology used in the study is explained. Chapter Four deals with analysis of data collected. Chapter Five summarises the report and presents findings, suggestions and conclusions.

A STUDY OF THE ECONOMICS OF GRADUATE TEACHER EDUCATION IN KERALA

THESIS

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REVIEW OF RELATED LITERATURE

CHAPTER II

REVIEW OF RELATED LITERATURE

According to Mouly, "the study of related literature is a crucial step which invariably minimises the risk of dead ends, rejected topics, wasted effort, trial and error, activity oriented towards approaches already discarded I by previous investigators and even more important erroneous findings based on a faculty research design". The related study has a vital role in planning and preparing the research materials.

John W Best remarked, "A brief summary of previous researches and the writings of recognised experts provide evidence that the researcher is familiar with what is already known and with what is still unknown and untested".

Review of related literature serves several important functions. Good, Barr and Scates (1954) analyse these function as,

(1) To know whether the evidence already available solves the problem adequately without further investigation, and thus to avoid the risk of duplication.

(2) To provide idea, theories, explanations or hypotheses valuable in formulating the problems.

(3) To suggest methods of research appropriate to the problem.

(4) To locate comparative data useful in the interpretation of results.

(5) To contribute to general scholarship of the investigator.

The investigator referred the Encyclopaedia of Educational Researches, Survey of Educational Researches, various journals, reports, Ph.D. and M.Ed. theses, book, studies in abroad and in India. It is found that there is a considerable amount of research done in India and abroad in the field of economics of educational planning. But there are not many studies related to economics of education in Kerala, and those of a few exist are related to either school education or higher education in general.

The following are some of the studies conducted in Kerala, India and foreign countries which are closely related to the subject under investigation. The review of these and several other studies helped the investigator in the formulation of objectives, methodology etc. of the study.

The investigator divides this chapter under following heads.

They are the studies related to;

(i) The Concept of Economics of Education,

(ii) Human Capital,

(iii) Investment in Education,

(iv) Cost of Education,

(v) Rate of Returns to Education,

(vi) Cost-Benefit Analysis, and

(vii) Education and Economic Development.

2.1 STUDIES RELATED TO THE CONCEPT OF ECONOMICS OF EDUCATION

Blaug (1970) explains economics of education deals fundamentally with the impact of education on such phenomena as the occupational structure of the labour force, recruitment and promotion practices of employers, migration of labour between regions within a country and between different countries, pattern of international trade, size and distribution of personal income, propensity to save out of current income and, most general of all, prospects of economic growth. Education is one type of investment in human beings. People can invest in themselves by spending on medical care, by migrating to more prosperous regions, by purchasing information about job opportunities and career prospects and by choosing jobs with relatively high training content.

Azad and Mukhopadhyaya (1979) have attributed the expenditure on education is an investment. Since investment is highly economic, decision making, system analysis,

planning etc. are dependent on the cost of this investment. This interdependence between education and economics gave birth to a new branch Economics of Education.

According to Natarajan (1990), "Economics of education is one of the youngest branches of Economics. Schultz used the term in 1960 while addressing American Economic Association. The World Year Book on Education (1915) devoted an article on economics of education. During the past two decades, a number of economists showed interest in the economic analysis of education. In 1967, a conference on 'Measurement of Cost Productivity and Efficiency of Education' was held at Jaipur (India) under the auspices of NCERT. The advantages of studying education from the economic angle include;

(a) The synchronising of the education system with social system,

(b) Finding out the priorities in the National Policy on Education and their implementation,

(c) Helping the re-distribution of resources and rearranging priorities,

(d) Promoting needed changes in education and making it socially relevant and economically productive, and

(e) Improving the techniques of education planning and management.

Bhatia and Bhatia (1994) explained that the 'economics of education' makes use of both macro economics and micro economics in studying the general problems of education of a nation or a country and also of individual problems or aspects of problems in a country or state. Microeconomics is a concentrated study of specific problem relating to individual portion of the economy.

2.2 STUDIES RELATED TO HUMAN CAPITAL

The notion of investment in human capital is of recent origin. The development of human resource is strategic policy issue in recent years. In the past, the objective of addition to the stock of physical capital has dominated investment discussion. Now, improvement in the quality of people as productive agents is the central objective of development planning. Studies of economic growth in advanced countries confirm the importance of investment in human capital. The following are some of the studies upon this aspect.

According to Schultz (1961), "Our tax laws everywhere discriminate against human capital. Although the stock of such capital has become large and even though it is obvious that human capital, like other forms of reproducible capital, depreciates, becomes obsolete and entails maintenance, our tax laws are all blind on these matters. Human capital deteriorates when it is idle because unemployment impairs the skills that workers have acquired."

Shaffer (1961) says that human beings should be treated as capital and whether some direct expenditure intended for or resulting in an increase in their productive capacities should be treated as investment in human capital. A substantial part of all expenditure for food, shelter, and clothing, many expenditure for recreation, entertainment, travel and even some expenditure for mere conveniences and luxuries would certainly need to be reclassified as investments to the extent to which they contribute, directly or indirectly, to the enhancement of a person's productivity.

In reply to Shaffer, Schultz (1961) said that the consumption component of education is either for current consumption, satisfying consumer well-being in the present, like food, or for future consumption like houses. Education can also improve the capabilities of people and thus enhance their future earnings. The investment formed by education is, therefore, of two parts: a future consumption component and a future earning component.

Johnson (1964) classified capital as

(1) Capital goods,

(2) Human capital,

(3) Social capital or collective capital, and

(4) Intellectual capital or knowledge.

Gounden and Chaudhari (1965) estimated the net human capital for the nation from 1950-51 to 1960-61 was Rs. 2,378 crores.

Schultz (1972) says that our values and beliefs inhibit us from looking upon human beings as capital good. Human resources should be treated as a form of capital. The differences in earnings are usually explained by the differences in the amount of investment in human capital.

Shah and Srikantaiah (1984) conducted a study on the analysis of the determinants of earnings in the framework of human capital theory of constructing linear and semi-linear functions. The regression analysis of data shows that education and earnings are positively related and a good deal of variations in earnings is explained by education in conjunction with other human capital variables.

Blaug (1987) conducted a study on 'Economic Analysis of Personal Earnings in Thailand'. He explained that theory of human capital rests fundamentally on the idea that people invests in themselves in a variety of ways in the sense that they incur percent cost for the sake of further financial returns. An important manifestation of this phenomenon of self investment is the act of choosing the study in school.

Rajaiah (1987) in his 'Approaches of Human Capital' explained the two terms 'Human Capital' and 'Physical Capital'. Knowledge embodied in a person is like physical capital yields income. Human capital, unlike physical capital, has no observed

market value. Human capital, the service of knowledge and skills embodied in a person is traded in labour markets, technically may be regarded as rental markets. Human capital-knowledge, skills, embodied in human agents of production like physical equipment is to depreciate after a critical age. Depreciation of human capital occur as a result of increased probabilities of death and general deterioration of mental and physical capacities of a person. Acquisition of knowledge or learning, is an embodiment of a portion of existing knowledge. Human capital like physical capital has obsolescence, defined as negative changes in capital values that are functions of chronological time, it occurs because the values of stock of knowledge changes from time to time. Acquisition of knowledge like acquisition of physical property is not free and it acquires the expenditure of resources, money, time and effort. Human capital is growing faster than physical capital.

Meier (1990) explained the importance of investment in human capital. Investment in human beings has been a major source of growth in advanced countries. The negligible amount of human investment in underdeveloped countries has to extent the capacity of people to meet the challenges of accelerated development. An improvement in the quality of 'human factor' is thus an essential investment in physical capital. An advance in knowledge and diffusion of new ideas and objectives are necessary to remove economic backwardness and instil the human abilities and motivation that are more favourable to economic achievement. The direct and

more decisive means to achieve rapid economic development is through the investment in human beings.

Bhatia and Bhatia (1994) explained the term 'Human capital' in their 'the Philosophical and Sociological Foundation of Education'. Human capital represents invaluable resource which mankind may utilise to increase his productivity. Education and health are two important items of expenditure on human capital.

2.3. STUDIES RELATED TO INVESTMENT IN EDUCATION

Education is an important aspect of the level of living for fuller life. Adequate investment in education reflects the economic growth of the country. Many attempts have been made to highlight the importance of investment in education.

Schultz (1961) calculated a figure for the total annual investment in education in the United States from 1900 to 1956 by adding together the possible earned income forgone by those enrolled in schools, colleges and universities and expenditure for formal education of all types. For high school education, this investment in education increased 135 times from $81 million in 1900 to $ 10944 million in 1956. For college and university education the increase was 100 times from $ 90 million in 1900 to $ 9903 million in 1956, all expressed in 1956 figures.

Abromovitz (1956) in his studies on economic contributions of education followed residual approach and concluded that a large part of the explained residual as a return on

investment in skills and related abilities of which a large part was a clear contribution of education.

Williamson (1979) classified the different educational system and compared the relationship between types of investment models of development, content and distribution of education across different societies. He analysed the situational potentialities of four types of societies - Advanced Capitalist (Britain and Federal Republic of Germany), Developed State Socialist (Soviet Union and East Germany), Dependent (Ghana and Tanzania) and underdeveloped (Cuba and China). He argued that the broader problem of development and under-development whether it is political or economical can be eliminated by studies of education.

Tobin (1988), the economist and the Nobel Prize winner at Yale made an analytical study on intellectual capital and the growth rate of intellectual capital by establishing a ratio between a company's market value and replacement value of its physical assets. Thus to him, " we must measure the long shadows of intellectual capital since these invisible assets cast long shadows".

Johnson (1990) made a study about the Mozambican state and education and commented, "In a period of crisis in the economy, the state will be tempted both to save on education and to increase the systems productivity by putting more people through the higher levels with better results on academic examinations".

2.4 STUDIES RELATED TO THE COST OF EDUCATION

The cost of education rises day by day. This is a problem faced by all educational administrators and parents. There is a considerable increase in national income too, finance in education never turns out to be easy for the demands in that field goes on increasing. The following are some of the studies related to this aspects.

Osheimer (1947) in his 'Comprehensive Study on the Relationship of Students' Charges to Financing of Higher Education' concluded, "although it would be economically advantageous for institution to raise student charges, the total enrolment would decline. Students most affected would be those with least ability to afford the higher fees and thus the economic barriers to equality of educational opportunity would be that much greater".

The Year Book of Education (1959) records a study done in Washington on the cost of attending college. Fifteen thousand students of 110 colleges in 41 states formed the sample. It is estimated that during the academic year 1956-57 students spent on an average of $1.493 to attend public institution and $ 2.047 to attend private institutions. Of this $^1/_6$ was for educational costs while $^5/_6$ for the living costs in public institutions, while in the private institutions, this ratio was found to be 1:2. Savings of students (46%), family contributions (40%), scholarships (4.8%), loans (1.5%) etc. are the sources of income.

Vaizey (1958), an authority on the cost of education has remarked, "what is striking however is that the level of the national income over a period of its rate of change is closely associated with changes in the outlay of education. It may be expected, therefore, that whatever occurs to the national income over the next 20 years will be reflected in educational expenditure and that this will be so especially if the national income rises fairly, rapidly and consistently'.

Shukla (1960), conducted a study on the costs of education in basic and non-basic schools in Delhi. The study intends to analyse the exact cost involved in running basic and non-basic schools, to identify the various factors contributing to the cost, determine the relative importance of these factors and to find out which school system was more costly. The study revealed that:

(1) As compared to traditional primary schools, the unit cost of education was slightly higher in junior basic schools. The main reason for this disparity is the difference in the teacher-pupil ratio.

(2) The salary cost of teacher accounted for about 80 to 90 percent of the total per capita cost; and

(3) The average per capita cost estimated to be Rs.68/-and less than half a rupee out of the total was spent for craftwork.

Machlup (1962), measured the cost of various types of education in the United States by including estimates for education in the home (earning forgone by mothers at home to educate their pre-school children) training on the job education, in the church education as well as costs of formal education, special schools, other federal expenses and cost of public libraries. The total cost for the year 1956-57 was computed at over $ 60 million or 12.9 percent of GNP and for 1955-56 were over $ 51 million or 11.8 percent of GNP.

A study on parental cost in education of children in government arts and science colleges for the three year degree in Kerala was made by Pillai (1965). This study considered the problem of educational cost in general. The study revealed that the parental cost for three year degree course was Rs. 4,608/- which is 90.7 percent of the parental income, the average parental income being Rs. 1,536/-. The average annual expenditure of a day scholar was Rs. 1,477/- and a hosteller was Rs. 1,595/-

A similar study was made by Nair (1965) on parental cost in education of high school students. The findings of the study reveal that nature of educational investment, the objective of education and the methodology adopted would be conducive to the proper development of human capacities. Not only the cost factor but the socio-economic and cultural factors also play their role.

Nalla Gounden (1965) revealed that cost of primary education was financed more by the public than by students. In addition, it is mentioned that both the cost and productivity

of education received from better schools and colleges would be higher than those of education from poor ones.

Mathur (1968) conducted a study on cost of education in India for the period 1951-61. The study revealed that the educational expenditure in India rose from Rs. 1144 millions to Rs. 3444 million during the decade 1951-61 giving an average rate of growth of 11.7 percent per annum. The expenditure per pupil increased from Rs. 44.20 to Rs. 71.80.

Datt (1969) worked out the unit cost of education in Haryana colleges in 1965-66 and found that,

(a) Unit cost of education in terms of per student cost of Haryana college was Rs.311-337 for the period under consideration.

(b) The unit cost of education was the highest in the cost of state colleges and was Rs. 403-424.

(c) Private women colleges have the lowest unit cost and it was Rs. 252-268.

The survey made by Kamarov (1971) on the rising trend of government expenditure on education from the October Socialist Revolution 1917 to 1962 revealed that considerable increase was taken place in governmental expenses on education during the period from 1917 to 1962.

Very little effort has been made to know how effectively and efficiently the scarce resources are allocated and used, though the government placed a great leap forward in literacy as well as other educational spending. Coombs (1972) made a case study and emphasised the need for starting an educational institution on the basis of economic rationale. The major findings of the study were;

(1) Educational system as well as institutions have not been cost conscious in a sense of analysing these costs for the purpose of evaluation, planning policy and making general improvement of cost effectiveness.

(2) Even the most respectable universities do not know about where their resources are actually going and with what results.

(3) Educational cost vary not only from one country to another but within one country from one system to another and also within different educational systems.

Bottomely (1972) calculated the economic capital and teaching costs by departments as well as courses of the Baroda university and highlighted the following findings.

(1) Laboratory based courses are more expensive than classroom based courses.

(a) Capital costs vary from 27 to 49 percent of the total costs in laboratory based courses and 31 to 39 percent in classroom based courses.

(b) Teaching costs vary from 34 to 55 percent of the total costs in laboratory course and 22 to 35 percent in latter.

(2) Economic gain may be achieved in teaching costs by increasing enrolment to an optimum level and by changing staff structure by shifting the workload of the teachers partially.

A study on unit capital cost was made by Pandit (1972) for 1955-66 cost studies. The major findings were, capital cost per student at current price was given as Rs.1,565/- for universities and Rs. 70.41 for school level and for all education it amounted to Rs.106.52.

Premi (1975) conducted a study on 'Unit Cost of M.Ed. Training in Punjab University, 1963-64 to 1968-69'. It was found that the unit cost of M.Ed. is substantial. The suggestion was that a few properly staffed centres might be maintained in the country for that level of education. In cost consideration, the age of the institution was an important factor and therefore, should be overlooked. The current cost should be brought down to constant prices.

The main objectives of the study conducted by Prakash (1975) was to examine the major developments in the field of secondary education in Uttar Pradesh, with special reference to financial aspect. With the financial assistance of NCERT, Bose, Banarjee and Mukharjee (1975) conducted a study related to the cost of the elementary

education in West Bengal. The study revealed that the average recurring cost per student on non-teacher item was not much and had not shown any remarkable increase over the years. This investment on elementary education in West Bengal was found to be unsatisfactory.

Nanjudappa (1976) reveals that there was a growing gap between the cost of higher education and fees charged and also there is a severe maladjustment between output of the university and the needs of the economy.

Malaiya (1977) conducted a study on Secondary School Finance in Madhya Pradesh. He found that the increase of total expenditure was found to be 49.8% during the five years for all types of schools. The per capita cost in local bodies and private higher secondary schools was less than that of government higher secondary schools.

Lakdawala and Shah (1978) have studied the cost of education for school and college education in Gujarat state. The major findings of the study were:

(1) Training in professional courses like Engineering, Medicine and Education is costlier than in Arts, Science, Commerce and Law. Art and Science courses are costlier than Commerce and Law.

(2) The 'size-cost' relationship evaluated by fitting a second degree curve for arts and commerce colleges has yielded a 'u' shaped cost curve indicating a

tendency of average cost declines with the increase in enrolment till it reaches the optimum size. After that it starts increasing.

(3) Size, use and pupil-teacher ratio are the three determinants of the cost of education.

Ramanujan, Raghavan, Bolar and Bhatt (1979) conducted a study on educational institution in Jammu and Kashmir. They found that;

(1) At the middle school level the average per student recurring cost was Rs. 232/- of which 84.9 percent was accounted for salaries and allowances of the teaching staff.

(2) The per student cost estimated in respect of high/higher secondary level school education in the state was Rs.270-280.

(3) For all the undergraduate level in arts and science, the cost per student was Rs.382/- and Rs.575/- respectively.

Somaiah (1980) assessed the effective cost of education in Karnataka for the period 1974-79. The investigator defined the effective cost as the number of years spent per pupil for completing a given number of classes in schooling. The study revealed that there was a tremendous decrease in the effective cost within the period under study. The effective cost of girl's education was higher than that of boys.

A pioneer attempt was made by Sharma (1980) in his book, 'Institutional Cost of University Education in India' has studied the cost and efficiency of the university system in India. The study was conducted on the basis of teaching inputs, students' services, administration and supporting services. The study emphasised that experience of administrative and supporting services accounts for more than the experience of teaching inputs. A repeated enquiry on the distribution of public expenditure on social services in West Bengal was conducted by Maitra (1981), for making a comparison between the present situation and the situation that prevailed ten years ago in terms of the distribution of benefits of the two important public services viz., education and health among the various sections of the population. The investigator found that;

(1) There was some improvement in real consumption expenditure during the period between the two surveys in both rural and urban areas.

(2) Total number of students as well as percentage of enrolment appeared to have increased at all levels.

(3) Public distribution seemed to do satisfactory for urban areas.

Gupta (1982) conducted a study to measure the private cost of schooling girls at the elementary stage. He found that;

(1) Girls studying from Std I to VIII under different management were required to pay different amounts of fee and funds annually.

(2) The average cost per pupil from std I to VIII ranged between Rs. 19.19 and Rs. 33.29.

(3) The cost of books per pupil in different standards also differed from school to school.

A good deal of resources are invested in higher education but how these resources are utilised and what is the unit cost of providing graduate education have not been fully analysed. Sharma (1982) examined the functioning of a college, utilisation of resources by it and the unit cost of providing collegiate education by subjects and courses of studies. The study also focused on the productivity of the institution as a whole.

The study of private cost on school education in a socio-cultural perspective of an artificial village was conducted by Xaviour.(1983). The major findings of the study were: average annual private cost of attentive families for their lower primary students is found Rs. 123.97. It was also found that nearly 75% of the private cost on education constitute for clothing. In addition, socio-cultural factors, especially the social set up of the village have a vital influence on the standard of education of the children.

Rodriguez (1984) conducted a study on the opportunity cost of school education in a coastal area in the then existing socio-cultural and development perspective. The study revealed that;

(1) Opportunity cost of education for children studying in class I to IV was Rs. 148.44, Rs 241.12 for children studying in classes V to VII and Rs. 384/- for children studying in classes VIII to X in a year.

(2) Education has no significant influence on the earnings of the people.

(3) The real opportunity cost is Rs. 773.56 and the partial opportunity cost is Rs. 529.92. The real opportunity cost is higher than the partial because in partial opportunity cost, children earn a little amount through part time job.

(4) The private cost incurred by the parents for the education of their wards is found to be far below the minimum required.

Mathew (1987) conducted a study on the cost analysis of education in rural area. He found that the average annual private cost of a 1st standard student in the village is Rs. 745.68, that of the 2nd standard student is Rs. 753.91, 3rd standard student is 602.36, 4th standard student is Rs. 511.28, 5th standard student is Rs. 837.50, 6th standard student is Rs. 866.30, 7th standard student is Rs. 801.76, 8th standard student is Rs. 811.80, 9th standard student is Rs. 922.76, 10th standard student is Rs. 1058.58 and Pre-degree student is Rs. 1880.19.

Martin Carnoy and Carols Alberto Tomes (1990) analysed the system of education and social transformation in Nicaragua 1979-89 and revealed the fact that much of the increase in spending per student is related to; the shift from relatively low per student costs in economics, science and humanities and low to the relatively expensive fields of physical sciences, technology and medicine.

Educational experts and economists have indulged in assessing the systematic global data on the growth of private expenditure on formal education. They suggest that the global ratio of private to public expenditure on formal education allowing the fact that in many countries, Private schools are sometimes heavily subsidised from public funds - probably lies between 10-15 percent. The different trends in regard to the share of public expenditure on formal education in GNP in underdeveloping and developing countries were different due to the changing priorities in public expenditure. An analysis of UNESCO (1991) on public expenditure on education in 90 countries shows the overall share of teachers' enrolment in total public current expenditure on education to be around two third. These additional enrolment and rising salaries have tended to drive up the share of GNP developed to education, especially in the developing countries.

The expenditure pattern of students depends to a great extent on parental income which in turn is determined by their occupation. A pilot study on the expenditure pattern of college students conducted by the Department of Economics and Statistics,

Trivandrum (1992) reveals that the salary income from Government employment is the main source of income for 51.80 percent students' house holds. It is significant to note that only in 3.40 percent of the students' households main income is from agriculture, about 38 percent of the total workers in Kerala according to 1991 census either are cultivators or agricultural labourers. Kerala's share for education is Rs. 700 crores per annum which constitute 30 percent of the total government expenditure. The per capita government expenditure in Kerala which was Rs. 85/- in 1980-81 increased to Rs. 190/- during 1989-90 compared to the all India average of only Rs. 175/-. The other findings of the study were;

(1) The expenditure is the highest for pre-degree science students due to enormous spending on private tuition.

(2) The average annual expenditure for male students in the Arts group of degree course is 60% more than that of female students and this is due to the high amount spent for food and beverages.

(3) The hostel inmates' expenditure is much high and this may be due to the fact that most of them come from comparatively different families.

(4) Item-wise analysis reveals that 22 percent is being spent on clothing and 18 percent for tuition.

Male students spent more for tuition because they are irregular in classes. Philip (1992) conducted a study on 'Cost Analysis in Higher Education in the state of Kerala'. The major findings of his study were;

(1) The major trend in the expenditure is that the percent of total plan expenditure has been gradually dividing during each successive plan period. At the same time, the total expenditure on education has more than doubled.

(2) The per capita expenditure on education has increased in almost all states of the Indian Union.

(3) The educational activities were largely financed by the government.

2.5 STUDIES RELATED TO RETURNS ON EDUCATION

Education is an important aspect of level of living for fuller life. Adequate investment in education is reflected in the economic growth of countries. Many attempts have been made to highlight the importance of investment in education and the corresponding returns. Some of these works are the following.

Blaug (1970) anticipated that people with more education earn an average higher income than people with less education. He argues that costs incurred by individuals in acquiring more education constitute an investment in their own future earning capacity. According to him, "investment in education accelerates economic growth".

Datta (1974) studied the size and location of colleges of West Bengal and the relative importance of students' input and environment on output and emphasised that the only variable which has important effect on output is the student input. Again colleges can produce better output with better input instead of better environment.

Hoselitz (1965) supplemented this argument that 'although some returns from investment in education may be expected at all stages of economic development, investment in educational facilities may produce much lower returns at certain earlier stage of economic growth than the application of equal amounts of investment in other forms of capital. Thus the development of roads and power stations may yield higher returns in terms of economic development than an equal investment in education.

In a comparative study, Withamson (1979) found out the economics of scale and returns to education. According to him, "Economics with a well-developed infrastructure of social provision and a firm economic base in modern manufacturing methods and mass market ... can call upon vast economic resources to further improve their social facilities. A strong economics may be necessary condition for development to take place but it is by no means a sufficient one".

In a study, Tilak (1980) discovered that those with higher levels of education earn more at every stage than those with less education. The difference grow larger and larger as one moves up the educational ladder and also with the advance of age. There

could be large social returns to investment in the education of women provided that effective measures to impose their participation in the labour force and to reduce wastage in their education are adopted.

Nair (1980) conducted a study on 'Education in Kerala and Development of Human Resources' on a sample of 318 teachers, 45 educationalists other than teachers, 45 industrialists and 100 student leaders using a questionnaire and conducting personal interviews. The study shows that industrialists, educationalists and student leaders view self -employment as an important objective. Its prevalence is very low, in the system of education in Kerala. Teachers in Kerala have not yet accepted self employment as an important objective. Lack of proper guidance and placement, neglect of backward children, absence of diversified courses, education not related to community needs and system not linked with local crafts and industries are the main drawbacks of the present system in reaching the prescribed educational objectives.

In his study 'The Ideology of Work', Antony (1980) revealed that whatever meaning work held in the past is likely to be permanent by lost. Now industrialisation uprooted the relationship between humans and their community. The study proved that skill is an important factor to determine the level of economic activity.

Nair (1981) conducted a research study on the development of education in Kerala especially during the British period. The investigation was mainly based on factor

operative in the princely state of Travancore and Cochin in comparison with those in British India as a whole. The major findings of the study were the distinguished features of educational system and the socio-economic changes in Kerala. The structure of education in Kerala appear vastly different from that of other states. This reflects great emphasis on mass literacy, female education and controlled expansion of higher stages of education. The investigator puts forth the indirect benefit of education on the economic and social life of the people especially, the people of weaker section.

Mary (1983) has investigated the returns to education and brought forth a vital issue that remarkable variations are noted in the earnings of people who receive higher education. But weaker sections of the society have got a little advance education. The study emphasised that large scale investment is to be promoted again, the vocational education has to be accentuated panacea for solving the employment problem.

Suresh and Joseph (1990) conducted a study on co-operative and rural development in India with special reference to Kerala. The main purpose of the study was to assess the rural progress. They found out that about 58 percent of rural population and 70 percent of urban population have protected drinking water. Even though Kerala is one of the smallest states in India with 1.8 percent area and 3.72 percent of population in the country, 1833 government medical institutes, 2243 schools and

218 colleges are located in the state. The registered working factories were 10362 and small scale units were 31499. The level of unemployment in 1990 was 3.8 million.

Shereefudeen (1991) conducted a study on the 'effect of education on economic conditions of workers on the coir sector'. The findings revealed that more educated are more advantageous in terms of better earning. In addition, the more educated are found earning their highest at the early age.

Kunju (1991) conducted a study on the 'effect of education on economic condition of workers in the cashew sector'. It was found that earning of different categories differed according to the change in their age and level of education. The age-education-earning profiles show that the earning of the people increases in accordance with increase in the education of people.

2.6 STUDIES RELATED TO RATE OF RETURNS TO EDUCATION

Various studies on the rate of returns to education do not yield uniform results due to difference in coverage, reference period, nature and size of data and more particularly due to differences in methodology applied.

Backer (1960) of Columbia University had conducted studies of returns to education as a part of research programme of the National Bureau of Economics Research, Columbia. The study revealed that the returns as total high school costs in 1939

was estimated as 14.3 percent and foreign earning as 19.2 percent after adjusting the economic data for mortality and unemployment.

Ogilvy (1963) conducted a study on the returns to education in New Zealand. The basis of the study was starting salaries in various states and quasi state enterprises together with the assumption that they increase at the rate of 11 percent per year over the working life of the individual. The rates of returns were given separately for males and females. The average social rate to secondary schooling was 19.4 percent and the private rate was 20 percent. A university degree yielded a 13.2 percent social rate and 14.7 percent private rate.

In a study Carnoy (1964) on a cross-section sample of 4000 male wage earners, collected data on the wage or salary of the employees, the number of completed years of schooling, age, father's occupation, the type of industry in which employed and the city residence. The result of the regression showed that when schooling was used as an explanatory variable of income, 43 percent of the income variance was explained. When age was added as an independent variable, the schooling explanatory power dropped to 26 percent and when other variables like age, city, father's occupation, industry and attendance were added, schooling explained only 29 percent of the income variance. Yet schooling was found to be a largest single determinant of income differences. These earning functions permitted the construction of age-earning profiles with or without standardisation of the variables

mentioned. Both private and social rates of returns were estimated in terms of standardised rates, private rate ranged from 21.1 percent for 3 years of schooling to 36.7 percent for 15 years of schooling. The corresponding social rates of return ranged from 17.3 percent to 29.5 percent.

Henderson (1965) conducted a study on a random sample of 6500 male heads of households aged 20 years or more in Great Britain. Although median income was originally tabulated, subsequent adjustment provided mean earnings by terminal education and age. An alpha coefficient of 0.6 was applied on the earning streams which refers to 1964. The private and social rates of returns to the 3 years of secondary education were found to be very close (13 percent and 12.5 percent respectively) but the private rate of returns to these years of higher education (14%) was substantially above the social rate of returns (6.5%).

Blaug (1965) conducted a study for Great Britain on a sample of about 2800 male employees in five large firms. Private and social rates of returns were calculated for various educational qualifications above school leaving age. The private rate of returns to a pass or ordinary university degree was equal to 3.5 percent where the social rate was 6 percent.

Kothari (1967) estimated the rates of return from Bombay city survey data. The social data of returns were 20 percent for high school over middle school and 13 percent

for college over high school. His study also estimated social returns for arts and science graduates as 13 percent and 25 percent for engineering graduates. The study also revealed that education develops the human resources by increasing the productive capacity in individuals. If the productive capacity in an individual is not enhanced by education, the education imparted is to be considered as a waste and human resource underdeveloped. This necessitates a close examination of the impact of education on agricultural productivity.

Schultz's (1968) study was based on a rather small sample of urban labour force in Bogota in 1965. The sample included 684 men and 316 women ten years old or over. Earning functions were estimated separately for men and women. The independent variable of these earning functions were schooling, age, years of residence in Bogota and other sources of family income. The third variable was included in order to attach the effects of earnings of the number of years of residence in urban setting. The inclusion of fourth variable rests on the hypothesis that the more income is earned by himself. Schultz estimated the private rates of return based on adjusted earnings for men, as over 18.4 percent for primary schooling, 34.4 percent for secondary schooling and 4.4 percent for university education. The corresponding social rates of returns were 15.3 percent, 26.5 percent and 2.9 percent respectively. The highest rate of return estimated was for vocational secondary schooling (52 % private and 36.4 % social).

Blaug (1969) estimated the rate of returns to investment in education in India. The earnings data for this study was same as the one used by Nalla Gounden plus a sample of 20,000 employees in various factories. Adjustments were made for unemployment, wastage, income growth, taxes and other factors, influencing earnings (alpha coefficient). The private rate of returns adjusted for wastage, unemployment, other factor (alpha = 0.65) and growth (2 % per year) were found to be 18.7 percent for primary, 10.4 percent for first degree (over matriculation) and 15.5 percent for an engineering degree. The corresponding social rates were 15.2 percent, 8.9 percent and 12.5 percent respectively.

Panchamukhi and Panchamukhi (1969) estimated the rates of returns raising the coefficient of marginal contribution, annual returns of all type of education and rate of these returns to the direct cost of education.

Pascharapolous (1969) estimated the rate of returns to investment in education in Hawaii based on the reports of 1960 census of the population and the starting salary of officers of the University of Hawaii graduates. The private rates of return for elementary schooling had, of course, an infinite value, High school yielded a private rate of 51 percent and college 11 percent. The social rates of returns for the three levels were 21 percent, 4.4 percent and 9.2 pereent respectively. In 1965, the private returns to Master's degree was 6.7 percent and to Doctorate 12 percent.

Carnoy (1970) using special tabulation from the 1960 population census of Puerto Rico, provided rates of returns estimated for males and females in urban-rural areas. The private rate adjusted for labour force participation for males were over 100 percent for primary, 26.4 percent for secondary and 23 percent for higher education. The corresponding social rates were 19.8 percent, 20.1 percent and 11.9 percent respectively.

Chaudhari and Rao (1970) estimated marginal private and social rates of return to higher education of Delhi University students with alternative assumption about forgone earnings. They concluded that the demand for higher education reflected 'pressure for a slice in the higher subsidy' at the higher level.

Howlett (1970) estimated both private and social rates of returns for 1962 from a survey of 1200 male and female employees of Brazil in urban and rural areas. The private rates which were based on the assumption of zero direct cost of schooling were as follows: 11.3 percent for primary, 22.2 percent for the first cycle of secondary, 20.5 percent for the second cycle of secondary and 38.1 percent for higher education. The corresponding social rates were 10.7 percent, 17 percent and 14.5 percent respectively.

The internal rates of returns is commonly used approaches in educational investment studies. Pscharapoulos (1973) in synthesising the findings of 53 studies in 32 countries, found that both private and social returns of education were generally

higher than the returns to investment in physical capital. The per capita income differences among countries can be better explained in the difference in the endowments of human rather than physical capital.

Shortlidge (1973) applied the rates of returns technique to agricultural education of Govind Ballabh Pant University of Agriculture and Technology. He also computed the rate of returns to the university training for Grama Sevakas- vis-a-vis the agricultural graduates by adjusting mortality and ability and the education coefficient was assumed at 0.6.

Tilak (1980) estimated the private and social rates of returns (both marginal and average) to various levels of education from literacy to higher, general and professional levels of sex and caste groups in West Godavari district of Andra Pradesh. He made adjustment for several factors like wastage and stagnation, ability, economic growth, unemployment, labour force participation, mortality and so on.

Daniel (1988) estimated the internal rate of returns to secondary education in Pathanamthitta District. The private rate of returns is found to be 15.08 percent.

Natarajan (1990) explained the term rate of returns in his book 'Introduction to Economics of Education'. "Returns are expected from investment whether it is in physical capital or in education". In some countries, the rate of returns for education is higher than current bank rates on large term deposit. Educational investments are made by

individuals and families with an aim on future earnings. Not only for the expenses for education are regained but many times over the initial investment are also enjoyed during one's career. People with higher qualifications enter the job market on a later age but their initial salary earning differentials raise steadily. This age-earning profiles differentiate several levels in the hierarchy.

Daniel (1996) in another study, estimated the internal rate of returns to University Education in Pathanamthitta District. The rates of private returns to the education of general graduates and postgraduates are found to be 13.15 percent and 11.93 percent respectively.

2.7 STUDIES RELATED TO COST-BENEFIT ANALYSIS

Singh (1967) made an analysis of some aspects of higher secondary school costs and their relationship to quality of education. The sample consisted of government higher secondary schools (boys) in urban areas in Delhi and New Delhi. The study concluded that the unit-pupil cost is sufficiently stable within a school over a given period. It was also found that there is no correlation between the unit pupil costs and quality of education as revealed by scholastic achievement in school final examination.

Thias and Carnoy (1969) attempted to isolate the benefit of additional schooling from other socio-economic factors and ability to project the rate of return to the future.

The data relating to Kenya was based on a special survey of about 1800 observations. Regression analysis was used to relate the earning differentials to educational variables (age, tribe, parents, literacy and father's occupation) and specific job (size and variables, nature of firm employing the wage earner, the job level and whether they had received on-the-job training). Adjustments were also made for unemployment, mortality and taxation. Private rates were not correlated for life expectancy. The various adjustments in this study suggested values of the coefficient ranging from around 0.30 percent for secondary and 27.4 percent for university education.

Smith (1970) calculated benefit-cost ratio for courses in technical colleges for 1964-65. His sample consisted of 500 men who were almost exclusively employed by large private companies. The forgone earnings of the control group were based on earnings in agriculture increased by reference to the average weekly earnings of manual workers in manufacturing. The earning differentials were standardised for mortality, unemployment and geographical region. Alpha coefficient of 0.50, 0.65 and 0.80 were used and various growth factors were adopted.

The study conducted by Alenjandron (1984) was concerned with critical review of education, cost benefit analysis with determining the marginal and average private and social rate of return to schooling in Mexico. The major findings of the study were:

(1) Earnings are highly correlated with schooling

(2) With regard to educational costs, social cost is much greater than private cost, and

(3) The private rate of returns range from 0.485 for elementary education to 0.190 for higher education and social rates from 0.246 to 0.142 for the same levels.

Harris (1984) conducted a study on the benefits and costs of the vocational training school at Mississippi State. Benefits and costs are investigated from the separate perspectives of the individual. The study focussed upon an increase in the earnings as a benefit of schooling. An important aspect of the study was the development of a model to estimate benefit. This model includes, variables typically found in wage estimation equation. The paper by Rajagopal (1984) explains the general features of the Indian family welfare programme and attempts to evaluate with the help of the technique benefit - cost analysis. It reveals that the benefits are not increasing corresponding to the growth in expenditure. The analysis had projected that the benefits will slightly increase to 11.31 by 1990-91, but again gradually decline to 8.75 by 2001.

The main purpose of the study conducted by Kourslsky and Graff (1986) was to ascertain whether the use of cost benefit analysis by children tends to be age-related, a

function of institutional mediation, both or neither. The major results indicated that children as they get older seems to have both a better understanding of cost benefit analysis and a tendency to involve such measuring on everyday decision making. Also participation in institutional programme, mini society appears to produce both a greater understanding to and productivity to utilise cost benefit analysis.

Harikumar (1986) conducted a study on cost benefit analysis of Mathematics Education in the University of Kerala. The sample consisted of 25 teachers and students. The method adopted was normal survey. The study revealed that the private rate of returns to mathematics at B.Sc.; B.Sc.- B.Ed.; and M.Sc. levels were 10.20, 17.7 and 38.6 percent respectively. There is a positive correlation between age, education and earnings. The average period of waiting for mathematics teachers at B.Sc.; B.Sc.- B.Ed.; and M.Sc. levels were 2 years, 3 years and 4 years respectively. Mathew (1987) conducted a study on Cost-Benefit Analysis of education in a rural area- a study of Chunakkara village. The study revealed that the private rate of returns of SSLC, graduation and post-graduation were 15.10 percent, 12.15 percent, and 13.83 percent respectively. The period of waiting of SSLC groups extends to 7 years, 9 years in the case of graduates and 5 years in the case of postgraduates. The study also emphasised that there is a significant difference in the socio-economic status of the various educational categories when compared, except in the case of graduation and post-graduation.

Abraham (1996) conducted a study on the economics of education in a rural area- a micro level study of Marakkulam area of Kalluvathukkal panchayat in Kollam district. The study revealed that there was a high positive correlation shown between the education level of parents and their children (r = +0.88). Comparison of the means of the educational level scores of parents and their children showed a critical ratio of 0.88. Hence the educational level scores of children more than favourably compared with those of their parents. The relation between annual family income and annual expenditure on education is marked or substantial and it is negative (r= -0.412). The average private cost of education at various levels of education, i.e., at school level each family spent on education was Rs. 2390/-, college level was Rs. 4933/- and professional level Rs. 18,278/-.

Cini (1999) made a study on cost-benefit analysis of art education in Thiruvananthapuram district. The major findings of the study were, 50 percent of the private cost for arts education at different level was spent on college fee, books etc., 33 percent on tuition costs, 9 percent on personal costs and the remaining 8 percent on other costs. With regard to arts education at postgraduate level, 60.43 percent was found to be spent in college fee, books etc., 16.72 percent on tuition, 11.70 percent on other costs and 11.15 percent on personal cost. The private cost of returns to arts education at BA level was 70.4 percent and MA level was found to be 97.5 percent. The average period of waiting for a BA degree holder is found to be 3 years and

MA degree holder 5 years. The Age-Education-Earning profile constructed for the study revealed that there exists a positive correlation between age, education and earning.

2.8 STUDIES RELATED TO EDUCATION AND ECONOMIC DEVELOPMENT

Bowman and Anderson (1950) compared the literacy rate with the per capita income of 83 countries. The obvious inference is that 40 percent literacy is the absolute minimum to cross the economic barrier. They also found that literacy followed the industrial revolution in England, whereas in developing countries, literacy was instrumental for industrial revolution.

Abramovitz (1956) in his studies on economic contribution of education followed residual approach and concluded that a large part of explained residual as a returns on investment in skills and related abilities of which a large part was a clear contribution of education.

Dension used the residual factor approach to find out the contribution of education to economic growth in USA by using the Cobb Douglass production function. He separated the contribution of the factors of production (land, labour, capital) and arrived at the residual factor for the period 1927 to 1957. Average growth rate was 2.93 percent and residue was 2.01 percent (roughly two -thirds) attributed to advance in knowledge.

Dension was also interested in finding out the impact of educational qualification on the salary of workers in the organised sector. He found in the long run that mean educational qualifications were steadily rising. In 1910, only 5.9 percent of workers had studied up to VIII standard and in 1961, it rose to 21.2 percent. Salary increase was more than proportionate to additional duration of study.

In another study covering the period 1960-80, he calculated an increase of 3.3 percent per annum in the National Income of USA. He worked out the contribution of education (without taking into account research and development) at 18 percent.

The study conducted by Soups (1959) gave rather extreme results particularly at primary level where using illiterate agricultural workers as the base group, the rate of returns was estimated at 130 percent, when the earnings of illiterate urban workers were used as the control group, the rate dropped to 82 percent which is still a very high figure, by any standard. The rate of returns on secondary education was equal to 17 percent and the rate for university graduate was equal to 23 percent.

Rao (1961) conducted a case study of Delhi University graduates and found that 33 percent of those who graduated in 1950 and 7.2 percent of those who graduated in 1954 were still unemployed. Of those employed, $^1/_4$ of the 1950 graduates and 1954 graduates were found working as clerks. It has to be noted that the Delhi university draw students of a fairly high quality and its alumni have an academic edge over those of a number of other universities in the country.

Schultz (1961) analysed the relation between expenditure on education and income in the United States for the period from 1900 to 1956 and demonstrated that the resources allotted to education rose about thrice and a half times (a) relative to consumer income in dollars (b) relative to the gross formation of physical capital in dollars.

Harbison and Myers (1966) attempted simple correlation among indices of human resource development, proportion of population in selected countries and the national income in a cross-sectional study of 75 countries of different stages of economic development and found a positive correlation of 0.88 between per capital GNP and a composite index made up of secondary and college level enrolment ratios.

Harbeger (1965) conducted a case study of India as investment in men versus investment in machines. He used a sample survey covering the earnings of about 5800 male workers in Hyderabad in 1956. As these earnings data were not classified by age, he had to use certain assumptions about the distribution of the average earnings over the working life time. The social ratios were based on the assumption that the direct costs of education were equal to 50 percent of the foreign earnings, 10 percent for secondary education.

A study was conducted by Nalla Gounden (1965) on education and economic development, a study in human capital formation and its role in economic

development in India during 1950-51 to 1960-61. The study attempted to analyse the contribution of education to India's economic growth during the brief period of 10 years.

The study revealed the following facts:

(1) The cost of primary education was financed more by the public than by the students.

(2) Gross investment in education and physical facilities in education as percentage of adjusted national income was 8.9.

(3) Gross investment on education formed 44.1 percent of gross capital formation.

(4) The internal rate of returns of collegiate education compared with matriculation was between 7 and 8 percent.

(5) The rate of returns to education was 15.9 percent for literates, 15.3 percent for primary and middle, 12.1 percent for matriculation, 8.9 percent for degree and 9.6 percent for professional degrees.

A research study was conducted by Kakkar (1967) on worker education in India with a view to find out how far education contributed to increase the productive capacity of workers. The conclusion of the study is that worker's education in bringing about a

change is the responsibility of the trade unions. For improving a scheme of workers' education, the need is that central board of workers' education, the employer, the trade union, the universities and the workers individually have to put in comparative and collective effort.

Rajaiah (1967) has made an extensive survey of primary education in Andhra Pradesh. The study covered three major groups as :

(1) educational training

(2) education and productivity, and

(3) costs of education.

The study aimed at establishing the possible relationship between expenditure on primary education and other economic variables like national domestic product, literacy rate and productivity in agriculture. The study revealed that cost of primary schooling is relatively high in countries with less income. The trend in the enrolement appeared to indicate progress of primary education in the state. The average growth rate in he enrolment of girls during the period 1956-57 to 1978-79 was 3.62 percent. There is a strong correlation between the outputs of primary schools and literacy rate.

An empirical research study conducted by Strumilin (1967) in USSR into the relative influence upon the skill level of a group of Leningrad workers in the mental trades of age and length of work experience, formal education and on the job training. His

findings were: even a single literacy (achieved after one year of instruction) raised the productivity of labour workers by 30 percent on the average. While a year on the job experience of illiterate leather workers raised their qualification and output by no more than 12 to 16 percent per year. Moreover, he estimated the returns from investment in primary and secondary education. The labour productivity of the person having 4 years of schooling exceeds that of illiterate person by 43 percent the labour productivity of persons having secondary education by 108 percent and of persons having university education by 330 percent respectively.

Chaudhri (1968) conducted a study on 'Education and Agricultural productivity in India'. The study provided the distinction between the allocative and workers effect on education among the farm workers in the agricultural sector. The empirical part of the investigation relates to cross section data for the year 1958 to 1961 for the Indians. Agricultural sector at different levels of aggregation using inter household, inter village, inter district data showed that the level of agricultural productivity is significantly related to the level of education in Indian agriculture for the cross section of the data examined.

In a particular study, Banks (1968) warned that effective steps have to be made to counter imbalances of economic growth. "Educational expansion which outstrips occupational needs and results in education devaluation". He has remarked that

devaluation occurs where investment in education has outstripped the comparatively limited growth in the economy.

Bowman and Anderson (1968) carried out a research study in United States in human capital in 1963. The study is based on simple cross tabulation of literacy rates vis-a-vis per capita incomes. The conclusions of the study were:

(1) an apparent threshold effect of something like 40 percent adult literacy as a necessary, but not sufficient conditions of economic emergence.

(2) negligible income effects of proportion of the adult population with secondary schooling were taken into account (excepting countries with over 90 percent literates).

In 'Education in Developing Areas', Adams and Bjork (1969) made an effort to qualify the relation of education to economic, political and other aspects of development. According to Adams and Bjork, development in an educational process whereby people learn to understand and alter constructively their relations to their natural and social environments. The study is meant to survey some aspects of education in the progress of society. Major conclusions of this study are unless the formal education related to life is imparted to the masses of people in the vast stretches of the world now labelled underdeveloped, no one can eradicate the problem of backward, especially the poor people in the underdeveloped countries.

Peasler (1969) conducted a study to economic growth. He found that in the last one hundred years, significant economic growth has been achieved only in those countries in which a high proportion of the total population is found in primary schools. To prove this hypothesis, he has taken the example of various countries. Out of it India... show less result in the case of primary school enrolment. If in India much more emphasis were given to primary education, the outlook will be considerably better.

A survey was conducted by Komarov (1971) as the rising trend of government expenditure on education from the October Socialist Revolution (1917) to 1962 and he came to the conclusion that improvement in education and cultural and technical level of workers affect the national economy and such improvement have the effect of raising wages and real income and enable the workers and their family to enjoy a higher standard of living.

Singh (1972) after reviewing both the progress of education and economic growth in Punjab tried to find out a relation between the two. The findings revealed that with 33 percent literacy, Punjab ranked 5th among the states of India in 1971. Female literacy grew by 48 percent during 1961-71, the second highest rate in the country. At the primary stage, the proportion of school going children who actually attended schools showed a decline in spite of increased total enrolment, the rate of decline being 1.8 percent per annum between 1966-67 and 1970-71. At the highest school

levels, the annual rate of increase of enrolment showed an upward trend. The college level education was found biased towards general education and within the field of general education towards arts. On the expenditure side, the total educational expenditure by the government increased, though the rate of increase indicated a downward trend.

Curle (1972) in his study tried to find out the relation between education and economic growth for which he constructed a sample of 57 countries and he collected variety of economics, educational and practical data around the year 1958. He collected data regarding domestic fixed capital formation as a percentage of GNP, profile expenditure on education as the percentage of national income, the infant mortality rate etc.. High rank order correlates were found between educational expenditure as a proportion to national income on the one hand and both per capital GNP and post primary enrolment on the other. Likewise, there was high correlation between rank order of domestic savings and post primary enrolment. But no significant correlation was found even at the 5 percent level on any of the two educational variables and economic growth in the previous years.

Dholakia (1974) estimated the relative contribution of education to economic growth of India for the period 1948-49 to 1968-69 as 6.79 percent. The absolute contribution for the same period was estimated as 0.22 percent. The output per unit for economics of scale for the period was found to be 37.6 percent.

In another study, Chaudhri (1974) examined various components of educational impact in the agricultural sector and the details of the effects of farmers' education on their ability for innovations and allocations.

Pandey (1976) conducted a study to evaluate the precise contribution of education to the development of Nepal. The scope of the study was limited to higher education only. The investigator found that:

(1) the cost of higher education in Nepal was heavily subsidised in comparison with the cost in India and other countries.

(2) the earning patterns of educated people in Nepal varied from sector to sector.

(3) all age-earning profiles (social and private) held the general characteristics with few exceptions.

(4) the effect of education on the earnings of the educated in Nepal increased as one moved to higher and higher levels of education.

The purpose of the study conducted by Nair (1978) on 'Education and Economic Development in Kerala' was to understand the socio-economic factors that act favourably on the process of educational development. The main conclusions of the study were:

(1) the existence of favourable socio-economic environment contributed to the progress of education in Trivandrum and expansion of primary education particularly.

(2) educational expansion and consequent social, cultural and political development saw no increase in employment opportunities or in sectorial distribution of the population of the educated.

(3) educational development by itself can play only a limited role as a catalyst for promoting economic equality, as education expansion does not result in increase of employment opportunities.

The World Bank (1978) conducted a study of 20 low income countries and examined the relationship between levels of education and productive efficiency and found that other things being equal, farm productivity increased on an average of 6.9 percent if the farmer had four years of schooling. Again, literacy does increase his productive efficiency and world bank helps him to modernise his environment. Chaudri (1979) in another study on 'Education, Innovation and Agricultural Development - A Study of North India' (1961-72) investigated the effect of general formal education on agricultural productivity and innovation that took place in North India in the wake of Green Revolution.

In a study, Jaleel (1980) makes out that education contributes to economic growth by creating a favourable attitude of family planning. The study revealed that a steady increase in the mean attitude scores with increase in education. The study pointed out that our educational system is text centred and there is no proper attitude for manual labour on the part of the pupils.

The main objective of another study conducted by Jaleel (1982) was to review the educational advancement in the district of Malappuram. The study revealed that the public expenditure on education in Kerala indicated a nine fold increase during the period 1961-62 to 1978-79. The per capita expenditure on education also increased during this period. The annual state expenditure per pupil on primary education was Rs. 49.10 in 1965-66 which increased to Rs. 213.11 during 1978-'79. The corresponding figures for secondary education were Rs. 90.37 and Rs. 361.87 respectively.

Koshy (1983) conducted a study on the causes of educated manpower recession in Kerala. Major findings of the study were low economic status coupled with unemployment problems often forcing highly educated to accept any employment whether it is related to their qualification or not. There exists wide difference in salary level in the case of graduation than the other two groups in central government establishments.

Mary (1983) conducted a study on the education and economic development of the weaker sections of people in Meenachil Taluk. The major findings of the study were:

(1) people having more education showed increased interest in saving.

(2) they were more aware of having small size families, and

(3) highly educated people are more aware of the need for reducing their expenditure on unnecessary articles and use it for the education of their children. Education helps them to use the earnings in a better way.

Thomas (1983) conducted a study on structured courses as a strategy for rural development in Kenya. The study focused on the Farmers' Training Centre Programmes in Kenya, East Africa with special emphasis on the curriculum. The study suggested that non-formal education enterprises have grown out of the same bedrock of curriculum theory as formal education. The study recommended a major re-organisation of the farmers' training effort. A field based programme of structured courses modelled along the lines of the Equator Project would reach larger numbers of small scale farmers and provide more relevant education than do existing small scale farmers' training centre.

Shah and Sreekantiah (1984) highlighted the analysis of the determinants of earnings in the framework of human capital theory by constructing linear and semi-linear functions. The regression analysis of data shows that education and earnings are positively related and a good level of variations in earnings is explained by the education in conjunction with other human capital variables. The study has brought out two constellations.

(a) persons with low mean education, old age and predominantly self employed show greater education and income inequalities.

(b) persons with low mean education, young age and declining proportion of self-employed show less skewed distribution of education and income.

Kanakamoni (1985) made a study on 'Education and Economic Development of Women working in the unorganised sectors in Kerala'. The major findings of the study were

(a) Earnings and economic status scores of different sectors differ according to the change of their age and education.

(b) Age-education-earning profiles show that the earnings of women workers do not increase in accordance with the increase in the education of women.

(C) Earnings reach its peak at different age levels for different women workers.

This shows that there is not much relationship between age education and earnings of the women workers.

Rajaiah (1983) made an extensive survey on primary education in Andra Pradesh. The study covered three major groups as

(1) educational financing, (2) education and productivity, and

(3) cost of education.

The study aimed at establishing the possible relationship between expenditure on primary education and other economic variables like national domestic product, literacy rate and productivity in agriculture. The study revealed that the cost of primary school is relatively high in less income countries. The trend in the enrolment appeared to indicate progress in primary education in the state. The average growth rate in the environment of girls during the period 1956-57 to 1978-79 was 3.62 percent. There is a. strong correlation between the output of primary school and literacy rate.

Abdul Kareem (1989) conducted a research on developmental implications of educational backwardness, a study with special reference to Indian Muslims. The study examines the developmental implications of educational backwardness of an important national minority in India, namely Muslims. The educational performance, especially in the higher stages of the community, stands to be far less proportionate to their share in the total population. This is more true in the case of technical and other professional education spheres. This backwardness in education has a negative reflection on their social and economic standards of life. The study, therefore, emphasises the fact that without better educational levels the community cannot tackle its development problems. The study concluded that there was a positive correlation between the educational level and the socio-economic achievements. Thus, it is high time on the part of the policy makers and government

agencies to make an all out effort to step up the educational standards of the Muslim community which forms a huge segment of the total population of the society.

Aruly (1999) conducted a study on the 'Impact of education on economic conditions of farmers in Vakkam Village-A Case Study'. The major conclusions of his study were:

(1) The age-education-earning profiles show the effect of education on the earnings of educated over not formally educated. The more educated was found to be more advantageous in terms of better earnings. The more educated were found earning their highest at an early age.

(2) There exists a significant difference between workers educated normally and not normally with regard to job satisfaction, sources of acquisition of skill, opinion on present wages in the agricultural sector, levels of monthly savings, saving habit, size of land holdings and health conditions.

(3) No significant difference between non-formally and formally educated workers in regard to receipt of IRDP.

It can be seen from these studies that there is a direct relationship between economic growth, social development and educational level.

A STUDY OF THE ECONOMICS OF GRADUATE TEACHER EDUCATION IN KERALA

THESIS

SUBMITTED TO THE UNIVERSITY OF CALICUT

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DOCTOR OF PHILOSOPHY

By

SABUJI VARUGHESE

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3

METHODOLOGY

CHAPTER III

METHODOLOGY

3.1. STATEMENT OF THE TITLE

The present investigation is an attempt to estimate and analyse the ratio of returns on investment in B.Ed degree education. Hence the thesis is entitled "A Study of the Economics of Graduate Teacher Education in Kerala".

3.2. DEFINITION AND MEANING OF TERMS

A number of key terms used in this study have been defined for precision and clarity. The operational definitions of such terms in the context of the study are given below.

Economics:- Meaning of the word "Economics" is different in different contexts. In this study, the word "Economics" is used as the analysis of the ratio of returns on investment. It includes cost, benefit and wastage.

Graduate Teacher:- Teachers who have taken their B.Ed. Degree from any of the Universities in Kerala and have taught from Std.8 to Std.10 in Govt., Govt. Aided, and Govt. Recognised Schools in Kerala.

Graduate Teacher Education :- Courses recognised by the Universities in Kerala for giving B.Ed. Degree.

Kerala:- The State of Kerala is one of the states in India and located at the south-west end of the peninsula.

3.3. OBJECTIVES OF THE STUDY

3.3.1 MAJOR OBJECTIVE

Major objective of the study is to estimate the ratio of returns on investment in graduate teacher education in Kerala.

3.3.2 SPECIFIC OBJECTIVES

(1) To estimate the private cost or parental cost of graduate teacher education in Kerala.

(2) To estimate the institutional cost of graduate teacher education in Kerala.

(3) To estimate the social cost of graduate teacher education in Kerala.

(4) To study the pattern of earnings of graduate teachers belonging to various categories by constructing age-education-earning profiles.

(5) To estimate the Private Rate of Returns (Internal rate of returns) of graduate teacher education in Kerala.

(6) To estimate the social rate of returns of graduate teacher education in Kerala.

(7) To find out peak-earnings of graduate teachers in Kerala.

(8) To find out average lifetime earnings of graduate teachers in Kerala.

(9) To compare the cost-benefit analysis of graduate teacher education in Kerala according to government institutions, aided colleges, university centres and unaided colleges.

(10) To analyse the rate of returns of graduate teacher education in Kerala according to the place of residence of respondents.

(11) To study the non-monetary benefits acquired by graduate teachers in Kerala.

(12) To suggest measures for the improvement of graduate teacher education in Kerala.

3.4. PREPARATION OF TOOLS

In order to estimate the costs and benefits of B.Ed Degree Education, a large amount of data is necessary. The readily available data is not adequate for this purpose. So, the investigator collected data directly from B.Ed students and High School teachers using a questionnaire. After preparation of questionnaire, a Pilot study was undertaken.

3.4.1. PILOT STUDY

Pilot study was conducted during the period from August 2002 to November 2002, with the help of two carefully prepared questionnaires, one for B.Ed students and the other for High school students. For the preparation of questionnaires

for Pilot study, the investigator consulted his colleagues, teacher educators, and other experts in this field.

3.4.2. AIM OF PILOT STUDY

Aim of pilot study was to find out the reliability and validity of the items in the questionnaires already prepared and to finalise it. It was also intended to prepare a socio-economic status scale of the respondents.

3.4.3. SAMPLE FOR THE PILOT STUDY

For the pilot study, a sample of 83 B.Ed students and 41 teachers were selected by stratified random sampling. Due weightage is given to the Management of Training Colleges and Schools, sex, caste and locale. The details of samples are given in tables I and II.

TABLE - I

Showing the Distribution of B.Ed Degree students selected for the Pilot study, N = 83

Management				Sex		Locale		Caste				
Government College	Aided College	University Centres	Un-Aided Colleges	Male	Female	Rural	Urban	SC / ST	OEC	OBC	OBH	Forward Caste
21	26	25	21	32	51	42	41	14	12	16	18	23

TABLE - II

Showing the Distribution of Teachers selected for the Pilot study, N=41

Management			Sex		Locale		Caste				
Government Schools	Aided Schools	Un-Aided Schools	Male	Female	Rural	Urban	SC / ST	OEC	OBC	OBH	Forward Caste
11	17	13	15	26	20	21	7	4	9	8	13

OBH : Other Backward Hindus, OBC : Other Backward Community, OEC : Other Eligible Community, SC : Scheduled Caste, ST : Sceduled Tribe

3.4.4. PROCEDURE OF THE PILOT STUDY

First, the investigator collected data from 83 B.Ed. students and 41 high school teachers using questionnaires. After a period of one month the same questionnaire is given to the same sample population and collected data once again. The data collected were analysed and the reliability and validity coefficients of each items in the questionnaire were calculated. The reliability coefficients of the questionnaires were calculated using test-retest methods. In the light of reliability coefficients of the items in the questionnaires, certain modifications had to be made in the questionnaires and finalised it.

3.4.5. QUESTIONNAIRE FOR B.Ed. DEGREE STUDENTS

Questionnaire for B.Ed. Degree Students consists of 26 questions in four parts. By part 1 the investigator intended to collect the general information about the

respondents such as name, sex, community, annual income of the family etc. In the second part he included questions regarding their family affairs. So the items such as name and management of the institutions, parental qualifications, source of money for incurring the cost of education, place of residence at the time of course etc. are included. Items regarding cost of education are included in Part III. It includes direct (academic) costs, indirect (incidental) costs and opportunity costs. The last part of the questionnaire contains items such as reason for joining B.Ed. degree course, problems experienced while undergoing the course and suggestions for improving the existing B.Ed. degree course in different Universities in Kerala. A sample questionnaire is appended as 'A'.

3.4.6. QUESTIONNAIRE FOR TEACHERS

Questionnaire for Teachers consists of 29 questions in four parts. In the first part items relating to the general informations of the respondents such as name, age, sex, community are included. In part II items regarding their B.Ed. degree course are included. So the items like economic environment of the family at the time of their course, educational qualifications and occupations of the family members, problems while undergoing the course, details regarding opportunity costs at the time of their study etc. are included. Items regarding employments such as nature of jobs, nature of management of the institutions

which the respondents work, reasons for delay if any in getting employment, reason for dissatisfaction if any of the present job, monthly earnings and allocation of monthly earnings are included in part III. In the last part, items related to the non-monitory benefits of B.Ed. degree education and suggestions for improving B.Ed. degree course are included. The sample of the questionnaire is appended as 'B'.

3.4.7. SOCIO - ECONOMIC STATUS SCALE

From the general information collected from the pilot study about the responded the investigator prepared a socio - economic status scale. For this he sought the help of experts in this field. He considered the following items for the preparation of socio-economic status scale.

(1) **Occupation of parents**:

Occupation of parents is divided into five categories and assigned scores as follows.

	Category	Score
(a)	Unskilled workers *(Eg. Coolies, helpers etc.)*	1
(b)	Semi skilled *(Eg. Mechanist, Drivers etc.)*	2
(c)	Skilled *(Eg. Artists, Architects, Clerks etc.)*	3
(d)	Semi professional *(Eg. Teachers, Pharmacists, Gazatted Officers etc.)*	4
(e)	Professionals *(Eg. Doctors, Engineers, Lawyers, Professors, Director of the firm etc.)*	5

(2) **Annual Income of the Family**:

Annual income of the family is divided into five categories and assigned scores as follows.

	Category	Score
(a)	Less than 50,000	1
(b)	Rs. 50,000 - Rs. 1,00,000	2
(c)	Rs. 1,00,000 - Rs. 1,50,000	3
(d)	Rs. 1,50,000 - 2,00,000	4
(e)	Above 2,00,000	5

(3) **Education of parents**:

Education of parents is categorised into five as follows.

	Category	Score
(a)	Illiterate	1
(b)	Literate	2
(c)	Completed Secondary level education	3
(d)	Degree, Diplome	4
(e)	Post graduation, professional degree	5

(4) **Caste**:

Caste is categorised into five and assigned scores for each category as follows.

	Category	Score
(a)	SC/ST *(Eg. SC (Cheramor, Sambava, Pulaya, Kurava etc), ST (Vedan etc))*	1
(b)	O.E.C *(Eg. Christian Kurava)*	2
(c)	O.B.C *(Eg. Muslim, Ezhava, Latin Catholic etc.)*	3
(d)	O.B.H *(Eg. Viswakarma etc.)*	4
(e)	Forward caste *(Eg. Brahmin, Nair, Christian, Ambalavasi etc.)*	5

The investigator then found out the sum of the scores assigned to each of the respondents and divided the sample into five catogories as follows.

Category		Total Scores
A	(Very poor)	4 - 6
B	(Poor)	7 - 9
C	(Average)	10 - 14
D	(Above Average)	15 - 17
E	(Excellent)	18 - 20

3.5. SAMPLES USED FOR THE STUDY

The investigator distributed questionnaires among 600 B.Ed. trainees of different Government, aided, University centres and unaided B.Ed. training colleges all over Kerala. For collecting data from the teachers questionnaires were distributed among

375 teachers of different Government, aided and unaided schools which follows Kerala syllabus all over the state. Out of these the investigator got back only 473 completed questionnaires from B.Ed. trainees and 241 from teachers. He also interviewed 15 educational experts such as Principals of various B.Ed. training colleges, teacher educators, S.C.E.R.T and DIET faculty members. The details of sample population is given in table III and IV

Table - III

Showing the break-up of Sample Population of B.Ed. degree Students

Category	Male / Female	Hostelers					Day Scholars					Grand Total	
		Govt.	Aided	University Centres	Unaided	Total	Govt.	Aided	University Centres	Unaided	Total		
A	M	1	1	2	1	5	2	3	3	1	9	**14**	**35**
	F	2	3	2	1	8	3	4	5	1	13	**21**	
B	M	2	4	5	3	14	2	8	10	5	25	**39**	**121**
	F	4	7	6	4	21	6	24	24	7	61	**82**	
C	M	3	6	4	6	19	5	12	8	11	36	**55**	**162**
	F	5	10	8	9	32	8	21	20	26	75	**107**	
D	M	2	2	2	5	11	4	5	4	8	21	**32**	**96**
	F	4	3	4	9	20	6	10	8	20	44	**64**	
E	M	1	2	1	2	6	2	3	2	3	10	**16**	**59**
	F	3	4	3	3	13	6	7	7	10	30	**43**	
Total		**27**	**42**	**37**	**43**	**149**	**44**	**97**	**91**	**92**	**326**	**473**	**473**

Table IV

Showing the break-up of Sample population of teachers

Type of management	Government					Aided					Un-Aided				
	Category					Category					Category				
Age	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
24													1		1
25								1	1	1	1				
26	1	1		1		1	1	2							
27			1		1							1		1	
28	2	1			1						1		1		
29	1		2	1		1	1		2	1		1	1	1	
30		1						1					2	2	1
31															
32	1	1	1		1	1		1	1		2	1	1	1	
33			1	1			1		1				1		1
34		1		1		1		1		1		1	1		
35	2	1	2	1	1	1	2	1		1	1	1	1	2	
36			1	1				2	1	1			1		
37							1							1	
38	1	1		1	1	2	1	3	1	2	2	2	1		1
39			1	1		1	1	2				1	2	1	
40			1				1		1		1	1			
41		2	2	1	1	2	1	2	1		1	2	1	1	
42															1
43	1	2	2	1	1		1	1		1			1		
44								1	1			1			
45		3	1	1		2	1	2		1			1		1
46	1				1		1		1						
47		1	1					1						1	
48			1	2	1	1	1	2	2						
49	2						1	1				1	1		
50		2	2	1		1	2	2	1	1				1	1
51			1	1	1		2	2							
52		1	2		1	1		1	3				1		1
53	1		1						1	1		1			
54		1		1		1	1		1					1	
55			1				1								
Total	**13**	**19**	**24**	**16**	**11**	**16**	**21**	**29**	**19**	**11**	**9**	**14**	**18**	**13**	**8**
Category - wise Total	**83**					**96**					**62**				
Grand Total	**241**														

3.6. PROCEDURE FOR THE STUDY

The data collected by the questionnaires during the period from June 2003 to December 2003 is then analysed. The procedure of analysing the data is given below.

3.6.1. COST ANALYSIS

(a) **Private Academic Cost**: It comprises of pre admission cost, college fee, cost of books, cost of stationary, expenses in connection with teaching practice, expenses in connection with study tour and other costs directly related to instructions. On summing up the costs in connection with the above components private academic cost is obtained.

(b) **Private Incidental Cost**: It comprises of cost connected with hostel, clothing, subscription, travel, entertainment, donation and other private costs which are not directly related to instruction. The procedure of treatment of the components by the investigator is given below.

(i) **Hostel Expenses**: The per capita expenditure on food in the hostel and that at home are collected and the difference between these costs is included as hostel expenses. This is because the student would have eaten food even when he stays at home. Hence additional expenditure on food is taken as hostel expenses.

(ii) **Expenditure for clothing and entertainment**: The additional expenditure incurred for clothing and entertainment are considered for these components. Because if the students had remaind at home, they would have taken clothing and gone for entertainment. On summing up the costs of the above components the private incidental cost is obtained.

(c) **Indirect Private Cost or Opportunity Cost**: From the field study it is understood that most of the B.Ed. students except very few were neither employed nor offered a job at the time of joining or during the course. Hence opportunity cost of B.Ed. students is treated as zero.

(d) **Private Cost**: Sum of private academic cost, private incidental cost, and opportunity cost is the gross private cost.

Net private cost is the amount actually spent by the student or the parent for the course. This cost can be estimated by subtracting the contribution made by Government or other agencies and individuals by way of scholarships, stipend etc. from the overall expenditure incurred by the student.

(e) **Recurring Cost**: It comprises of teaching cost, laboratory cost, subsidy, administration cost, maintenance cost, library cost, cost for conducting sports and games, examination cost, cost of general direction, miscellaneous expenses and hostel expenses.

For calculating recurring cost, data was collected from B.Ed. colleges, Universities and Banks. The treatment of the above components for analysing the data are given below.

(i)**Teaching Cost:-** It is the total salaries and allowances of teaching staff.

(ii)**Laboratory Cost:-** It is the current expenditure on apparatus, chemicals etc.

(iii)**Subsidy:-**It comprises of scholarships, stipends, lumpsum grant and other financial assistance. In the case of loans given to the students under subsidised rate of interest, the difference of interest in normal rate and subsidised rate is treated as cost.

(iv)**Administration cost:-** It is the total salaries and allowances to non-teaching staff.

(v)**Maintenance cost:-** It is the maintenance of building, repair of furniture and equipments.

(vi)**Library cost:-** It is the cost of journals and dailies in libraries.

In the present study, cost of books is treated as Capital cost and cost of journals and periodicals is treated as recurring cost. The binding cost of back volumes of journals and dailies are also included as Capital cost.

(vii)**Cost of Sports and Games:-** This includes expenses on conducting sports and games.

(viii)**Examination cost:-** In the absence of a suitable method and lack of adequate data, a rough estimate may be prepared by dividing the total cost of examination by the total number of students registered for the University examination for a given academic year.

(ix)**Cost of General direction:-** It includes the expenditure incurred by the University which gives affiliation to colleges, conduct of examinations, and issuing certificates. In the absence of proper method and appropriate data, it is very difficult to separate these items among courses and colleges. The method adopted is dividing the cost by the number of students in the University.

(x)**Hostel expenses:-** It includes the salary and allowances of hostel staff, maintenance and repair of hostel equipments etc.. In the present study, the colleges selected as sample, do not run hostels, and hostel facilities are not essential for running a B.Ed. college. Hence, hostel expenses is treated as zero.

(xi)**Miscellaneous expenses:-** It includes the expenses in connection with cultural activities of various clubs and societies of students, entertainment programmes etc. In the financial statements of colleges, these expenses are not given separately. They come under the head "miscellaneous". That method is adopted in the present study.

(f) **Non - Recurring Cost**: Main non-recurring cost is the cost of land, building, equipments, library books, furniture and others.

For calculating non-recurring cost, data was collected from B.Ed colleges, Banks and other Govt. departments. Treatment of the above components for analysing the data is given below.

(i)**Cost of land:-** In Kerala, the value of land is increasing in rural and urban areas day by day. Thus annual rental value is taken as the value of land used up each year.

Also, some of the colleges under the study had a vast area of land which is not wholly used for the B.Ed college. So, if we include the cost of the whole land area, then it is an over-estimation of capital cost. So the investigator used the method adopted by PWD, by fixing the rent of a building. That is, the actual extent of land, or, land measuring three times the area of the main building plus one and half times area of out-houses whichever is less need only reckoned. Then, 6% of the market value of this land area is added with depreciated value of the building for fixing final rent of the public buildings.(Govt. of Kerala; 1990)

Following this procedure, 6% of the market value of the land is taken as the rent of land, in this study.

For finding the market value of the land, the rates fixed by the Govt.of Kerala, is taken for this study.

(ii)**Cost of building:-** Method adopted by the investigator to estimate the input rent of the building, is amortise all capital assets together with interest payment. Such payment may be reckoned in equal annual instalments over the estimated life of the assets concerned. As per the advise received from the PWD staff, the life span of permanent and semi-permanent building is taken together as 50 years. For the purpose of estimating rent, PWD fixed the working life of water supply and sanitation installations as 22 years and electrical installations as 17 years. Thus electricity and sanitation taken together consists 20 years of life span.

Inorder to estimate the value of the buildings, the practice followed by PWD in Kerala is accepted. In this method, total plinth area of the building is multiplied by standard rates which are fixed on the prevailing cost of labour and material. Thus we get the total replacement value of the building. In the case of water supply, sanitation and electrification, the method adopted by PWD is accepted.

(iii) **Equipments and furniture:-** Life span of furniture and office equipments is taken as 20 years for this study.

(iv) **Library Books:-** Library books yield service for several years after their acquisition. Thus they should be treated as a non-recurring item. In this study, the life span of library books is taken as 20 years.

(g) **Institutional Cost:-** Total institutional cost is obtained by adding recurring and non-recurring costs.

Receipts obtained by the institution is subtracted from the total institutional cost to get net institutional cost.

(h) **Social Cost:-** For calculating the Social cost, the following method is used.

$C=C_i+C_p$

$C_i=C_r+C_{nr}$

$C_p=C_a+C_{na}$

Where C=Social cost

C_i=Institutional cost

C_p=Net private cost

C_r=Net recurring cost

C_{nr}=Non recurring cost

C_a= Academic cost

C_{na}=Non - Academic cost

3.6.2. BENEFIT ANALYSIS

(a) **Monetary Benefits:-** It is the income earned in terms of money unit. This can be estimated with the help of Age - Education - Earning profile. The data was collected using questionnaires given to High School teacchers.

For the present study, the cross-sectional method was accepted for the construction of Age - Education - Earning profile.

Apart from age and education, there are other factors such as personal earnings, sex, race, class, background, place of residence, on-the-job training etc. affecting the monetary benefits. Thus an adjustment factor is applied to solve this factor. This factor is called α - factor.

In this study, α - factor is taken as 0.65 which is found by Blaug.

(b) **Non-Monetary Benefits:-** Non - Monetary benefits of B.Ed Degree education are collected by using the questionnaire given to teachers.

After the pilot study and the opinion of the experts, the investigator chose 18 non - monetary benefits of B.Ed degree education. They are

(i) To develop skills

(ii) To behave rationally and properly

(iii) To find out the realities of life

(iv) To respond against injustice and exploitation

(v) To become a better man

(vi) To develop artistic talents

(vii) To develop a better and planned life

(viii) To solve many social and personal problems

(ix) To find out values of life

(x) To encourage the education of others

(xi) To develop self-confidence and expectation about future life

(xii) To develop personality

(xiii) To make value judgement

(xiv) To develop proper attitudes and interests

(xv) To develop good citizenship

(xvi) To develop culture

(xvii) To achieve high status in society

(xviii) To keep away from social evils

Above 18 items were included in the questionnaire as non-monetary benefits and the respondents were requested to write a 'great extent', 'some extent' and 'not at all' for each items listed. Scores were assigned to the responses at the rate of 3 for 'great extent', 2 for 'some extent' and 1 for 'not at all'. Thus the total score for each item in respect of the socio economic status of the respondents is found out. Then, the rank of each items listed as non-monetary benefits are found out and the rank - correlation coefficients of different groups were estimated by using the formula,

$$r = 1 - \frac{6 \Sigma d^2}{n(n^2-1)}$$

where 'd' is the differene between the ranks of an item and 'n' is the number of ranks.

3.6.3. COST - BENEFIT ANALYSIS

For cost - benefit analysis of B.Ed degree education, private rate of returns and social rate of returns are estimated.

Social rate of returns is concerned with the benefits enjoyed by the society as a whole and total cost of education.

Private rate of return includes the direct benefits that are enjoyed by individual compared to the cost which are incurred by individual.

Private rate of return and Social rate of return are calculated by using the formula,

$$\frac{B_1 - C_1}{(1+i)} + \frac{B_2 - C_2}{(1+1)^2} + \ldots\ldots\ldots\ldots\ldots + \frac{B_n - C_n}{(1+i)^n}$$

where B_1, B_2,.... B_n denotes the benefits during the years 1,2,3.....n and C_1, C_2.....C_n denotes the cost in the years 1,2,3,..... n and "i" is the internal rate.

A STUDY OF THE ECONOMICS OF GRADUATE TEACHER EDUCATION IN KERALA

THESIS

SUBMITTED TO THE UNIVERSITY OF CALICUT

IN PARTIAL FULFILMENT OF THE

DOCTOR OF PHILOSOPHY

By

SABUJI VARUGHESE

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4

ANALYSIS OF DATA

CHAPTER IV

ANALYSIS OF DATA

The study is entitled — 'A STUDY OF THE ECONOMICS OF GRADUATE TEACHER EDUCATION IN KERALA'

Main objective of this study is to estimate the rate of returns on investment in B.Ed. Degree education. Accordingly, data was collected from 473 B.Ed. trainees and 220 highschool teachers. The investigator also collected some secondary data available in training colleges for calculating institutional cost. He also interviewed some educational experts for getting their ideas for improving quality of B.Ed. degree course.

The data collected was analysed using suitable statistical techniques which are given in this chapter.

4.1. ESTIMATION OF PRIVATE COST OR PARENTAL COST OF GRADUATE TEACHER EDUCATION IN KERALA

Private cost comprises of academic cost and incidental cost. Academic cost comprises of components pre-admission cost, college fee, cost of books, cost of stationery, expenses in connection with teaching practice, expenses in connection with study tour and other miscellaneous expenses.

Table — V						
Showing the average private academic cost in terms of components in rupees						
	← Socio-Economic status of student →					
Components ↓	A	B	C	D	E	Combined
Pre-admission	143 (1)	148 (2)	157 (1)	158 (1)	177 (1)	157 (1)
College Fee	4575 (53)	5184 (56)	10377 (71)	11614 (74)	10480 (71)	8883 (69)
Books	1445 (17)	1422 (15)	1458 (10)	1467 (9)	1503 (10)	1455 (11)
Stationary	648 (7)	651 (7)	663 (5)	678 (4)	703 (5)	667 (5)
Teaching Practice	225 (3)	242 (3)	254 (2)	259 (2)	326 (2)	259 (2)
Study Tour	1451 (17)	1436 (15)	1476 (10)	1457 (9)	1494 (10)	1462 (11)
Others	160 (2)	161 (2)	166 (1)	162 (1)	201 (1)	168 (1)
Total	**8647 (100)**	**9244 (100)**	**14551 (100)**	**15795 (100)**	**14884 (100)**	**13051 (100)**

(Figures in brackets show percentages)

Table - V reveals that total private or parental cost of B.Ed. degree education in Kerala is Rs.13,051/-. It is Rs.8,647/-, Rs.9,244/-, Rs.14,551/-, Rs.15,795/- and Rs.14,884/- for the students under socio-economic status 'A' (very poor), 'B' (poor), 'C' (average), 'D' (above average) and 'E' (excellent). Total private cost of students under categories C, D and E is more than that of A and B. That is, parents belonging to average and above average socio-economic status spend more amount for the education of their children.

Main component of private academic cost is college fee. It is Rs.8,883/-. That is, 69% of the total private cost. College fees of students under different socio-economic status A, B, C, D, and E are Rs.4,575/-, Rs.5,184/-, Rs.10,377/-, Rs.11,614/- and Rs.10,480/- respectively. It varies from 53 to 74 percent of total private cost.

Table - VI

Showing the private incidental cost in terms of components in rupees

		Socio-Economic status of students					
		A	B	C	D	E	Combined
Components	Hostel	2065 (36)	1625 (31)	1798 (31)	1847 (31)	1909 (31)	1797 (32)
	Clothing	1280 (23)	1434 (27)	1475 (25)	1545 (26)	1639 (27)	1485 (26)
	Subscription	346 (6)	341 (7)	369 (6)	370 (7)	403 (7)	365 (6)
	Travel	1262 (2)	1045 (20)	1309 (22)	1310 (22)	1220 (20)	1227 (21)
	Entertainment	306 (5)	309 (6)	336 (6)	292 (5)	367 (6)	322 (6)
	Donation	249 (4)	262 (5)	280 (5)	294 (5)	287 (5)	277 (5)
	Others	201 (4)	197 (4)	278 (5)	251 (4)	244 (4)	242 (4)
	Total	**5709(100)**	**5213 (100)**	**5845 (100)**	**5909 (100)**	**6069 (100)**	**5715 (100)**

(Figures in brackets show percentages)

According to Table-VI, total private incidental cost of B.Ed. degree education in Kerala is Rs.5,715/-. It is Rs.5,709/-, Rs.5,213/-, Rs.5,845/-, Rs.5,909/- and Rs.6,069/- for the students under socio-economic status A, B, C, D and E.

Students spend more on hostel expenses, clothing and travel. It is Rs.1,797/-, Rs.1,485/-, and Rs.1,227/-. That is, 79 % of the total incidental expenses is incurred for the above components. Also, the incidental expenses of students under the socio-economic status C,D and E are higher than that of A and B. That is, the students belonging to the higher socio-economic status spend more than lower status for their private incidental expenses.

Table - VII

Showing the gross and net private cost of B.Ed. degree education in rupees

	Socio-economic status of respondents					
Components	A	B	C	D	E	Combined
Academic Cost	8647 (60)	9244 (64)	14551 (71)	15795 (73)	14884 (71)	13051 (70)
Incidental cost	5709 (40)	5213 (36)	5845 (29)	5909 (27)	6069 (29)	5715 (30)
Gross Amount	14356 (100)	14457 (100)	20396 (100)	21704 (100)	20953 (100)	18766 (100)
Subsidies	2916 (20)	2480 (17)	1310 (6)	1167 (5)	1118 (5)	1675 (9)
Net Amount	**11440 (80)**	**11977 (83)**	**19086 (94)**	**20537 (95)**	**19835 (95)**	**17091 (91)**

(Figures in brackets show percentages)

Table VII shows that gross private cost and net private cost of B.Ed degree education in Kerala increases with increase of socio-economic status of the student. Whereas subsidy such as lumpsum grant, scholarships, stipends etc. given by the Govt. and other instituitions, decreases with increase of socio-economic status of the student.

Gross and net amount of private cost of B.Ed degree education in Kerala are Rs.18,766/- and Rs.17,091/- respectively. Subsidy given by the institution is Rs.1,675/-.

Gross amount of private cost for B.Ed degree education is Rs.14,356/-, Rs.14,457/-, Rs.20,396/-, Rs.21,704/- and Rs.20,953/- respectively for the students under socio-economic status A, B, C, D and E. Net amount of private costs are Rs.11,440/-, Rs.11,977/-, Rs.19,086/-, Rs.20,537/- and Rs. 19,835/- for students under socio-economic status A, B, C, D and E.

Subsidies given by Govt. and other institutions are Rs.2,916/-, Rs.2,480/-, Rs.1,310/-, Rs.1,167/- and Rs.1,118/- for the students under socio-economic status A, B, C, D and E resectively.

Parents under socio-economic status C, D and E spend more amount than A and B for the education of their children. That is, parents of high socio-economic status spend more amount for the education of their children.

4.2. ESTIMATION OF INSTITUTIONAL COST OF GRADUATE TEACHER EDUCATION IN KERALA

Institutional cost comprises of recurring cost and non-recurring cost.

Table — VIII

Showing the average recurring cost in terms of rupees.

	Type of College				
Components	Government	Aided	University Centre	Unaided	Combined
Teaching cost	14764 (69)	16222 (70)	5418 (46)	9605 (60)	11191 (63)
Laboratory cost	97 (0.5)	125 (0.5)	118 (1)	114 (1)	116 (1)
Subsidy	1022 (5)	993 (4)	1011 (9)	1029 (6)	1012 (6)
Administration	3987 (18)	4143 (18)	3619 (31)	3440 (22)	3777 (21)
Maintenance	206 (1)	231 (1)	169 (1.5)	259 (2)	218 (1)
Library	453 (2)	431 (2)	389 (3)	369 (2)	405 (2)
Games and Sports	39 (0.5)	37 (0.5)	32 (0.5)	36 (0.5)	36 (0.50)
Examination	501 (2)	517 (2)	496 (4)	537 (3)	515 (3)
General direction	246 (1)	246 (1)	246 (2)	246 (1.5)	246 (1.5)
Miscellaneous	211 (1)	243 (1)	188 (2)	269 (2)	231 (1)
Total	**21526 (100)**	**23188 (100)**	**11686 (100)**	**15904 (100)**	**17747 (100)**

(Figures in brackets show percentages)

According to Table VIII, recurring institutional cost of B.Ed. degree course is Rs.17,747/-. It is Rs.21,526/-, Rs.23,188/-, Rs.11,686/- and Rs.15,904/- for Govt., Aided, University centre and Un-aided colleges respectively. Main component of recurring cost is teaching cost. It is 69%, 70%, 46% and 60% of total cost of Govt., Aided, University centre and Un-aided colleges respectively. That is, Govt. and Aided colleges spend more amount as teaching cost than University centres and Un-aided colleges. This is due to the high payment of salary to the teaching staff and low teacher-learner ratio. In University centres and Un-aided colleges, the teacher - learner ratio is higher than that of Govt. and Aided colleges.

Table - IX

Showing the average Non-recurring cost in terms of rupees.

	Type of College				
Components	Government	Aided	University Centre	Unaided	Combined
Land	1224 (14)	791 (9.5)	833 (10)	619 (7.5)	818 (10)
Building	7124 (80)	6957 (83)	6816 (83)	7065 (85)	6975 (83)
Equipments	107 (1)	118 (1.5)	97 (1)	104 (1)	107 (1)
Book	289 (3)	278 (3)	252 (3)	263 (3)	268 (3)
Furniture	174 (2)	187 (2)	165 (2)	191 (2.5)	180 (2)
Others	34 (0)	45 (1)	39 (1)	49 (1)	43 (1)
Total	**8952 (100)**	**8376 (100)**	**8202 (100)**	**8291 (100)**	**8391 (100)**

(Figures in brackets show percentages)

Table - IX shows that non-recurring institutional cost of B.Ed degree education in Kerala is Rs.8,391/-. It is Rs.8,952/-, Rs.8,376/-, Rs.8,202/- and Rs.8,291/- respectively for Govt., Aided, University centre and Un-aided colleges. Table also shows that

cost of building is significantly higher than that of other components. About 80 to 85 percent of the non-recurring cost is incurred for the construction of building. This is due to the increasing of cost of building materials and labour charges. In the case of land 7.5 to 14 percent of total non-recurring cost is incurred.

Table - X

Showing the gross and net institutional cost of B.Ed. degree education in terms of rupees

	Type of College				
Components	Government	Aided	University Centre	Unaided	Combined
Recurring Cost	21526 (71)	23188 (73)	11686 (59)	15904 (66)	17747 (68)
Non-recurring cost	8952 (29)	8376 (27)	8202 (41)	8291 (34)	8391 (32)
Gross total of institutional cost	30478 (100)	31564 (100)	19888 (100)	24195 (100)	26138 (100)
Receipts	2279 (7)	2272 (7)	19276 (97)	23928 (99)	13055 (50)
Net institutional cost	**28199 (93)**	**29292 (93)**	**612 (3)**	**267 (1)**	**13083 (50)**

(Figures in brackets show percentages)

Table - X reveals that net institutional cost of B.Ed degree education in Kerala is Rs.13,083/-. Net institutional cost of B.Ed degree education in Government and Aided colleges are higher than that of University centres and Unaided colleges. Net institutional cost of Government, Aided, University centre and Un-aided colleges are Rs. 28,199/-, Rs. 29,292/-, Rs. 612/- and Rs. 267/- respectively. Government and aided colleges receive only 7% of total institutional cost from the students while, University centres and Un-aided colleges receive 97% and 99% of total institutional cost. In general, 50% of instituitional cost is received from the students.

Table — XI Showing the Gross & Net institutional cost of B.Ed Degree education in respect of Socio-economic status of the respondents.						
	Socio-Economic status of students					
Components	A	B	C	D	E	Combined
Recuring cost	18032 (68)	17574 (68)	17794 (68)	17568 (68)	18093 (68)	17747 (68)
Non-Recuring cost	8438 (32)	8365 (32)	8380 (32)	8402 (32)	8429 (32)	8391 (32)
Gross Institutional cost	26470 (100)	25939 (100)	26174 (100)	25970 (100)	26522 (100)	26138 (100)
Receipts	10579 (40)	11997 (496)	13423 (51)	14936 (58)	12627 (48)	13055 (50)
Net Institutional cost	15891 (60)	13942 (54)	12751 (49)	11034 (42)	13895 (52)	13083 (50)

Table - XI reveals that net institutional cost of B.Ed degree education in respect of students under the socio-economic status, A, B, C, D and E are Rs.15,891/-, Rs.13,942/-, Rs.12,751/-, Rs.11,034/- and Rs.13,895/- respectively. The amount received from students under the above categories are Rs.10,579/-, Rs.11,997/-, Rs.13,423/-, Rs.14,936/- and Rs.12,627/- respectively.

The table also reveals that 50% of gross institutional cost is received from students.

4.3. ESTIMATION OF SOCIAL COST OF GRADUATE TEACHER EDUCATION IN KERALA

Net private cost and net institutional cost are the components of social cost.

Table — XII Showing Social cost of B.Ed degree education in respect of Government Colleges						
	Socio-Economic status of students					
Components	A	B	C	D	E	Combined
Academic Cost	5121 (50)	5151 (47)	5648 (49)	5875 (51)	6406 (52)	5670 (50)
Incidental Cost	5030 (50)	5891 (53)	5815 (51)	5751 (49)	5949 (48)	5750 (50)
Gross Private Cost	10151 (100)	11042 (100)	11463 (100)	11626 (100)	12355 (100)	11420 (100)
Subsidy	2966 (29)	2813 (25)	1988 (17)	1555 (13)	1069 (9)	2008 (18)
Net Private Cost	7185 (20)	8229 (23)	9475 (25)	10071 (26)	11286 (29)	9412 (25)
Net Institutional Cost	28199 (80)	28199 (77)	28199 (75)	28199 (74)	28199 (71)	28199 (75)
Social Cost	**35384 (100)**	**36428 (100)**	**37674 (100)**	**38270 (100)**	**39485 (100)**	**37611 (100)**

(Figures in brackets show percentages)

Here, social cost of B.Ed. course of Govt. colleges in Kerala is Rs.37,611/-. It is Rs.35,384/-, Rs.36,428/-, Rs.37,674/-, Rs.38,270/- and Rs.39,485/- respectively for students under socio-economic status A, B, C, D and E . Here, 25% of social cost belongs to private cost and 75% is institutional cost.

It can be seen that social cost increases with increase of socio-economic status of student.

Table - XIII

Showing social cost of B.Ed Degree education in respect of aided colleges.

	Socio-Economic status					
Components	A	B	C	D	E	Combined
Academic Cost	5164 (47)	5203 (52)	5853 (50)	6031 (52)	6391 (51)	5685 (51)
Incidental Cost	5771 (53)	4897 (48)	5805 (50)	5504 (48)	6253 (49)	5530 (49)
Gross Private Cost	10935 (100)	10100 (100)	11658 (100)	11535 (100)	12644 (100)	11215 (100)
Subsidy	2939 (27)	2363 (23)	1324 (11)	1167 (10)	1255 (10)	1757 (16)
Net Private Cost	7996 (21)	7737 (21)	10334 (26)	10268 (26)	11389 (28)	9458 (24)
Net Institutional Cost	29292 (79)	29292 (79)	29292 (74)	29292 (74)	29292 (72)	29292 (76)
Social Cost	**37288 (100)**	**37029 (100)**	**39626 (100)**	**39560 (100)**	**40681 (100)**	**38750 (100)**

(Figures in brackets show percentages)

According to Table - XIII, social cost of B.Ed degree course of Aided colleges in Kerala is Rs.38,750/-. It is Rs.37,288/-, Rs.37,029/-, Rs.39,626/-, Rs.39,560/- and Rs.40,681/- respectively for students under socio-economic status A, B, C, D and E . Here, social cost increases with increase of socio-economic status of student. Also, percentage of net private cost increases and net institutional cost decreases with increase of socio-economic status of student.

Here, 24% of the social cost belongs to private cost and 76% belongs to institutional cost.

Table - XIV						
Showing Social Cost of B.Ed. Degree Education in respect of University Centres						
	Socio - Economic Status					
Components	A	B	C	D	E	Combined
Academic Cost	11637 (68)	13273 (72)	20601 (78)	19303 (76)	21027 (78)	17045 (75)
Incidental Cost	5559 (32)	5133 (28)	5811 (22)	5951 (24)	5875 (22)	5575 (25)
Gross Private Cost	17196 (100)	18406 (100)	26412 (100)	25254 (100)	26902 (100)	22620 (100)
Subsidy	3048 (18)	2384 (13)	1380 (5)	1625 (6)	1123 (4)	1898 (8)
Net Private Cost	13148 (96)	16022 (96)	25032 (98)	23629 (97)	25779 (98)	20722 (97)
Net Institutional Cost	612 (4)	612 (4)	612 (2)	612 (3)	612 (2)	612 (3)
Social Cost	14760 (100)	16634 (100)	25644 (100)	24241 (100)	26391 (100)	21334 (100)

(Figures in brackets show percentages)

Social cost of B.Ed degree education of University centres in Kerala is Rs.21,334/-. It is Rs.14,760/-, Rs.16,634/-, Rs.25,644/-, Rs.24,241/- and Rs.26,391/- respectively for students under socio-economic status A, B, C, D and E . Here, social cost increases with increase of socio-economic status of student. Also, percentage of net private cost ranges from 96 to 98 and percentage of net institutional cost ranges from 2 to 4.

Table XV						
Showing Social Cost of B.Ed. degree education in respect of Un-aided colleges						
	Socio-economic status					
Components	A	B	C	D	E	Combined
Academic Cost	16557 (72)	11869 (68)	21689 (79)	22724 (79)	23540 (80)	20723 (78)
Incidental Cost	6599 (28)	5623 (32)	5922 (21)	6145 (21)	6063 (20)	5988 (22)
Gross Private Cost	23156 (100)	17492 (100)	27611 (100)	28869 (100)	29603 (100)	26711 (100)
Subsidy	2358 (10)	2726 (16)	969 (4)	774 (3)	1026 (3)	1204 (5)
Net Private Cost	20798 (99)	14766 (98)	26642 (99)	28095 (99)	28577 (99)	25507 (99)
Net Institutional Cost	267 (1)	267 (2)	267 (1)	267 (1)	267 (1)	267 (1)
Social Cost	**21065 (100)**	**15033 (100)**	**26909 (100)**	**28362 (100)**	**28844 (100)**	**25774 (100)**

(Figures in brackets show percentages)

Social cost of B.Ed degree education of Un-aided colleges in Kerala is Rs.25,774/-. Here, 99% of social cost is private cost and only 1% of social cost is institutional cost.

Social cost for students under socio-economic status A, B, C, D and E are Rs.21,065/-, Rs.15,033/-, Rs.26,909/-, Rs.28,362/- and Rs.28,844/- respectively . Private cost is 99 percent and institutional cost is 1 percent of the social cost among students of different socio-economic status A, B, C, D and E.

Table XVI

Showing Social cost of B.Ed degree course in respect of socio-economic status of students

	Socio-economic status					
Components	A	B	C	D	E	Combined
Academic cost	8647 (60)	9244 (64)	14551 (71)	15795 (73)	14884 (71)	13051 (70)
Incidental cost	5709 (40)	5213 (36)	5845 (29)	5909 (27)	6069 (29)	5715 (30)
Gross Private cost	14356 (100)	14457 (100)	20396 (100)	21704 (100)	20953 (100)	18766 (100)
Subsidy	2916 (20)	2480 (17)	1310 (6)	1167 (5)	1118 (5)	1675 (9)
Net Private cost	11440 (42)	11977 (46)	19086 (60)	20537 (65)	19835 (59)	17091 (57)
Net Institutional cost	15891 (58)	13942 (54)	12751 (40)	11034 (35)	13895 (41)	13083 (43)
Social Cost	**27331 (100)**	**25919 (100)**	**31837 (100)**	**31571 (100)**	**33730 (100)**	**30174 (100)**

(Figures in brackets show percentages)

Social cost of B.Ed degree education in Kerala is Rs.30,174/-. It is Rs.27,331/-, Rs.25,919/-, Rs.31,837/-, Rs.31,571/- and Rs.33,730/- respectively for students under socio-economic status A, B, C, D and E . Here, 57% of social cost is private cost and 43% of social cost is institutional cost.

Private cost ranges from 42 to 65 percentage and institutional cost ranges from 35 to 58 percentage of social cost among students of different socio-economic status A, B, C, D and E. Social cost of students under high socio-economic status is higher than that of students under lower economic status.

4.4. TO STUDY THE PATTERN OF EARNINGS OF GRADUATE TEACHERS BY CONSTRUCTING AGE - EDUCATION - EARNING PROFILE

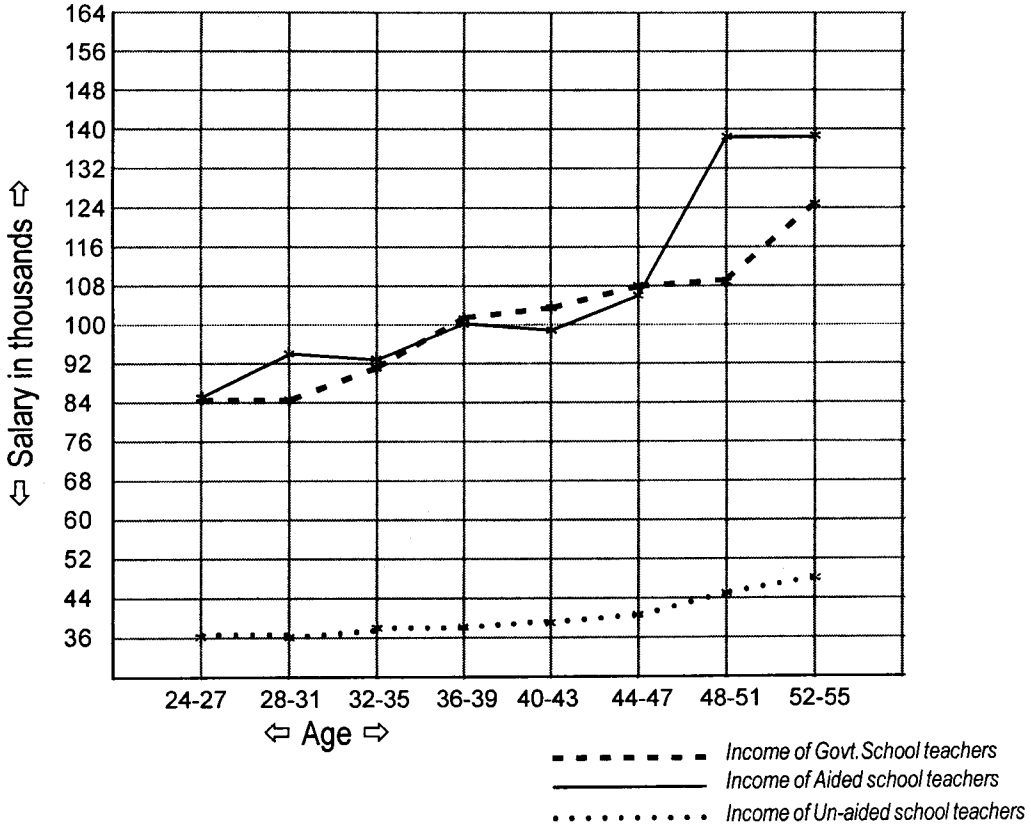
Table XVII

Showing Gross Annual Income of teachers under Category A

	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	85,104	85,104	36,000	73,474
28 - 31	85,560	94,680	36,000	77,662
32 - 35	91,374	93,312	37,200	79,359
36 - 39	102,060	99,810	37,800	85,893
40 - 43	103,800	99,240	38,400	86,391
44 - 47	108,816	106,992	40,800	91,939
48 - 51	109,350	138,000	45,600	106,316
52 - 55	125,232	137,544	48,000	112,124

Figure I

Showing the Age - Education Earnings of Teachers under the socio-economic status 'A'



From the table XVII and Figure I reveal that teachers in Govt., Aided and Un-aided schools under socio-economic status "A", start their earning at age group 24 - 27. Annual income of this period is Rs.73,474/-. They attain a maximum earning at the age group 52 - 55. Annual income of this period is Rs.1,12,124/-. That is, earnings of teachers increase with increase of their service.

In the case of Govt. school teachers, their annual earnings increases from Rs.85,104/- to Rs.1,25,232/-. In the case of aided school teachers, it varies from Rs.85,104/- to Rs.1,37,544/-. But in the case of un-aided school teachers, their annual income varies from Rs. 36,000/- to Rs.48,000/-.

Annual income of un-aided school teachers is much less while comparing with income of teachers in Govt. and aided schools.

Table XVIII

Showing Net Annual Income of teachers under the socio-economic status "A"

	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	84,504	84,504	35,640	72,931
28 - 31	84,960	93,780	35,640	76,992
32 - 35	90,474	92,412	36,840	78,587
36 - 39	101,160	98,910	37,440	85,121
40 - 43	102,900	98,340	38,040	85,618
44 - 47	107,916	106,092	40,440	91,267
48 - 51	108,450	126,000	45,240	100,869
52 - 55	124,032	136,344	47,640	111,123

Net annual income is obtained by deducting taxes paid by the teachers from the gross annual income. Net annual income of teachers under socio-economic status "A" varies from Rs.72,931/- to Rs.1,11,123/- as age group varies from 24 - 27 to

52 - 55. Net annual income of Govt. school teachers varies from Rs.84,504/- to Rs.1,24,032/- and for aided school teachers, it varies from Rs.84,504/- to Rs.1,36,344/-. In the case of Un-aided school teachers, net annual income varies from Rs.35,640/- to Rs.47,640/-.

Table XIX

Showing adjusted annual earnings of teachers under the socio-economic status "A"

Adjusted by α factor (In Rupees) $\alpha = 0.65$

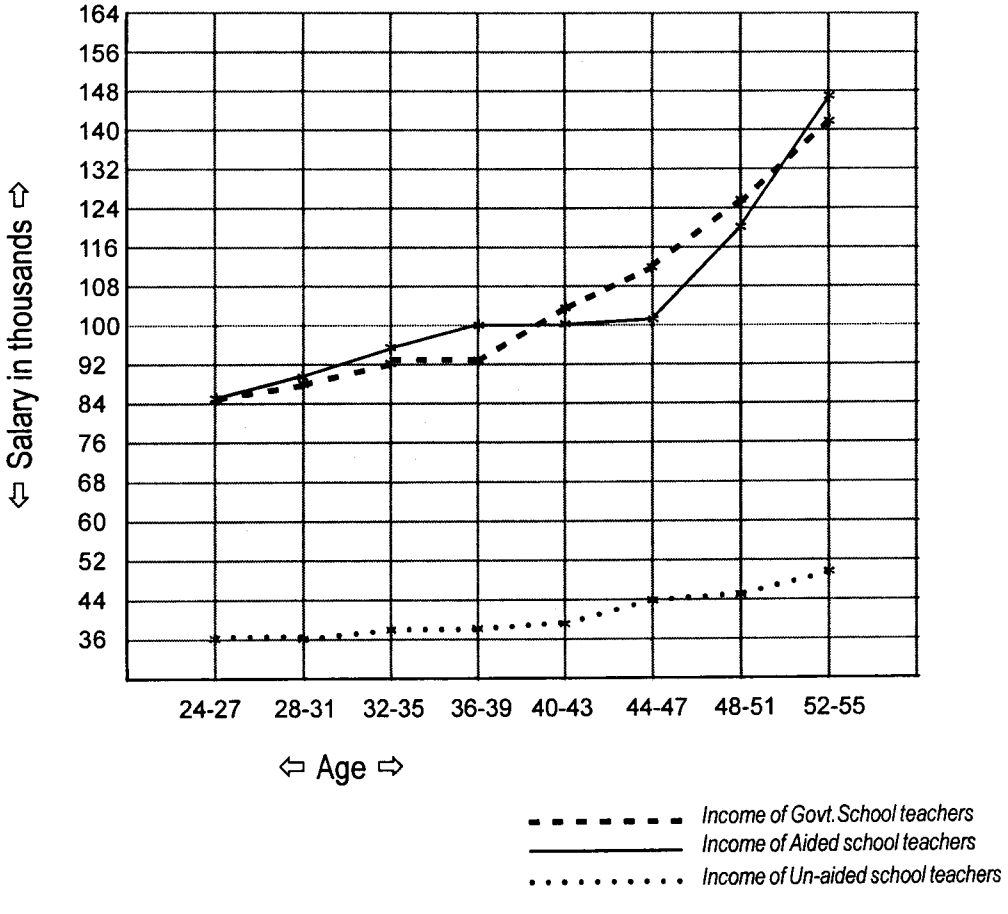
	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	54,928	54,928	23,166	47,405
28 - 31	55,224	60,957	23,166	50,045
32 - 35	58,808	60,068	23,946	51,082
36 - 39	65,754	64,292	24,336	55,329
40 - 43	66,885	63,921	24,726	55,652
44 - 47	70,145	68,960	26,286	59,259
48 - 51	70,493	89,115	29,406	65,565
52 - 55	80,621	88,624	30,966	72,230

Annual earnings of teachers depend not only on B.Ed degree. It depends on many other factors. Thus an α – factor is introduced to net income. Net income of teachers after adjustment by α–factor under the socio-economic status "A" ranges from Rs.47,405/- to Rs.72,230/- as age group varies from 24-27 to 52-55. It ranges from Rs.54,928/- to Rs.80,621/- for Govt.school teachers and from Rs.54,928/- to Rs.88,624/- for aided school teachers. In the case of Un-aided school teachers, it varies from Rs.23,166/- to Rs.30,966/-

Table XX				
Showing Gross Annual Earnings of teachers under the socio-economic status "B"				
	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	85,104	85,104	36,000	72,373
28 - 31	87,840	88,752	36,000	74,755
32 - 35	91,917	94,680	37,200	78,806
36 - 39	92,400	99,848	38,100	81,219
40 - 43	104,370	100,608	40,200	86,270
44 - 47	111,780	101,520	44,400	90,321
48 - 51	127,284	120,729	45,600	103,558
52 - 55	143,244	146,664	50,400	120,503

Figure II

Showing the Age - Education - Earning of teachers under the socio-economic status "B"



From the table XX and Figure II, it reveals that teachers in Govt., Aided and Un-aided schools under socio-economic status "B", start their earning at the age group 24 - 27. Annual income of this period is Rs.72,373/-. They attain a maximum earning at the age group 52 - 55. Annual income of this period is Rs.1,22,503/-. That is, earnings of teachers increase with increase of their service.

In the case of Govt. school teachers, their annual earnings increase from Rs.85,104/- to Rs.1,43,244/-. In the case of aided school teachers, it vary from Rs.85,104/- to Rs.1,46,664/-. But in the case of un-aided school teachers, their annual income vary from Rs. 36,000/- to Rs.50,400/-.

Annual income of un-aided school teachers is much less when compared to income of teachers in Govt. and aided schools.

Table XXI

Showing Net Annual Income of teachers under the Socio-economic status "B"

	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	84,504	84,504	35,640	71,836
28 - 31	87,240	88,152	35,640	74,217
32 - 35	91,017	93,780	36,840	78,046
36 - 39	91,500	98,948	37,740	80,459
40 - 43	103,470	99,708	39,840	85,510
44 - 47	110,880	100,620	44,040	89,561
48 - 51	125,784	119,229	45,240	102,353
52 - 55	141,744	145,164	50,040	119,299

Net annual income of teachers under the socio-economic status "B" vary from Rs.71,836/- to Rs.1,19,299/- as age group vary from 24 - 27 to 52 - 55. Net annual income of Govt. school teachers vary from Rs.84,504/- to Rs.1,41,744/- and in the case of aided

school teachers, it vary from Rs.84,504/- to Rs.1,45,164/-. In the case of Un-aided school teachers, net annual income vary from Rs.35,640/- to Rs.50,040/-.

Table XXII

Showing Adjusted annual earnings of teachers under the socio-economic status "B"

adjusted by Alpha factor (in rupees) (Alpha =0.65)

	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	54,928	54,928	23,166	46,693
28 - 31	56,706	57,299	23,166	48,241
32 - 35	59,161	60,957	23,946	50,730
36 - 39	59,175	64,306	24,531	52,298
40 - 43	67,256	64,810	25,896	55,582
44 - 47	72,072	65,403	28,626	58,215
48 - 51	81,955	77,694	29,406	66,529
52 - 55	92,329	94,526	32,526	77,544

Net income of teachers after adjustment by α–factor under the socio-economic status "B" is ranges from Rs.46,693/- to Rs.77,544/- as age group varies from 24-27 to 52-55. It is ranges from Rs.54,928/- to Rs.92,329/- in the case of Govt.school teachers and from Rs.54,928/- to Rs.94,526/- in the case of aided school teachers. In the case of Un-aided school teachers, it vary from Rs.23,166/- to Rs.32,526/-

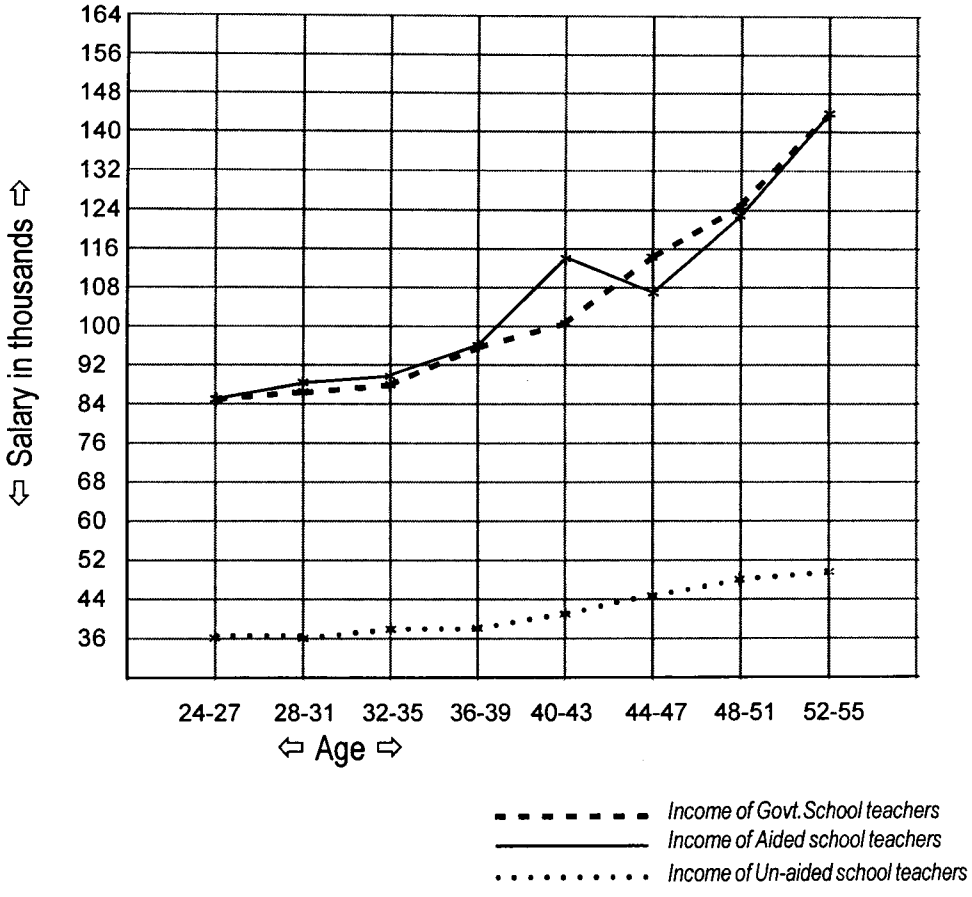
Table XXIII

Showing the Gross Annual Income of teachers under the socio-economic status "C"

	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	85,104	85,104	36,000	72,708
28 - 31	86,016	88,752	36,000	74,453
32 - 35	88,448	89,360	36,900	75,752
36 - 39	95,820	96,073	38,200	81,315
40 - 43	101,520	113,946	42,000	91,506
44 - 47	114,516	106,840	45,000	93,757
48 - 51	124,852	123,465	48,000	104,802
52 - 55	144,384	144,384	49,200	120,253

Figure III

Showing the Age - Education - Earning of teachers under the Socio-economic status "C"



From the table XIII and Figure III, it reveals that teachers in Govt., Aided and Un-aided schools under socio-economic status "C", start their earning at age group 24 - 27. Annual income of this period is Rs.72,708/-. They attain a maximum earning at age group 52 - 55. Annual income of this period is Rs.1,20,253/-. That is, earnings of teachers increase with increase of their service.

In the case of Govt. school teachers and Aided school teachers, their annual earnings increase from Rs.85,104/- to Rs.1,44,384/-. But in the case of un-aided school teachers, their annual income vary from Rs. 36,000/- to Rs.49,200/-.

Annual income of un-aided school teachers is much less when compared to income of teachers in Govt. and aided schools.

Table XXIV

Showing Net Annual Income of teachers under the socio-economic status "C "

	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	84,504	84,504	35,640	72,116
28 - 31	85,416	88,152	35,640	73,914
32 - 35	87,848	88,760	36,540	75,213
36 - 39	94,920	94,873	37,840	80,430
40 - 43	100,620	112,746	41,640	90,620
44 - 47	113,616	105,640	44,640	92,871
48 - 51	123,652	122,265	47,640	103,815
52 - 55	143,184	143,184	48,840	119,266

Net annual income of teachers under socio-economic status "C" vary from Rs.72,116/- to Rs.1,19,266/- as age group vary from 24 - 27 to 52 - 55. Net annual income of Govt. and Aided school teachers vary from Rs.84,504/- to Rs.1,43,184/-. In the case of Un-aided school teachers, net annual income vary from Rs.35,640/- to Rs.48,840/-.

Table XXV				
Showing the Adjusted Annual Earnings of teachers under the socio-economic status "C"				
adjusted by Alpha factor (In rupees) (Alpha = 0.65)				
	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	54,928	54,928	23,166	46,875
28 - 31	55,520	57,299	23,166	48,044
32 - 35	57,101	57,694	23,751	48,888
36 - 39	61,698	61,862	24,596	52,280
40 - 43	65,403	73,480	27,066	58,903
44 - 47	73,850	68,861	29,016	60,366
48 - 51	80,374	79,472	30,966	67,480
52 - 55	93,070	93,070	31,746	77,523

Net income of teachers after adjustment by α–factor under socio-economic status "C" is ranges from Rs.46,875/- to Rs.77,523/- as age group varies from 24-27 to 52-55. It ranges from Rs.54,928/- to Rs.93,070/- in the case of Govt.and Aided school teachers. In the case of Un-aided school teachers, it vary from Rs.23,166/- to Rs.31,746/-

Table XXVI				
Showing the Gross Annual Earnings of teachers under the socio-economic status "D"				
	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	85,104	85,104	36,000	71,805
28 - 31	86,928	88,752	36,000	73,857
32 - 35	87,536	89,664	36,000	74,421
36 - 39	94,072	94,680	37,800	79,072
40 - 43	100,380	101,520	37,200	83,720
44 - 47	106,992	102,660	40,800	87,350
48 - 51	130,476	109,272	46,200	99,258
52 - 55	157,152	134,960	54,000	120,431

Figure - IV

Showing the Age - Education earnings of teachers under the socio-economic status "D"

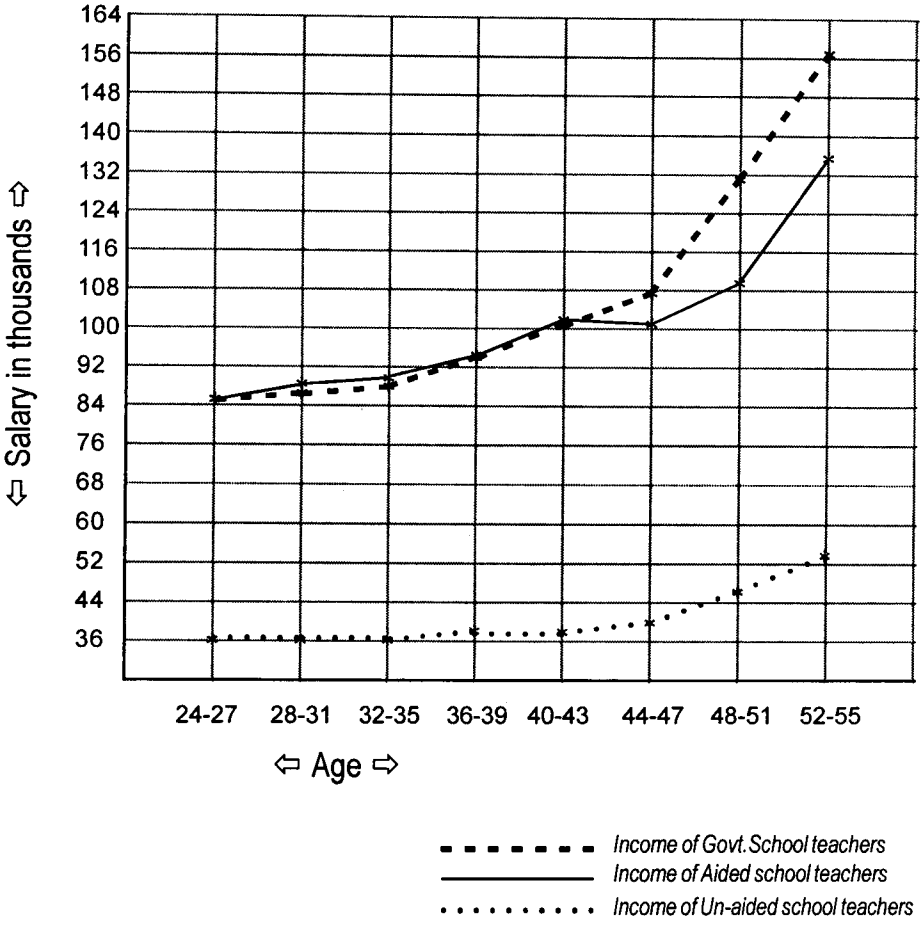


Table XXVI and Figure IV reveal that teachers in Govt., Aided and Un-aided schools under socio-economic status "D", start their earnings at age group 24 - 27. Annual income of this period is Rs.71,805/-. They attain a maximum earning at age group 52 - 55. Annual income of this period is Rs.1,20,431/-. That is, earnings of teachers increase with increase of their service.

In the case of Govt. school teachers, their annual earnings increase from Rs.85,104/- to Rs.1,57,152/-. In the case of aided school teachers, it vary from Rs.85,104/- to Rs.1,34,960/-. But in the case of un-aided school teachers, their annual income vary from Rs. 36,000/- to Rs.54,000/-.

Annual income of un-aided school teachers is much less when compared to income of teachers in Govt. and Aided schools.

Table XXVII

Showing the Net Annual Earnings of teachers under socio-economic status "D"

	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	84,504	84,504	35,640	71,270
28 - 31	86,328	88,152	35,640	73,322
32 - 35	86,936	89,064	35,640	73,886
36 - 39	93,172	93,780	37,440	78,319
40 - 43	99,480	100,620	36,840	82,966
44 - 47	106,092	103,760	40,440	87,388
48 - 51	129,276	108,072	45,840	98,286
52 - 55	155,152	133,760	53,640	119,192

Net annual income of teachers under socio-economic status "D" vary from Rs.71,270/- to Rs.1,19,192/- as age group vary from 24 - 27 to 52 - 55. Net annual income of Govt. school teachers vary from Rs.84,504/- to Rs.1,55,152/- and in the case of aided school teachers, it vary from Rs.84,504/- to Rs.1,33,720/-. In the case of Un-aided school teachers, the net annual income vary from Rs.35,640/- to Rs.53,640/-.

Table XXVIII				
Showing the Adjusted Annual Earnings of teachers under the socio-economic status "D"				
adjusted by Alpha factor (In rupees) (Alpha = 0.65)				
	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	54,928	54,928	23,166	46,326
28 - 31	56,113	57,299	23,166	47,659
32 - 35	56,508	57,892	23,166	48,026
36 - 39	60,562	60,957	24,336	50,907
40 - 43	64,662	65,403	23,946	53,928
44 - 47	68,960	66,144	26,286	56,802
48 - 51	84,029	70,442	29,796	63,886
52 - 55	101,174	86,944	34,866	77,474

Net income of teachers after adjustment by α–factor under socio-economic status "D" is ranges from Rs.46,326/- to Rs.77,474/- as age group varies from 24-27 to 52-55. It is ranges from Rs.54,928/- to Rs.1,01,174/- in the case of Govt.school teachers and from Rs.54,928/- to Rs.86,944/- in the case of aided school teachers. In the case of Un-aided school teachers, it vary from Rs.23,166/- to Rs.34,866/-

Table XXIX				
Showing the Gross Annual Earnings of teachers under the socio-economic status "E"				
	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	85,104	85,104	36,000	72,010
28 - 31	85,104	90,576	36,000	74,016
32 - 35	94,680	95,820	37,200	79,770
36 - 39	96,960	95,250	40,800	81,357
40 - 43	104,256	125,232	39,000	94,546
44 - 47	103,800	102,660	43,200	87,222
48 - 51	125,688	106,080	42,000	96,182
52 - 55	157,152	149,856	48,000	125,370

Figure - V

Showing the Age - Education earnings of teachers under the socio-economic status "E"

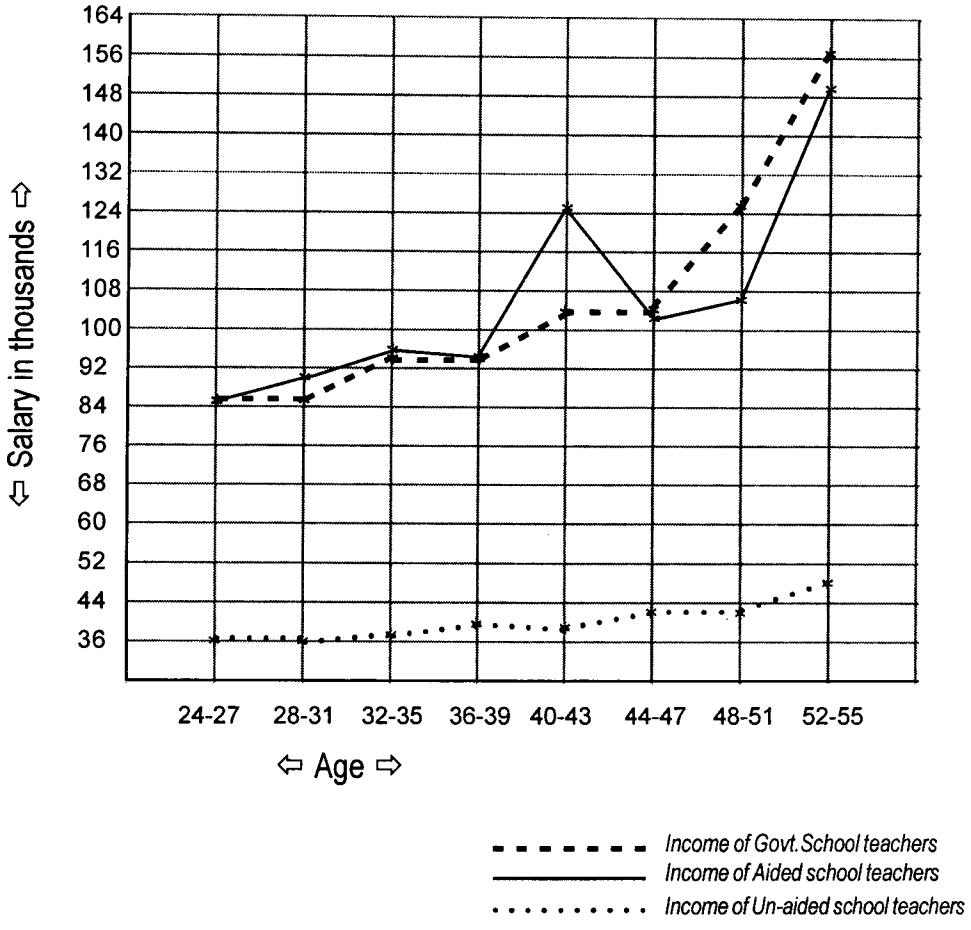


Table XXIX and Figure V reveal that teachers in Govt., Aided and Un-aided schools under socio-economic status "E", start their earnings at age group 24 - 27. Annual income of this period is Rs.72,010/-. They attain a maximum earning at the age group 52 - 55. Annual income of this period is Rs.1,25,370/-. That is, earnings of teachers increase with increase of their service.

In the case of Govt. school teachers, their annual earnings increase from Rs.85,104/- to Rs.1,57,152/-. In the case of aided school teachers, it varies from Rs.85,104/- to Rs.1,49,856/-. But in the case of un-aided school teachers, their annual income vary from Rs. 36,000/- to Rs.48,000/-.

Annual income of un-aided school teachers is much less when compared to income of teachers in Govt. and aided schools.

Table XXX

Showing the Net Annual Earnings of teachers under the socio-economic status "E"

	Type of school			
Age	Govt. Schools	Aided Schools	Un-Aided Schools	Combined
24 - 27	84,504	84,504	35,640	71,474
28 - 31	84,504	89,676	35,640	73,370
32 - 35	93,780	94,920	36,840	79,014
36 - 39	96,060	94,350	40,440	80,601
40 - 43	103,356	124,032	38,640	93,680
44 - 47	102,900	101,760	42,840	86,466
48 - 51	124,488	105,180	41,640	95,316
52 - 55	155,652	148,356	47,640	124,174

Net annual income of teachers under socio-economic status "E" vary from Rs.71,474/- to Rs.1,24,174/- as age group vary from 24 - 27 to 52 - 55. Net annual income of Govt. school teachers vary from Rs.84,504/- to Rs.1,55,652/- and in the case of aided school teachers, it vary from Rs.84,504/- to Rs.1,48,356/-. In the case of Un-aided school teachers, net annual income vary from Rs.35,640/- to Rs.47,640/-.

Table XXXI				
Showing the Adjusted Annual Earnings of teachers under the socio-economic status "E"				
adjusted by Alpha factor (In rupees) (Alpha = 0.65)				
	Type of school			
Age	**Govt. Schools**	**Aided Schools**	**Un-Aided Schools**	**Combined**
24 - 27	54,928	54,928	23,166	46,458
28 - 31	54,928	58,289	23,166	47,691
32 - 35	60,957	61,698	23,946	51,359
36 - 39	62,439	61,328	26,296	52,391
40 - 43	67,181	80,621	25,116	60,892
44 - 47	66,885	66,144	27,846	56,203
48 - 51	80,917	68,367	27,066	61,955
52 - 55	101,174	96,626	30,966	80,713

Net income of teachers after adjustment by α–factor under socio-economic status "E" is ranges from Rs.46,458/- to Rs.80,713/- as age group vary from 24-27 to 52-55. It is ranges from Rs.54,928/- to Rs.1,01,174/- in the case of Govt.school teachers and from Rs.54,928/- to Rs.96,626/- in the case of aided school teachers. In the case of Un-aided school teachers, it vary from Rs.23,166/- to Rs.30,966/-

Table XXXII

Showing the Gross Annual Income of teachers in respect of different types of institutions.

(In Rupees)

Age	Type of Institution			
	Government	Aided	Un-Aided	Combined
24 - 27	85,104	85,104	36,000	70,662
28 - 31	86,417	89,968	36,000	67,102
32 - 35	90,351	92,047	36,861	73,046
36 - 39	95,829	97,158	38,371	78,314
40 - 43	102,672	107,658	32,656	85,751
44 - 47	110,126	104,398	43,142	96,337
48 - 51	124,176	120,455	45,958	113,809
52 - 55	145,277	142,660	50,148	128,223

In the case of Govt. school teachers, their annual earnings increase from Rs.85,104/- to Rs.1,45,277/- as age group varies from 24-27 to 52-55. In the case of aided school teachers, it vary from Rs.85,104/- to Rs.1,42,660/-. But in the case of un-aided school teachers, their annual income vary from Rs. 36,000/- to Rs.50,148/-.

Annual income of un-aided school teachers is much less when compared to income of teachers in Govt. and aided schools.

Table XXXIII

Showing the Net Annual Income of teachers in respect of different types of institutions.

(In Rupees)

Age	Type of Institution		
	Government	Aided	Un-Aided
24 - 27	84,504	84,817	35,640
28 - 31	85,817	89,368	35,640
32 - 35	89,451	91,147	36,501
36 - 39	94,929	96,258	38,011
40 - 43	101,772	106,758	32,296
44 - 47	109,226	103,498	42,782
48 - 51	122,976	119,255	45,598
52 - 55	144,077	141,460	49,788

Net annual income of teachers in Govt. schools vary from Rs.84,504/- to Rs.1,44,077/- as age group vary from 24 - 27 to 52 - 55. Net annual income of Aided school teachers vary from Rs.84,817/- to Rs.1,41,460/- and in the case of Un-aided school teachers, it vary from Rs.35,640/- to Rs.49,788/-.

Table XXXIV

Showing the adjusted annual Income of teachers in respect of different types of institutions, adjusted by Alpha factor

(In Rupees) (Alpha = 0.65)

	Type of Institution			
Age	Government	Aided	Un-Aided	Combined
24 - 27	54,928	54,928	23,244	45,609
28 - 31	55,781	58,089	23,244	43,320
32 - 35	58,143	59,246	23,726	47,012
36 - 39	61,704	63,153	24,707	50,707
40 - 43	66,152	69,393	20,992	55,246
44 - 47	71,192	67,274	27,808	62,166
48 - 51	79,934	77,516	29,639	73,255
52 - 55	93,650	91,949	32,362	82,656

Net income of teachers after adjusting by α–factor ranges from Rs.43,320/- to Rs.82,656/-. In the case of Govt. school teachers, it ranges from Rs.54,928/- to Rs.93,650/- as age group varies from 24-27 to 52-55. In the case of aided school teachers, it ranges from Rs.54,928/- to Rs.91,949/- and in the case of Un-aided school teachers, it vary from Rs.23,244/- to Rs.32,362/-

4.5. TO ESTIMATE THE PRIVATE RATE OF RETURNS OF GRADUATE TEACHER EDUCATION IN KERALA.

Table XXXV

Showing the Private rate of Returns of B.Ed Degree Education in respect of the socio-economic status of the respondent

	Socio-Economic status					
Type of school	A	B	C	D	E	Combined
Government	4.801	4.586	2.878	2.675	2.769	3.214
Aided	4.801	4.586	2.878	2.675	2.770	3.214
Un-Aided	2.025	1.934	1.214	1.128	1.168	1.360
Combined	4.145	3.899	2.456	2.256	2.343	2.668

Table XXXV reveals that private rate of returns of B.Ed degree education in Kerala is 2.668. It is 4.145, 3.899, 2.456, 2.256, 2.343 respectively, for the respondents under socio-economic status A,B,C,D and E. Private Rate of Retuns in respect of Govt., Aided and Un-aided schools are 3.214, 3.214 and 1.360 respectively.

Private rate of returns of B.Ed degree course in Govt. schools under socio-economic status A,B,C,D and E are 4.801, 4.586, 2.878, 2.675 and 2.769. It is 4.801, 4.586, 2.878, 2.675 and 2.770 in the case of Aided schools and 2.025, 1.934, 1.214, 1.128 and 1.168 in the case of Un-aided schools under socio-economic status A,B,C,D and E.

Here, private rate of returns decrease with increase of socio-economic status of students. Also private rate of returns of Un-aided schools are much less than that of Govt. and Aided schools.

4.6. TO ESTIMATE THE SOCIAL RATE OF RETURNS OF GRADUATE TEACHER EDUCATION IN KERALA.

Table XXXVI

Showing the Social rate of Returns of B.Ed Degree Education in respect of the socio-economic status of the respondent

	Socio-Economic status					
Type of school	A	B	C	D	E	Combined
Government	3.114	3.284	2.673	2.696	2.523	2.821
Aided	3.115	3.284	2.674	2.696	2.524	2.821
Un-Aided	1.317	1.389	1.131	1.140	1.067	1.193
Combined	2.689	2.793	2.284	2.275	2.135	2.341

Table XXXVI reveals that Social rate of returns of B.Ed degree education in Kerala is 2.341. It is 2.689, 2.793, 2.284, 2.275 and 2.135 respectively, for respondents under socio-economic status A,B,C,D and E. Social Rate of Retuns in respect of Govt., Aided and Un-aided schools are 2.821, 2.821 and 1.193 respectively.

Social rate of returns of B.Ed degree course in Govt. schools under socio-economic status A,B,C,D and E are 3.114, 3.284, 2.673, 2.696 and 2.523. It is 3.115, 3.284, 2.674, 2.696 and 2.524 in the case of Aided schools and1.317, 1.389, 1.131, 1.140 and 1.069 in the case of Un-aided schools under socio-economic status A,B,C,D and E.

Here, social rate of returns decrease with increase of Socio-economic status of students. Also, social rate of returns of Un-aided schools is much less than that of Govt. and Aided schools.

4.7. TO ESTIMATE THE PEAK EARNINGS OF GRADUATE TEACHERS IN KERALA.

Table XXXVII

Showing the Peak Earnings of Graduate Teacher in respect of their Socio-economic status and type of schools which they have worked.

	Type of school						
	Government		Aided		Un-Aided		Combined
Socio-Economic status	Peak Earning	Age at Peak earning	Peak Earning	Age at Peak earning	Peak Earning	Age at Peak earning	Peak earning
A	125,232	55	137,544	55	48,000	55	112,124
B	143,244	55	146,664	55	50,400	55	120,503
C	144,384	55	144,384	55	49,200	55	120,253
D	157,152	55	134,960	55	54,000	55	120,431
E	157,152	55	149,856	55	48,000	55	125,370
Combined	**145,277**		**142,505**		**50,148**		**119,700**

Peak earnings of teachers in Kerala is at the age of 55 and peak earnings is Rs.1,19,700/-. In Kerala, 55 is the pension age and salary is fixed in respect of service. There is a wide difference in peak earnings of un-aided school teachers and Govt. and Aided school teachers. Peak earnings of Govt, Aided and Un-aided school teachers are Rs.1,45,277/-, Rs.1,42,505/-, and Rs.50,148/- respectively.

Peak earnings of teachers in Govt schools ranges from Rs.1,25,232/- to Rs.1,57,152/- in the case of teachers under different socio-economic status. In the case of Aided school teachers, it ranges from Rs.1,34,960/- to Rs.1,49,856/-. But in the case of Un-aided school teachers, it ranges from Rs.48,000/- to Rs.54,000/-.

Peak earnings of teachers under different socio-economic status A, B, C, D and E are Rs.1,12,124/-, Rs.1,20,503/-, Rs.1,20,253/-, Rs.1,20,431/- and Rs.1,25,370/- respectively.

4.8. TO ESTIMATE THE AVERAGE LIFE-TIME EARNINGS OF GRADUATE TEACHERS IN KERALA.

Table XXXVIII

Showing the Average Life - time Earnings of Graduate Teacher in respect of their socio - economic status and type of schools which they have worked.

	Type of school			
Socio-Economic status	Government	Aided	Un-Aided	Combined
A	101,412	106,835	39,975	89,145
B	105,492	104,738	40,988	88,476
C	105,083	105,995	41,413	89,314
D	106,080	100,827	40,500	86,239
E	106,593	106,322	40,275	88,809
Combined	**104,994**	**104,875**	**40,770**	**88,424**

Yearly average Life-time earnings of a graduate teacher in Kerala is Rs.88,424/-. It is Rs.1,04,994/-, Rs.1,04,875/- and Rs.40,770/- respectively for Govt., Aided and Un-aided school teachers. It is Rs. 89,145/-, Rs.88,476/-, Rs.89,314/-, Rs.86,239/- and Rs.88,809/- in the case of teachers under the socio-economic status A,B,C,D and E.

Yearly average Life-time earnings of un-aided school teachers are much less than that of Govt. and Aided school teachers. Yearly average Life-time earnings of Govt. and Aided school teachers are almost the same. This is due to the same pattern of salary structure of Govt. and Aided school teachers.

4.9. TO ANALYSE THE COST - BENEFIT ASPECT OF GRADUATE TEACHER EDUCATION IN DIFFERENT INSTITUTIONS SUCH AS GOVT. COLLEGES, AIDED COLLEGES, UNIVERSITY CENTRES AND UN-AIDED COLLEGES IN KERALA.

Table XXXIX

Showing the Average Private Academic cost in respect of type of institutions

(In Rupees)

	Type of Institution				
Components	Government	Aided	University Centre	Un-Aided	Combined
Pre-Admission	148 (3)	153 (3)	158 (1)	164 (1)	157 (1)
College Fees	1609 (28)	1564 (27)	12877 (75)	16459 (79)	8883 (690
Books	1433 (25)	1458 (26)	1450 (9)	1469 (7)	1455 (11)
Stationery	667 (12)	660 (12)	667 (4)	675 (3)	667 (5)
Teaching Practice	248 (4)	254 (4)	250 (1)	270 (2)	259 (2)
Study Tour	1404 (25)	1431 (25)	1478 (9)	1511 (7)	1462 (11)
Others	161 (3)	165 (3)	165 (1)	175 (1)	168 (1)
Total	**5670 (100)**	**5685 (100)**	**17045 (100)**	**20723 (100)**	**13051 (100)**

(Figures in brackets show percentages)

Table XXXIX reveals that total private or parental cost of B.Ed degree education in Kerala is Rs.13,051/-. It is Rs.5,670/-, Rs.5,685/-, Rs.17,045/-, Rs.20,723/- respectively in Govt., Aided, University Centre and Un-aided colleges.

Main component of private academic cost is college fee. It is 69% of total cost. In Govt. and aided colleges, the college fee is 28% and 27% of total private cost respectively. But in the case of University centres and un-aided colleges, it is 75% and 79% respectively.

Table XL

Showing the Private Incidental cost in respect of type of institutions

(In Rupees)

Components	Type of Institution				
	Government	Aided	University Centre	Un-Aided	Combined
Hostel	2095 (37)	1716 (31)	1661 (30)	1832 (31)	1797 (32)
Clothing	1390 (24)	1488 (27)	1464 (26)	1550 (26)	1485 (26)
Subscription	358 (6)	356 (6)	359 (6)	384 (6)	365 (6)
Travel	1145 (20)	1214 (22)	1224 (22)	1286 (21)	1227 (21)
Entertainment	318 (5)	302 (5)	327 (6)	339 (6)	322 (6)
Donation	267 (5)	258 (5)	280 (5)	299 (5)	277 (5)
Others	177 (3)	196 (4)	260 (5)	298 (5)	242 (4)
Total	**5750 (100)**	**5530 (100)**	**5575 (100)**	**5988 (100)**	**5715 (100)**

(Figures in brackets show percentages)

According to Table XL, incidental cost of B.Ed degree education in Kerala is Rs.5,715/-. It is Rs.5,750/-, Rs.5,530/-, Rs.5,575/- and Rs.5,988/- respectively in Govt., Aided, University centre and Un-aided colleges.

Students spend more on hostel expenses (32%), clothing (26%) and travel(21%). That is 79% of total incidental cost is incurred for the above three components.

Table XLI

Showing the Gross and Net Private cost of B.Ed Degree education in respect of different types of institutions.

(In Rupees)

Components	Type of Institution				
	Government	Aided	University Centre	Un-Aided	Combined
Academic Cost	5670 (50)	5685 (51)	17045 (75)	20723 (78)	13051 (70)
Incidental Cost	5750 (50)	5530 (49)	5575 (25)	5988 (22)	5715 (30)
Gross Amount	11420 (100)	11215 (100)	22620 (100)	26711 (100)	18766 (100)
Subsidies	2008 (18)	1757 (16)	1898 (8)	1204 (5)	1675 (9)
Net Amount	**9412 (82)**	**9458 (84)**	**20722 (92)**	**25507 (93)**	**17091 (91)**

(Figures in brackets show percentages)

Gross private cost of B.Ed degree education in Kerala is Rs.18,766/-. It is Rs.11,420/-, Rs.11,215/-, Rs.22,620/-, Rs.26,711/- respectively in the case of Govt., Aided, University centre and Un-aided colleges. Subsidy given by the institution is Rs.1,675/-. It is 9% of total parental cost. Subsidy given by the Govt., Aided, University centre and un-aided colleges are Rs.2,008/-, Rs.1,757/-, Rs.1,898/- and Rs.1,204/- respectively. It is 16 to 18 % of total parental cost in Govt and aided colleges and 5 to 8 % in university centre and un-aided colleges.

Net private cost of B.Ed degree education in Kerala is Rs.17,091/-. It is Rs.9,412/-, Rs.9,458/-, Rs.20,722/-, Rs.25,507/- respectively in the case of Govt., Aided, university centre and un-aided colleges.

Table XLII

Showing the Social Cost of B.Ed Degree Course in respect of different types of institutions.

(In Rupees)

	Type of Institution				
Components	Government	Aided	University Centre	Un-Aided	Combined
Net Private Cost	9412 (25)	9458 (24)	20722 (97)	25507 (99)	17091 (57)
Net Institutional Cost	28199 (75)	29292 (76)	612 (3)	267 (1)	13083 (43)
Social Cost	37611 (100)	38750 (100)	21334 (100)	25774 (100)	30174 (100)

(Figures in brackets show percentages)

Social cost of B.Ed degree education in Kerala is Rs.30,174/-. It is Rs.37,611/-, Rs.38,750/-, Rs.21,334/- and Rs.25,774/- in the case of Govt., Aided, university centre and un-aided colleges. Here, 57% of social cost is private cost and 43% is institutional cost.

In Govt. colleges, 26% of social cost is private cost and 74% is institutional cost. In aided colleges, it is 25% and 75% respectively. In the case of university centres, it is 97% and 3%, and in the case of un-aided colleges, it is 99% and 1%.

Table XLIII

Showing the Private rate of returns of B.Ed Degree education in respect of different insitutions.

	Type of School (Benefit)		
Types of Colleges (Cost)	Government	Aided	Un-Aided
Govt	5.598	5.598	2.269
Aided	5.753	5.753	2.435
University Centre	2.620	2.621	1.109
Un-Aided	2.200	2.202	0.931

Table XLIII reveals that private rate of returns of B.Ed degree education in Kerala for Govt. College - Govt. school combination and Govt College- Aided school combination is 5.598, which is the highest. The least rate of returns of 0.931 has attained in the case of Unaided college- Unaided school combination.

Aided college - Govt. school and Aided college - Aided school combinations have private rate of returns 5.753. It is 2.620 for University Centre - Govt.school and 2.621 for University centre - Aided school combinations. Also, Un-aided college - Govt school and Un-aided college - Aided school combinations have private rate of returns 2.200 and 2.202 respectively. It is 2.269, 2.435 and 1.105 respectively for Govt.college - Un-aided school, Aided college - Un - aided school and University Centre - Un aided school combinations.

Table XLIV

Showing the Social rate of returns of B.Ed Degree education in respect of different insitutions.

	Type of School (Benefit)		
Types of Colleges (Cost)	Government	Aided	Un-Aided
Govt	2.239	2.240	0.947
Aided	2.192	2.193	0.927
University Centre	3.944	3.944	1.668
Un-Aided	3.372	3.372	1.426

Table XLIV reveals that social rate of returns of B.Ed degree education in Kerala in the case of University Centre - Govt. school combination and University Centre - Aided school combinations is 3.944 which is the highest. The least rate of returns of 0.927 has attained by Aided college- Un-aided school combination.

Aided college - Govt. school and Aided college - Aided school combinations have social rate of returns 2.192 and 2.193. It is 2.239 and 2.240 in the case of Govt.college - Govt.school and Govt.college - Aided school combinations. Also, in the case of Un-aided college - Govt school and Un-aided college - Aided school combinations have social rate of returns 3.372. It is 0.947, 1.668 and 1.426 respectively in the case of Govt.college - Un-aided school, University Centre - Un - aided school and Un-aided college - Un aided school combinations.

4.10. TO ANALYSE THE RATE OF RETURNS OF GRADUATE TEACHER EDUCATION OF RESPONDENTS ACCORDING TO THEIR PLACE OF RESIDENCE

Table - XLV

Showing the average Private academic cost of respondents according to their place of residence

Type of residence	DAYSCHOLARS						HOSTELERS					
Socio-economic status	A	B	C	D	E	COMBINED	A	B	C	D	E	COMBINED
Components												
Pre-admission	143	149	158	157	176	157	143	147	155	160	179	156
College Fee	4721	5404	10781	11831	10726	9146	4327	4645	9497	11160	9962	8312
Books	1453	1424	1459	1458	1502	1455	1430	1417	1455	1486	1505	1457
Stationary	649	650	664	676	702	666	647	654	663	682	707	669
Teaching Practice	223	244	251	257	341	260	230	238	259	263	293	257
Study Tour	1456	1431	1488	1454	1486	1464	1444	1450	1448	1463	1510	1459
Others	157	161	166	161	199	167	163	161	166	164	206	169
Total	**8802**	**9463**	**14967**	**15994**	**15132**	**13315**	**8384**	**8712**	**13643**	**15378**	**14362**	**12479**

Private cost of dayscholars is Rs.13,315/- and hostelers is Rs.12,479/-. Private cost of dayscholars under socio-economic status A, B, C, D and E are Rs.8,802/-, Rs.9,463/-, Rs.14,967/-, Rs.15,994/- and Rs.15,132/-. It is Rs.8,384/-, Rs.8,712/-, Rs.13,643/-, Rs.15,378/- and Rs.14,362/- respectively in the case of hostelers under socio-economic status A, B, C, D and E.

Table - XLVI

Showing the average incidental cost of respondents according to their place of residence

Type of residence	DAYSCHOLARS						HOSTELERS					
Socio-economic status	A	B	C	D	E	COMBINED	A	B	C	D	E	COMBINED
Components												
Hostel	0	0	0	0	0	0	5559	5618	5710	5721	5928	5705
Clothing	1272	1408	1395	1500	1584	1435	1292	1506	1648	1639	1755	1595
Subscription	336	337	364	369	399	360	362	352	381	373	411	375
Travel	1560	1297	1709	1702	1557	1569	758	425	439	488	509	483
Entertainments	243	321	337	309	364	323	413	281	342	256	369	319
Donations	245	259	285	286	289	276	256	271	270	312	283	280
Others	183	200	303	241	240	247	232	191	222	272	250	230
Total	**3839**	**3822**	**4393**	**4407**	**4433**	**4210**	**8872**	**8644**	**9012**	**9061**	**9505**	**8987**

Incidental cost of dayscholars is Rs.4,210/- and hostelers is Rs.8,987/-. Incidental cost of dayscholars under the socio-economic status A, B, C, D and E are Rs.3,839/-, Rs.3,822/-, Rs.4,393/-, Rs.4,407/- and Rs.4,433/- respectively. It is Rs.8,872/-, Rs.8,644/-, Rs.9,012/-, Rs.9,061/- and Rs.9,505/- respectively for hostelers under socio-economic status A, B, C, D and E.

Table - XLVII

Showing the gross and net private cost of B.Ed degree education in respect of the place of residence of the respondents

Type of residence	DAYSCHOLARS						HOSTELERS					
Socio-economic status	A	B	C	D	E	COMBINED	A	B	C	D	E	COMBINED
Components												
Academic Cost	8802	9463	14967	15994	15132	13315	8384	8712	13643	15378	14362	12479
Incidental Cost	3840	3822	4393	4407	4433	4210	8872	8644	9012	9061	9505	8987
Gross Amount	12641	13285	19360	20401	19565	17525	17256	17356	22655	24439	23867	21466
Subsidy	2913	2479	1298	1173	1115	1673	2922	2486	1342	1154	1128	1682
Net Amount	**9728**	**10806**	**18062**	**19228**	**18450**	**15852**	**14334**	**14870**	**21313**	**23285**	**22739**	**19784**

Gross private cost of B.Ed degree education in respect of dayscholars is Rs.17,525/- and hostelers is Rs.21,466/-. Subsidy given by the institution to dayscholars is Rs.1,673/- and hostelers is Rs.1,682/-.

Gross private cost of B.Ed degree education in respect of dayscholars under socio-economic status A, B, C, D and E are Rs.12,641/-, Rs.13,285/-, Rs.19,360/-, Rs.20,401/- and Rs.19,565/- respectively. For the hostelers, it is Rs.17,256/-, Rs.17,356/-, Rs.22,655/-, Rs.24,439/- and Rs.23,867/-.

Net private cost of B.Ed Degree education in respect of dayscholars is Rs.15,852/- and hostelers is Rs.19,784/-.

Net private cost of B.Ed degree education in respect of dayscholars under socio-economic status A, B, C, D and E are Rs.9,728/-, Rs.10,806/-, Rs.18,062/-, Rs.19,228/- and Rs.18,450/- respectively. In the case of hostelers, it is Rs.14,334/-, Rs.14,870/-, Rs.21,313/-, Rs.23,285/- and Rs.22,739/-.

Table - XLVIII

Showing the social cost of B.Ed degree education in respect of the place of residence of the respondents

Type of residence	DAYSCHOLARS						HOSTELERS					
Socio-economic status	A	B	C	D	E	COMBINED	A	B	C	D	E	COMBINED
Components												
Net Private Cost	9728	10806	18062	19228	18450	15852	14334	14870	21313	23285	22739	19784
Net Institutional Cost	15891	13942	12751	11034	13895	13083	15891	13942	12751	11034	13895	13083
Social Cost	**25619**	**24748**	**30813**	**30262**	**32345**	**28935**	**30225**	**28812**	**34064**	**34319**	**36634**	**32867**

Social cost of B.Ed degree education in respect of dayscholars is Rs.28,935/- and hostelers is Rs.32,867/-.

Social cost of B.Ed degree education in respect of dayscholars under socio-economic status A, B, C, D and E are Rs.25,619/-, Rs.24,748/-, Rs.30,813/-, Rs.30,262/- and Rs.32,345/- respectively. In the case of hostelers, it is Rs.30,225/-, Rs.28,812/-, Rs.34,064/-, Rs.34,319/-, Rs.36,634/-.

Table - XLIX

Showing the Private rate of returns of B.Ed degree education in respect of the place of residence of the respondents

Type of residence	DAYSCHOLARS						HOSTELERS					
Benefits ⇩	⇦COSTS⇨											
Socio-economic status	A	B	C	D	E	COMBINED	A	B	C	D	E	COMBINED
Components												
Government	5.647	5.083	3.041	2.857	2.977	3.465	3.832	3.694	2.577	2.359	2.416	2.777
Aided	5.647	5.083	3.042	2.857	2.978	3.465	3.832	3.694	2.577	2.359	2.417	2.777
Un-Aided	2.390	2.151	1.543	1.209	1.504	1.466	1.622	1.563	1.091	0.998	1.022	1.175

Private rate of returns of B.Ed degree education in respect of dayscholars of Govt. and aided colleges, is 3.465. It is 1.466 for un-aided colleges. In the case of hostelers, it is 2.777 for Govt. and aided colleges. But in the case of un-aided colleges, it is 1.175.

Private rate of returns of B.Ed degree education in respect of dayscholars under socio-economic status A, B, C, D and E of Govt. colleges are 5.647, 5.083, 3.041, 2.857 and 2.977 respectively. In the case of aided colleges, it is 5.647, 5.083, 3.042,

2.857 and 2.978 respectively. In the case of un-aided colleges, it is 2.390, 2.151, 1.543, 1.209 and 1.504 respectively.

Private rate of returns of B.Ed degree education in respect of hostelers under socio-economic status A, B, C, D and E of Govt. colleges are 3.832, 3.694, 2.577, 2.359, and 2.416 respectively. In the case of aided colleges, it is 3.832, 3.694, 2.577, 2.359 and 2.417 respectively. In the case of un-aided schools, it is 1.622, 1.563, 1.091, 0.998 and 1.022 respectively.

Table - L

Showing the social rate of returns of B.Ed degree education in respect of the place of residence of the respondents

Type of residence	DAYSCHOLARS						HOSTELERS					
Benefits ⇩	⇦COSTS ⇨											
Socio-economic status	A	B	C	D	E	COMBINED	A	B	C	D	E	COMBINED
Components												
Government	3.322	3.439	2.762	2.812	2.632	2.941	2.816	2.954	2.498	2.480	2.323	2.590
Aided	3.323	3.439	2.763	2.813	2.632	2.942	2.817	2.955	2.499	2.481	3.324	2.591
Un-Aided	1.405	1.455	1.168	1.190	1.113	1.244	1.191	1.250	1.057	1.049	0.983	1.097

Social rate of returns of B.Ed degree education in respect of dayscholars in Govt., aided and un-aided colleges, are 2.941, 2.942 and 1.244 respectively. In the case of hostelers, it is 2.590, 2.591 and 1.097 respectively for Govt., aided and un-aided colleges.

Social rate of returns of B.Ed degree education in respect of dayscholars under socio-economic status A, B, C, D and E of Govt. colleges are 3.322, 3.439, 2.762, 2.812 and 2.632 respectively. In the case of aided colleges, it is 3.323, 3.439, 2.763,

2.813 and 2.632 respectively. In the case of un-aided colleges, it is 1.405, 1.455, 1.168, 1.190 and 1.113 respectively.

Social rate of returns of B.Ed degree education in respect of hostelers under socio-economic status A, B, C, D and E of Govt. colleges are 2.816, 2.954, 2.498, 2.480 and 2.323 respectively. In the case of aided colleges, it is 2.817, 2.955, 2.499, 2.481 and 2.324 respectively. In the case of un-aided colleges, it is 1.191, 1.250, 1.057, 1.049 and 0.983 respectively.

4.11. THE NON - MONETARY BENEFITS ACQUIRED BY THE GRADUATE TEACHERS IN KERALA

A list of probable 18 non - monetary benefits were listed in the questionnaire and the respondents were requested to assign 3 score for 'great extent', 2 for 'some extent' and 1 for 'not at all'. They are:

(i) To develop skills

(ii) To behave rationally and properly

(iii) To find out the realities of life

(iv) To respond against injustice and exploitation

(v) To become a better man

(vi) To develop artistic talents

(vii) To develop a better and planned life

(viii) To solve many social and personal problems

(ix) To find out values of life

(x) To encourage the education of others

(xi) To develop self-confidence and expectation about future life

(xii) To develop personality

(xiii) To make value judgement

(xiv) To develop proper attitudes and interests

(xv) To develop good citizenship

(xvi) To develop culture

(xvii) To achieve high status in society

(xviii) To keep away from social evils

Table - LI

Showing the Non-monetary benefits of B.Ed degree education by Ranks

Socio-economic	A					B					C					D					E					Combined	
Scores	3	2	1	Total	Rank	3	2	1	Total	Rank	3	2	1	Total	Rank	3	2	1	Total	Rank	3	2	1	Total	Rank	Total	Rank
Items																											
1	25	11	2	99	1	20	27	7	121	1	19	37	15	146	2	17	26	4	107	1	13	12	6	69	6	542	1
2	5	9	24	57	15	7	11	36	79	15	9	13	49	102	16	8	11	28	74	13	7	8	16	53	15	365	15
3	4	9	25	55	16	6	11	37	77	16	9	17	45	106	15	5	12	30	69	16	5	14	12	55	13	362	16
4	5	15	18	63	11	6	24	24	90	10	9	27	35	116	11	8	19	20	82	10	7	17	7	62	9	413	10
5	7	6	25	58	14	10	9	35	83	13	13	11	47	108	13	9	8	30	73	14	7	8	16	53	14	375	13
6	10	16	12	74	8	14	19	21	101	6	18	23	30	130	6	12	18	17	89	8	15	17	3	70	5	464	7
7	14	15	9	81	3	17	20	17	108	3	20	23	28	134	4	18	18	11	101	4	11	15	1	76	2	500	3
8	12	14	12	76	6	13	17	24	97	7	17	20	34	125	7	16	19	12	98	6	12	16	3	71	4	467	6
9	5	14	19	62	12	6	17	31	83	14	8	20	43	107	14	4	13	30	68	17	3	12	16	49	16	369	14
10	8	15	15	69	9	12	17	25	95	9	15	19	37	120	10	11	18	18	87	9	5	16	10	57	10	428	9
11	14	12	12	78	4	17	15	22	103	4	23	17	31	134	3	19	16	12	101	3	16	13	2	76	1	492	5
12	12	13	13	75	7	13	15	26	95	8	15	23	33	124	8	16	16	15	95	7	10	14	7	65	7	454	8
13	5	17	16	65	10	7	18	29	86	12	10	19	42	110	12	8	15	24	78	12	6	12	13	55	12	394	12
14	13	18	7	82	2	14	20	20	102	5	18	25	28	132	5	16	24	7	103	2	14	16	1	75	3	494	4
15	3	7	28	51	18	4	10	40	72	17	8	13	50	100	18	6	12	29	71	15	3	5	23	42	17	336	17
16	3	5	30	55	17	4	8	42	70	18	7	17	47	102	17	5	12	27	66	18	2	5	24	40	18	333	18
17	12	15	11	77	5	17	24	13	112	2	23	35	13	152	1	19	13	15	98	5	8	16	7	63	8	502	12
18	4	15	19	61	13	5	25	24	89	11	10	31	30	122	9	8	19	20	82	11	6	12	13	55	12	409	11

Table 'LI' reveals the non-monetary benefits of B.Ed.Degree education as per the opinion of the respondents. They are given below, in the order of ranks.

1. To develop skills
2. To achieve high status in society
3. To develop a better and planned life
4. To develop proper attitudes and interests
5. To develop self-confidence and expectation about future life
6. To solve many social and personal problems
7. To develop artistic talents
8. To develop personality
9. To encourage the education of others
10. To respond against injustice and exploitation
11. To keep away from social evils
12. To make value judgement
13. To become a better man
14. To find out values of life
15. To behave rationally and properly
16. To find out the realities of life
17. To develop good citizenship
18. To develop culture

TABLE - LII		
Showing the Rank correlation of opinions of non-monetary benefits of B.Ed degree education		
Sl No:	Group (Socio - Economic status)	Rank - Correlation coefficient
1	A & B	0.9587
2	A & C	0.9360
3	A & D	0.9484
4	A & E	0.8803
5	B & C	0.9856
6	B & D	0.9546
7	B & E	0.8994
8	C & D	0.9298
9	C & E	0.8834
10	D & E	0.9205

Table 'LII' reveals that the highest value of correlation coefficient is 0.9855522 and that of lowest correlation coefficient is 0.880890. That is, the opinion of the respondents under Socio-economic status, B & C are highly correlated, while the opinions of A & E show low correlation.

4.12. MEASURES FOR IMPROVING THE EXISTING GRADUATE TEACHER EDUCATION IN KERALA

4.12.1 THE REASONS FOR SELECTING B.ED. DEGREE COURSE OF RESPONDENTS.

A list of five probable reasons for selecting B.Ed. Degree course was given in the questionnaire, and the respondents were requested to write their order of preference.

They are :

a) Better Job prospects

b) High Social Status

c) Influence of parents and others

d) Interest in profession

e) Influence of teachers

TABLE - LIII

Showing the reasons for choosing B.Ed degree education

Respondents	Students						Teachers						Combined	
Order of preference	1	2	3	4	5	Total Score	1	2	3	4	5	Total Score	Grand Score	Rank
Score	5	4	3	2	1		5	4	3	2	1			
Items														
a	136	129	106	51	52	1668	48	45	46	48	54	708	2376	2
b	138	122	115	58	40	1679	61	51	46	39	44	769	2448	1
c	120	137	91	50	75	1596	57	50	49	43	42	760	2356	3
d	87	123	126	80	57	1522	56	52	46	36	51	749	2271	4
e	82	109	100	83	99	1411	50	50	60	37	44	748	2159	5

Table LIII reveals the reasons for choosing B.Ed Degree course as per the opinion of the respondents. They are given below in the order of preference.

1) High Social Status

2) Better Job prospects

3) Influence of parents and others

4) Interest in profession

5) Influence of teachers

4.12.2 THE PROBLEMS WHILE UNDERGOING THE B.ED. DEGREE COURSE.

For finding out the problems of students while undergoing the B.Ed. degree course, the investigator gave a list of 12 probable problems. They are :

1. Difficulty in understanding the language of instruction
2. Uninteresting curriculum
3. Non-availability of learning materials
4. Lack of institutional facilities
5. Lack of personal and educational guidance
6. Incompetent teachers
7. Conveyance problem
8. High cost of education
9. Not suitable to taste
10. Unable to understand well due to the abstract nature of study materials
11. Problems related to Residence and accommodation
12. Adjustment problems

Respondents were requested to write 'great extent', 'some extent' and 'not at all' for each problem. Scores were assigned at the rate of 3, 2 and 1 for 'great extent', 'some extent', and 'not at all' respectively. Total scores of each item, is calculated in the following table.

TABLE - LIV Showing the problems while undergoing the course					
Scores	3	2	1	Total Score	Rank
Item					
1	52	219	202	796	**10**
2	162	234	77	1031	**4**
3	89	108	276	759	**12**
4	196	178	99	1043	**3**
5	159	173	141	964	**5**
6	197	184	92	1051	**1**
7	66	189	218	794	**11**
8	105	219	149	902	**7**
9	193	183	95	1040	**2**
10	56	243	174	828	**9**
11	72	264	137	881	**8**
12	101	233	139	908	**6**

From Table LIV, it is seen that the problems of B.Ed. Degree course while undergoing, in the order of their ranks are :

1. Incompetent teachers.
2. Not suitable to aptitude.
3. Lack of institutional facilities.
4. Uninteresting curriculum.
5. Lack of personal and educational guidance.
6. Adjustment problems.
7. High cost of education.
8. Residence and accommodation related problems.
9. Unable to understand well due to the abstract nature of study materials.
10. Difficulty in understanding the language of instruction.
11. Conveyance problem.
12. Non-availability of learning materials.

4.12.3 SUGGESTIONS FOR IMPROVING THE EXISTING B.ED. DEGREE COURSE IN KERALA

Investigator interviewed 15 educational experts to collect their views regarding the improvement of the quality of B.Ed degree education in Kerala. An open - ended question was included in the questionnaire to express the views of the respondents to improve the quality of the present B.Ed degree education in Kerala. From these the following remedial measures are put forward to improve the quality of B.Ed degree.

1. Content and methodology of B.Ed degree course is to be reviewed. More practical oriented content should be included in the curriculum of B.Ed degree course.

2. Recently, the curriculum and teaching methodology of High School have been changed. But there is no corresponding change in the methodology of teaching in B.Ed colleges. Thus the curriculum and the method of teaching in the B.Ed colleges should be changed suitably.

3. B.Ed degree students should be given practice for doing projects, assignments, seminars, practicals etc. for the main topics of High school curriculum.

4. In the school curriculum, continuous and comprehensive evaluation of students are introduced. So B.Ed degree students have to be given practice

to evaluate the school students continuously and comprehensively. For this, the process of continuous and comprehensive evaluation should be introduced in B.Ed colleges also.

5. At present, B.Ed students get a period of one month for teaching practice in schools. This is too short a period for their practical training and evaluation. Period of teaching practice should be increased at least to one term.

6. Semester system should be introduced in B.Ed colleges and the duration of the course should be enhanced to two years. In the first semester, general awareness regarding principles of teaching, and methodology etc. are given. In the second semester, Optional subjects are to be introduced. Third semester should be allotted for teaching practice. In the fourth semester, they may be given a chance to practices an action research, project works and teaching in specilalised areas like guidance and counselling and test construction etc..

7. An admission test should be conducted and suitable persons who are interested in the profession should be selected for the course. The standard of teachers can be upgraded only by selecting suitable candidates, on the basis of an aptitude test for teaching.

8. During the last decade, the Govt had sanctioned a number of B.Ed colleges in Un-Aided sector. These colleges are not equipped in infra-structure

facilities and in teaching faculty. This is another reason for the deterioration in quality of B.Ed degree education. The Govt. and Universities should take immediate steps to assure the minimum requirements with regard to infrastructure facilities. The qualifications and eligibility of teaching staff in these colleges should also be reviewed periodically.

9. Special training should be given to the teachers and students to use the equipments such as OHP, LCD Projector etc. in class room.

10. An internship of one year should be introduced to B.Ed students as a part of B.Ed. curriculum. After completing the course, they may be given opportunity to work as teacher in a school. During this period, the Govt. should give a stipend to the teacher- trainee. The certificates should be given only after the successful completion of the internship. This will help help the student teacher to participate in all works in a school efficiently.

A STUDY OF THE ECONOMICS OF GRADUATE TEACHER EDUCATION IN KERALA

THESIS

SUBMITTED TO THE UNIVERSITY OF CALICUT

IN PARTIAL FULFILMENT OF THE

DOCTOR OF PHILOSOPHY

By

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5

CONCLUSIONS AND DISCUSSIONS

CHAPTER V

CONCLUSIONS AND DISCUSSIONS

5.1 RESUME OF THE STUDY

The present study is entitled "A study of the Economics of Graduate Teacher Education in Kerala".

Through this study the investigator intends to estimate the costs and benefits of B.Ed. Degree course conducted by different Universities in Kerala.

For this, the investigator has collected the data from 473 B.Ed trainees who were studying in Govt., Aided, University Centres and Un-aided B.Ed. colleges in Kerala and 241 high school teachers who were working in different Govt., Aided, and Un-aided schools in Kerala. The data were collected by questionnaires - one for B.Ed trainees and other for teachers. The sample population represent a heterogeneous group. Representation was given to the categories of sex, age, religion, caste, socio-economic status and management of B.Ed colleges and schools for the selection of the sample.

The investigator interviewed some educational experts for getting their views for improving the quality of the existing B.Ed degree course in different Universities in Kerala.

5.2 CONCLUSIONS

The important findings of this study are summarised and given below.

PRIVATE COST

(i) Private academic cost of B.Ed degree education in Kerala is estimated to be Rs.13,051/-. Out of this, Rs.8,883/- (69% of academic cost) is spent for college fee.

(ii) Private academic cost in respect of different socio-economic status of B.Ed trainees such as 'A' (very poor), 'B' (poor), 'C' (Average), 'D' (Above average), and 'E' (excellent) is estimated to be Rs.8,647/-, Rs.9,244/-, Rs.14,551/-, Rs.15,795/- and Rs.14,884/- respectively . Students belonging to high socio-economic status, ie., C, D, and E spend more amount than those with lower status, ie, A and B, for private academic expenses.

(iii) College fee for B.Ed students under category A, B, C, D and E are estimated to be Rs.4,575/-, Rs.5,184/-, Rs.10,377/-, Rs.11,614/- and Rs.10,480/- respectively. The college fee increase with increase of socio - economic status of the student. This is due to the receipt of stipend and other aid from Govt. and other institutions to the students of lower economic status.

(iv) Private academic cost of B.Ed degree course in Govt., Aided, University centres and Un-aided colleges is estimated to be Rs.5,670/-, Rs.5,686/-, Rs.17,046/- and Rs.20,730/- respectively. In University centres and Un-aided colleges, the private academic cost is higher than that of Govt. and

Aided colleges. This is due to the high college fee of University Centres and Un-aided colleges. College fee in Govt., Aided, University Centres and Un-aided colleges is estimated to be Rs.1,609/-, Rs.1,564/-, Rs.12,877/- and Rs.16,459/- respectively.

(v) Private academic cost of B.Ed degree course in Kerala in respect of the place of residence of the respondents is estimated to be Rs.13,315/- for dayscholars and Rs.12,479/- for hostelers respectively.

(vi) Private incidental cost of B.Ed degree course in Kerala is estimated to be Rs.5,715/- . The major components are hostel expenses, expenses for cloth and travel expenses. The amount spend for these components is estimated to be Rs.1,797/- (32%), Rs.1,485/- (26%) and Rs.1,227/- (21%) respectively.

(vii) Private incidental cost of B.Ed degree course in respect of students under different socio-economic status A,B,C,D and E is estimated to be Rs.5,709/-, Rs.5,213/-, Rs.5,845/-, Rs.5,909/- and Rs.6,069/- respectively. The students of higher socio - economic status spend more compared to the students of lower status for their incidental expenses.

(viii) Private incidental cost of B.Ed degree course in respect of Govt., Aided, University centres and Un-aided colleges is estimated to be Rs.5,792/-, Rs.5,531/-, Rs.5,583/- and Rs.5,987/- respectively.

(ix) Incidental cost of B.Ed students in respect of their place of residence is estimated to be Rs.4,210/- for dayscholars and Rs.8,987/- for hostelers.

(x) An amount of Rs.18,766/- has been spent as private cost by the students of B.Ed degree course in Kerala. Out of this 70% comprises of academic cost and 30% comprises of incidental cost.

(xi) Stipend given by Govt. and other institutions to the B.Ed students is estimated to be Rs.1,675/-. It is 9% of the total private cost.

(xii) Total amount spend by the students under the socio-economic status A,B,C,D and E is estimated to be Rs.14,356/-, Rs.14,457/-, Rs.20,396/-, Rs.21,704/- and Rs.20,953/- respectively. The students under the socio-economic status 'average', 'above average' and 'excellent' spend more amount than 'very poor' and 'poor', for their education.

(xiii) Subsidy given by Govt. and other institutions to the students under the socio-economic status A,B,C,D and E is estimated to be Rs.2,916/-, Rs.2,480/-, Rs.1,310/-, Rs.1,167/- and Rs.1,118/- respectively. The subsidy given to the students decreases with increase of socio-economic status of the students.

(xiv) Net private cost of B.Ed. degree education in Kerala is estimated to be Rs.17,091/-. For students under the socio-economic status A,B,C,D and E , it is estimated to be Rs.11,440/-, Rs.11,977/-, Rs.19,086/-, Rs.20,537/- and Rs.19,835/- respectively.

(xv) Gross private cost of B.Ed degree students in Govt., Aided, University centres and Un-aided colleges is estimated to be Rs.11,382/-, Rs.11,217/-, Rs.22,629/- and Rs.26,717/- respectively, while the net private cost is estimated to be Rs.9,812/-, Rs.9,547/-, Rs.20,967/- and Rs.24,971/- respectively.

(xvi) The Gross private cost of B.Ed degree course in respect of the place of residence of the students is estimated to be Rs.17,525/- for dayscholars and Rs.21,466/- for hostelers. The net private cost is estimated to be Rs.15,852/- and Rs.19,784/- respectively.

INSTITUTIONAL COST

(i) Recurring cost of B.Ed degree course in Kerala is estimated to be Rs.17,747/-

(ii) Recurring cost of B.Ed degree course in respect of Govt., Aided, University centres and Un - aided colleges is estimated to be Rs.21,526/-, Rs.23,188/-, Rs.11,686/- and Rs.15,904/- respectively.

(iii) Main component of recurring cost is teaching cost. It is very high in Govt. colleges (69%) and in Aided colleges (70%)

(iv) Non-recurring cost of B.Ed degree education in Kerala is estimated to be Rs.8,391/-. The main component of recurring cost is value of building. It is estimated to be Rs.6,975/- (83%)

(v) For Govt., Aided, University centres and Un-aided colleges, the non-recurring cost of B.Ed degree course is estimated to be Rs.8,952/-, Rs.8,376/-, Rs.8,202/- and

Rs.8,291/- respectively. Out of these, 80 to 85 per cent of the amount is spent for cost of building .

(vi) Net institutional cost of B.Ed Degree education in Kerala is estimated to be Rs. 13,083/-. It is estimated to be Rs.28,199/-, Rs. 29,292/-, Rs. 612/- and Rs. 267/- respectively for Govt., Aided, University centres and Un-aided colleges.

(vii) Govt. and aided colleges receive only 7% of the total institutional cost from students, while University centres and un-aided colleges receive 97% and 99% of total institutional cost respectively.

(viii) Net institutional cost of B.Ed Degree education in respect of students under different socio-economic status A, B, C, D and E is to be estimated as Rs. 15,891/-, Rs. 13,942/-, Rs. 12,751/-, Rs. 11,034/- and Rs. 13,895/- respectively.

(ix) Receipts from students under different socio-economic status by the institutions are to be estimated as Rs. 10,579/-, Rs. 11,997/-, Rs. 13,423/-, Rs. 14,936/- and Rs. 12,627/- for students under the category A, B, C, D and E respectively.

SOCIAL COST

(i) Social cost of B.Ed degree education in Kerala is estimated to be Rs.30,174/-, ie, the society paid an amount of Rs.30,174/- for B.Ed degree course for each student. Here, 57% of social cost is parental cost or private cost, while the remaining 43% is institutional cost.

(ii) Social cost of B.Ed degree course in respect of Govt., Aided, University centres and Un-aided colleges is estimated to be Rs.37,611/-, Rs.38,750/-, Rs.21,334/-, Rs.25,774/- respectively.

(iii) Social cost of B.Ed degree course in Govt. and Aided colleges is higher than that of University Centres and Un-Aided colleges. This is due to the high payment of salary to the teaching and administrative staff.

(iv) Social cost of B.Ed.degree course in respect of different socio-economic status A, B, C, D and E is estimated to be Rs.27,331/-, Rs.25,919/-, Rs.31,837/-, Rs.31,571/-, Rs.33,730/- respectively.

(v) Social cost of B.Ed degree education in respect of the place of residence of the respondents is estimated to be Rs.28,935/- for dayscholars and Rs.32,867/- for hostelers .

EARNINGS

(i) Teachers of Govt., Aided and Un-aided schools start their earnings at the age group 24 - 27. For Govt. and Aided school, yearly earnings at the age group 24 - 27 is estimated to be Rs.85,104/-. But for the teachers of Un-aided schools, it is estimated to be Rs.36,000/- only.

(ii) Teachers irrespective of the management of schools, attain a maximum earnings at the age of 55. It is estimated to be Rs.1,45,277/-, Rs.1,42,660/-, and Rs.50,148/- per year for Govt., Aided, and Un - aided schools respectively.

(iii) For all teachers irrespective of the management of the schools, the total yearly earnings increase. This is due to the increase of increment with the increase of their service.

(iv) Teachers of Govt. and Aided schools in respect of the socio-economic status A, B, C, D and E attain a minimum yearly earnings at the age group 24 - 27. It is estimated to be Rs.85,104/-. Un-aided school teachers also attain a minimum yearly earnings at the age group of 24 - 27. It is estimated to be Rs.27,000/-

(v) Maximum yearly earnings attained by the teachers in Kerala is at the age of 55. It varies from Rs.1,25,000/- to Rs.1,57,000/- for Govt. and Aided school teachers. In the case of Un-aided school teachers, it is estimated to be Rs.50,000/-.

(vi) For all teachers, salary increases with increase of their service. So they attain a maximum yearly earnings at the age of their retirement, ie, 55 in Kerala.

(vii) Rate of increase of salary of Govt. and Aided school teachers is very high as compared to the salary of Un-aided school teachers. This is due to the high increment rate of Govt. and Aided school teachers.

(viii) Salary pattern of Govt. and Aided school teachers are same. So the yearly earnings of Govt. and Aided school teachers is almost the same.

PRIVATE RATE OF RETURNS

(i) Private rate of retuns of B.Ed degree education in Kerala is estimated to be 2.668.

(ii) Private rate of retuns of B.Ed degree education in Kerala in respect of Govt., Aided and Un-aided schools is estimated to be 3.214, 3.214 and 1.360 respectively.

(iii) For Govt. and Aided schools, the private rate of returns are equal. The salary pattern of Govt. and Aided schools are same. So, the internal rate of returns (private rate of retuns) of these schools are equal.

(iv) Private rate of returns in respect of the socio-economic status A, B, C, D and E is estimated to be 4.145, 3.899, 2.456, 2.256 and 2.343 respectively. The private rate of returns decreases with increase of socio-economic status of the student.

SOCIAL RATE OF RETURNS

(i) Social rate of retuns of B.Ed degree education in Kerala is estimated to be 2.341

(ii) Social rate of retuns of B.Ed degree education in Kerala in respect of Govt., Aided and Un-aided schools is estimated to be 2.821, 2.821 and 1.193 respectively.

(iii) For Govt. and Aided schools, the social rate of returns are equal. This is due to the equivalence of salary of teaching and administrative staff. The social rate of returns of Un-aided schools is much less than that of Govt. and Aided schools.

(iv) Social rate of returns in respect of the socio-economic status such as A, B, C, D and E is estimated to be 2.689, 2.793, 2.284, 2.275 and 2.135 respectively. The social rate of returns decreases with the increase of socio-economic status of the students.

PEAK EARNINGS

(i) Peak earnings of teachers in Govt., Aided and Un-aided schools is at the age of 55.

(ii) Peak yearly earnings of teachers in Govt., Aided and Un-aided schools is estimated to be Rs.1,45,277/-, Rs.1,42,660/- and Rs.50,148/- respectively.

(iii) Peak yearly earnings of teachers of Govt. and Aided schools is almost same. This is because Govt. and Aided school teachers avail the same salary scale.

AVERAGE LIFE TIME EARNINGS

(i) Average annual lifetime earnings of Govt., Aided and Un-aided school teachers is estimated to be Rs.1,04,994/-, Rs.1,04,931/- and Rs.40,770/- respectively.

(ii) Average annual lifetime earnings of Govt. and Aided school teachers is almost the same. This is because Govt. and Aided school teachers avail the same salary scale.

RATE OF RETURNS IN RESPECT OF INSTITUTIONS

(i) Private rate of returns is the highest for Govt. college — Govt. school and Govt.

College — Aided school combinations. It is estimated to be 5.598. That is, a person studied in Govt. college and getting teaching profession in Govt. school or Aided school secures the highest rate of returns. *(Govt. college - Govt. school means, candidate taking B.Ed degree from Govt. colleges and employed in Govt. school.)*

(ii) For Aided college — Govt. school and Aided college — Aided school combinations, the private rate of returns is next below the highest and it is estimated to be 5.753.

(iii) Private rate of returns of Un-aided college — Un-aided school combination is estimated to be 0.931. It is the lowest private rate of returns.

(iv) Private rate of retuns is estimated to be 1.109, 2.200, 2.202, 2.620, 2.621, 2.435 and 2.269 respectively for University centre — Un-aided school, Un-aided college — Govt. school , Un-aided college — aided school, University centre — Govt. school, University centre — Aided school, Aided college — Un-aided school and Govt college — Un-aided school combinations.

(v) Social rate of returns of University centre - Govt. school and University centre — Aided school combinations are the highest. It is estimated to be 3.944.

(vi) Lowest social rate of returns is estimated for Aided college — Un-aided school combination and it is estimated to be 0.927.

(vii) Social rate of retuns of Un-aided college — Govt. school and Un-aided college — Aided school combinations is estimated to be 3.372 while

for Aided college — Govt. school and Aided college — Aided school combinations, it is estimated to be 2.192 and 2.193.

(viii) Social rate of returns of Govt. college — Govt. school and Govt. college — Aided school combinations is estimated to be 2.239 and 2.240 respectively. For these combinations, the private rate of returns is the highest. But the social rate of returns comes in the third place. This is due to higher cost of B.Ed degree course in Govt. and Aided colleges. The highest institutional cost for B.Ed degree is in Govt. and Aided colleges.

(ix) Social rate of returns of Govt. college — Un-aided school, Aided college — Un-aided school, University centre — Un-aided school, Un-aided college — Un-aided school is estimated to be 0.947, 0.927, 1.668 and 1.426 respectively.

RATE OF RETURNS IN RESPECT OF PLACE OF RESIDENCE

(i) Private rate of returns of Govt, Aided and Un-aided schools in respect of dayscholars is estimated to be 3.465, 3.465 and 1.466 respectively.

(ii) Private rate of returns of Govt, Aided and Un-aided schools in respect of hostelers is estimated to be 2.777, 2.777 and 1.175 respectively.

(iii) Social rate of returns of Govt, Aided and Un-aided schools in respect of dayscholars is estimated to be 2.941, 2.942 and 1.244 respectively.

(iv) Social rate of returns of Govt, Aided and Un-aided schools in respect of hostelers is estimated to be 2.590, 2.591 and 1.097 respectively.

NON-MONETARY BENEFITS OF B.ED DEGREE EDUCATION

As per the opinions of the respondents, the non-monetary benefits of B.Ed degree education are to :-

(i) Develop skills

(ii) Achieve high status in society

(iii) Develop a better and planned life

(iv) Develop proper attitudes and interests

(v) Develop self-confidence and expectation about future life

(vi) Solve many social and personal problems

(vii) Develop artistic talents

(viii) Develop personality

(ix) Encourage the education of others

(x) Respond against injustice and exploitation

(xi) Keep away from social evils

(xii) Make value judgement

(xiii) Become a better man

(xiv) Find out values of life

(xv) Behave rationally and properly

(xvi) Find out the realities of life

(xvii) Develop good citizenship

(xviii) Develop culture

REASONS FOR SELECTING B.ED DEGREE COURSE BY THE RESPONDENTS

The main reasons for selecting B.Ed degree course, according to the respondents are:-

(i) High social status

(ii) Better job prospects

(iii) Influence of parents and others

(iv) Interest in profession

(v) Influence of teachers

PROBLEMS WHILE UNDERGOING B.ED DEGREE COURSE

The main problems during the time of B.Ed degree course pointed out by the respondents are:-

(i) Incompetent teachers.

(ii) Not suitable to taste.

(iii) Lack of institutional facilities.

(iv) Uninteresting curriculum.

(v) Lack of personal and educational guidance.

(vi) Adjustment problems.

(vii) High cost of education.

(viii) Related to residence and accommodation.

(ix) Understanding study materials due to the abstract nature.

(x) Difficulty in understanding the language of instruction.

(xi) Conveyance problem.

(xii) Non-availability of learning materials.

(xiii) Insufficient training in practical work including teaching practice.

SUGGESTIONS FOR IMPROVING B.ED DEGREE COURSE

Following suggestions are put forward for improving the existing B.Ed degree course in Kerala.

1. The content and methodology of B.Ed degree course are to be reviewed. More practical oriented content should be included in the curriculum of B.Ed degree course.
2. Recently, the curriculum and teaching methodology of high school have been changed. But the methodology of teaching in B.Ed colleges is not changed. It follows the old pattern. The method and techniques of teaching should be changed in accordance with the changes in the class room (social needs).
3. Students of B.Ed degree course should be given practice for organising, executing and evaluating projects, assignments, seminars, practicals etc. for the topics included in the high school curriculum in accordance with the school programmes.
4. In the school curriculum, continuous and comprehensive evaluation of pupils are introduced. So the students of B.Ed degree course should be trained the theory and practice in continuous and comprehensive evaluation. They

should be given training in test construction, diagnosis and also in selecting and administering and interpreting psychological tests for personality, intelligence, aptitude etc. The techniques and tools for grading, such as using rating scales, check-lists, inventories etc. should be introduced in B.Ed degree curriculum. The performance of B.Ed trainees in practical and theory work should also be graded on the basis of continuous and comprehensive evaluation.

5. Today, B.Ed students get only one month teaching practice in schools. This is too short a period to evaluate the students. Thus, the period of teaching practice should be enhanced at least to one term.

6. Semester system should be introduced in B.Ed colleges and the duration of the course should be enhanced to two years. In the first semester, they are to be given general awareness of teaching principles, teaching methodology etc.. In the second semester, optional subjects are to be taken. Third semester should be given for teaching practice. In the fourth semester, they should be given a chance to do an action research.

7. An admission test should be conducted and suitable persons who are interested in the profession should be selected for this course on the basis of the test. Through this, the entire quality of B.Ed degree education as well as secondary education can be enhanced.

8. During the last decade, the Govt had sanctioned a number of B.Ed colleges in Un-aided sector. These colleges are not properly equipped with infra-structure facilities and duly qualified teaching faculty. This is another reason for the deterioration of quality in B.Ed degree education. The Govt. and Universities should take immediate steps to assure sufficient infrastructure facilities in these institutions. The qualifications and eligibility of teaching staff in these colleges should also be reviewed periodically.

9. Special training should be given to the teachers and students to use the equipments such as OHP, LCD Projector, Computer etc. in class room.

10. An internship of one year should be introduced to B.Ed students as a part of B.Ed. curriculum. After completing the course, they are to be given opportunity to work as teacher in a school. During this period, the Govt. should give a stipend. The certificates should be given only after successful completion of the internship. This will help the student teacher to participate in all works of the school, efficiently.

5.3 DISCUSSIONS ON FINDINGS

The findings on private cost reveals that it is highest in the Un-aided sector and lowest in Govt. colleges. Aided colleges come close to Govt. colleges and the B.Ed centres managed by the Universities come closer to Un-aided institutions. This is mainly because the fee levied by Govt. colleges is the least and by the Un-aided colleges is the highest.

The analysis with regard to the private cost of the socially better group and socially poor group shows that the cost of latter is less than that of the former. This is natural because the socially and economically deprived group get stipends, scholarships and other assistance in support. It may be examined whether levying different fees for the same course conducted by different agencies is socially and constitutionally valid.

Regarding the institutional cost, it is very high in Govt. and aided institutions whereas it is very low in Un-aided insitutions and University centres. This is because of the high salary (UGC scale given to the employees - both teaching and non-teaching staff). Another reason is the fees levied from students on a high rate in the Un-aided insitutions and University centres.

The calculation of social cost shows that it is high in Govt and Aided institutions. This is natural because the Govt. meets all the expenditure towards the establishment charges including the pay, in these institutions whereas the income from fees is very low.

Regarding the earnings, teachers of Aided and Govt. sector top the list whereas the income of teachers of Un-aided schools is very low. It is interesting to note that the average earnings of an aided school teacher is even higher than a Govt. school teacher. Govt. school teachers are recruited by the Kerala Public Service Commission, once in four or five years. So, a B.Ed qualified person

has to wait for four or five years, even for applying to the post. It may again take at least one year for selection. So, in Govt schools, a teacher enters in the service at least after four or five years after getting the B.Ed degree. But in aided schols, the teachers are appointed by the management, as soon as they are qualified. Hence they get a higher service with added increments. With regard to the Un-aided schools, the earnings are far below the expected level. It is not secret that in many Un-aided schools, teachers get a monthly salary of Rs.2000/- or less.

The private rate of returns of Govt. and Aided colleges are equal, wheras the private returns decreases with increase in Socio-economic status. The socially and economically advanced group spend more for education and hence the rate of retuns are less when compared to the socially and economically backward group.

The Social returns of B.Ed degree education in the Govt. and Aided institutions are almost the same, whereas in Un-aided institutions, it is very low. It is interesting to note that Social returns decreases with increase of socio-economic status.

It may be noted that persons studying in Govt. or Aided colleges and entering service in Govt. or aided sector has a private rate of returns 5.598 whereas the same index for the persons qualified from Un-aided colleges and getting employment in Un-aided school is only 0.931. This is not only a social injustice

but also an indicator showing lack of scientific planning in teacher education. In the case of social rate of returns, the University centre - Govt school and University centre - aided school combinations *(University centre - Govt. school means, candidate taking B.Ed degree from University centre and employed in Govt. school.)* is found to be the highest.

The analysis of the responses of teachers show that they give more importance to develop skills, acheive high status in society, but the objectives such as finding out the realities of life, developing good citizenship qualities and improving the culture, are given the least consideration. This shows the neglect of value system in our teacher education programme. It will be worthwhile to remember the statement of "dehumanisation as one of the three challenges" stated by Acharya Ramamoorthy Commission, 1991.

The responses of B.Ed degree students show the priority for selecting this course is not interest in the profession, but high social status. For the response of teachers and students, it may be inferred that students select B.Ed course not because of their interest in teaching and aptitude, but for social and monetary benefits.

The responses of students regarding their problems while undergoing the B.Ed degree course highlights the incompetancy of the teachers. The other responses under this item will show the serious defects of the teacher education programme at present.

5.4 PRACTICAL APPLICATIONS OF THE STUDY

According to this study, it is found that social rate of returns of University centres and Un-aided colleges are higher than that of Govt. and aided colleges. This may be due to the fact that, in these sectors institutional cost is the least. The claim of Govt. that it is not financially sound to start colleges of teacher education either under the Govt. or aided sector due to the paucity of funds, is not realistic. But this reason of financial limitation is not a reason to sanction Un-aided teacher training institutions without any restrictions. If the Govt. cannot start institutions directly, new institutions should be sanctioned under Universities, Co-operative sectors and under the General Education Dept. by constituting a Teacher Education Board as recommended in the National Policy on Education, 1986 and Programme of Action, 1992.

There is a general misconcept that institutions under the public sector donot maintain the quality in education. This seems to be prejudiced and unjustifiable with the condition extending in teacher education institutions in Kerala. The four training colleges under the Govt. are institutions with long tradition and reputation. They all have good infrastructure. The teachers are highly qualified as they are recruited by Kerala Public Service Commssion. The students are admitted only on the basis of merit with provision for reservation for socially and economically backward sections. But the Un-aided colleges seems to

violate very often, the directions and rules prescribed by the Govt. and the Universities. Thus the unbridled freedom of private sector may lead to social injustice and academic deterioration.

Further studies should be conducted regarding the academic standards and placements of teacher trainees from these various sectors. When we consider the Economics of Graduate Teacher Education in Kerala, we have to take consideration, manpower requirements which has been highlighted by National Education Commission, 1964 *(National Education Commission Report, 1964, Page 523-576)*

5.5 SUGGESTIONS FOR FURTHER RESEARCH

The present study has attempted to analyse the Economics of B.Ed Degree Education in Kerala. The study was conducted by using a large sample covering the whole area of Kerala state with more variables. Because of the limitations of the time and resources, the same was limited to some extent. Further studies have to be made relating to the topic of the study. Following are some of the suggestions for further research.

1. Institutional cost of B.Ed degree education in both rural and urban areas may be analysed and compared.
2. Estimation of 'Alpha coefficient' may be attempted.

3. A study on the social rate of returns of B.Ed degree education in rural and urban areas may be attempted.
4. Private rate of returns of B.Ed degree education of both graduate and post-graduate teachers may be analysed and compared.
5. Social rate of returns of B.Ed degree education of both graduate and post-graduate teachers may be analysed and compared.
6. Attitude towards the teaching profession of B.Ed trainees in different categories of colleges may be assessed on a scientific basis.
7. The Economics of education of B.Ed degree holders in rural and urban areas may be analysed and compared.
8. The Economics of B.Ed degree education in respect of caste, sex, district, and state may be analysed and compared.
9. A comparative study of the B.Ed degree education in respect of High School teachers, Higher Secondary School teachers and College teachers may be conducted.
5. Social rate of returns of B.Ed Degree education in both Graduates and Post-Graduates teachers may be analysed and compared.
6. Attitude towards the teaching profession of B.Ed trainees in different categories of colleges may be assessed on a scientific basis.

7. The Economics of education of B.Ed degree holders in rural and urban areas may be analysed and compared.

8. The Economics of B.Ed degree education in respect of Caste, Sex, District, and State may be analysed and compared.

9. A comparative study of the Economics of B.Ed degree education in respect of High school teachers, Higher Secondary School teachers and College teachers may be conducted.

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THESIS

SUBMITTED TO THE UNIVERSITY OF CALICUT

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A STUDY OF THE ECONOMICS OF GRADUATE TEACHER EDUCATION IN KERALA

THESIS

SUBMITTED TO THE UNIVERSITY OF CALICUT

IN PARTIAL FULFILMENT OF THE

DOCTOR OF PHILOSOPHY

By

SABUJI VARUGHESE

Pages 卌 31

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT
2005

APPENDICES

APPENDIX A

UNIVERSITY OF CALICUT

Department of Education, Calicut

Cost-Analysis of B.Ed Degree Education

(To be filled by B.Ed students)

Sir,

I am a research scholar in the Department of Education, University of Calicut, doing research on the topic "A Study of the Economics of Graduate Teacher Education in Kerala" under the guidance of Dr (Prof.) R. Sukumaran Nair, former Dean, Faculty of Education, University of Calicut. The study mainly aims at estimating the rates of return on investment in B.Ed. Degree Education as well as the extent of wastage in these areas.

For the successful completions of the work, I solicit your esteemed co-operation and request you to kindly spare some of your valuable time to fill in the questionnaire attached herewith.

This information will be kept in strictly confidential and will be used for the purpose of research alone.

Yours sincerely,

Calicut;
20.11.2002

Sabuji Varughese
Research Scholar

General Information

1. Name (if you don't mind) : .....
2. Age : ☐☐
3. Sex (1 - Male; 2 - Female) : ☐
4. Community : ☐
   (1-SC / ST; 2-OEC; 3 - OBC;
   4 - OBH; 5 - Forward caste)
5. Annual income of your
   family from all sources : Rs.....

Details of Education

6. Optional subject ☐☐

1. Malayalam	2. Hindi
3. English	4. Mathematics
5. Physical science	6. Natural science
7. Social studies	8. Geography
9. Commerce	10. Others (specify)

7. Name of the educational institution which you study : .....
   .....
8. Type of management of your institution : ☐
   1. State government
   2. Private aided
   3. Government self-financing
   4. Private unaided
9. Give the amount and percentage of financial assistance (Annual) for your education

Sl.No.	Items	Amount	%
1.	Income from parents	.....	.....
2.	Income from relatives	.....	.....
3.	Scholarships / fellowships	.....	.....
4.	Lumpsum grant / stipend	.....	.....
5.	Loans from various institutions	.....	.....

6.	Financial assistance from well wishers	.....	.....
7.	Income from personal earnings (if any)	.....	.....
8.	Sponsorship (if any)	.....	.....
9.	Others (specify).....	.....	.....

10. Give the following details of your parents and other senior members in the family.

Sl.No:		Educational Qualifications	Occupation
1.	Father	.....	.....
2.	Mother	.....	.....
3.	Grandfather	.....	.....
4.	Grandmother	.....	.....
5.	Other members (specify the relationship)		
	1.	.....	.....
	2.	.....	.....
	3.	.....	.....

11. With whom do you live? ☐

1. Parents
2. Relatives
3. College hostel
4. Hostels recognised by college
5. Private lodge
6. Rental house
7. Friends
8. Others (specify) .....

Details Regarding Cost of Education

12. Private Academic Cost

Sl.No:	Item		Rs.
1.	Pre-Admission cost		
	Cost of application forms	.....	
	Copies of certificates	.....	
	Photographs	.....	
	Postage stamps	.....	
	Interview	.....	
	Others	.....	
		Total	.....
2.	College Fee		
	Admission fee	.....	
	Special fee	.....	
	Capitation fee (if any)	.....	
	Fee for certificates	.....	
	Others	.....	
		Total	.....
3.	Cost of Books		
	Cost of textbooks	.....	
	Note books	.....	
	Record books	.....	
	Other special books	.....	
	Others	.....	
		Total	.....
4.	Cost of stationary		.....
5.	Expenses during teaching practice		.....
6.	Expenses for study tour / excursion		.....
7.	Other items		
	Other learning materials	.....	
	Library membership fee	.....	
	Others	.....	
		Total	.....

13. Private Incidental cost

Sl.No:	Item	Rs.
1.	Boarding and lodging	.....
2.	Expenses for clothing	.....
3.	Subscription (Newspaper, Magazines etc.)	.....
4.	Conveyance charges	.....
5.	Entertainment (Recreations etc.)	.....
6.	Donations	.....
7.	Others (Personal expenses, Cosmetics, Additional food items etc.)	.....

14. Opportunity Cost of Education

(a) Have you received any remuneration from any employment before joining the course? ☐

1. Yes 2. No

(b) If 1, please state

(i) Nature of employment .....

(ii) Monthly remunerations Rs:.....

(c) Have you joined the course, looking any earnings which you had been getting or you would have got otherwise? ☐

1. Yes 2. No

(d) If 1, please state

(i) Nature of employment .....

(ii) Monthly earning foregone: Rs:.....

(e) If you had not joined the course, which of the following would you have selected? ☐

1. Continue general education
2. Go for technical education
3. Continue previous employment
4. Join new employment
5. Seek employment
6. Any other (specify) .....

15. (a) Do you have any personal earnings at present ?

1. Yes 2. No

(b) If 1, please state,

1. Amount (monthly) Rs:.....
2. Permanent / temporary Rs:.....
3. Nature of employment Rs:.....

16. Is your family well enough to finance your education?

1. Yes 2. No.

17. (a) Do you get any extra assistance for studies?

1. Yes 2. No.

(b) If 1, Put a tick (✓) mark against the suitable item.

1. From educated family members
2. From classmates or friends
3. Others (specify) .....

18. Reasons for choosing B.Ed. Degree course for your study.
(Rank the item 1, 2, 3, based on the order of preference.)

(a) Better job prospects
(b) High social status
(c) Influence of parents and others
(d) Interest in the profession
(e) Influence of teachers
(f) Any other reason (specify) .....

19. (a) Have you obtained any vocational guidance before joining the course? 1. Yes 2.No

(b) If 1, from whom? .....

20. After the completion of the course, what do you intend to do?
Mark (✓) in the relevant one.

1. Go for higher studies
2. Seek employment in institutions
3. Choose self - employment
4. Undecided

21. Do you experience any of the following problems while undergoing the course?

    1. Not at all 2. Some extent 3. To a great extent

    (put the relevant number in the boxes)

1.	Difficulty in understanding the language of instruction	☐
2.	Uninteresting curriculum	☐
3.	Non-availability of learning materials	☐
4.	Lack of institutional facilities	☐
5.	Lack of personal and educational guidance	☐
6.	Incompetent teachers	☐
7.	Conveyance problem	☐
8.	High cost of education	☐
9.	Not suitable to taste	☐
10.	Unable to understand well due to the abstract nature of study materials	☐
11.	Residence and accommodation related problems	☐
12.	Adjustment problems	☐
13.	Any other (Specify)	☐

22. What are your suggestions for the improvement of B.Ed. Degree Education in Kerala?

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APPENDIX B

UNIVERSITY OF CALICUT

DEPARTMENT OF EDUCATION, CALICUT

Age - Education - Earnings Survey

(To be filled by the teachers educated and employed in Kerala, possessing B.Ed. Degree)

Sir,

I am a research scholar in the Department of Education, University of Calicut, doing research on the topic "A Study of the Economics of Graduate Teacher Education in Kerala" under the guidance of Dr. (Prof.) R. Sukumaran Nair, former Dean, Faculty of Education, University of Calicut. The study mainly aims at estimating the rate of return on investment in B.Ed. Degree Education as well as the extent of wastage in these areas.

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Yours sincerely,

Sabuji Varughese
Research Scholar

Calicut
20.11.2002

General Information

1. Name (if you don't mind) : .....
2. Age : ☐☐
3. Sex (1 - Male; 2 - Female) : ☐
4. Community : ☐
   (1-SC / ST; 2-OEC; 3 - OBC;
   4 - OBH; 5 - Forward caste)

Details of Education

5. What was your economic environment in which you grew up? ☐
   1.Very poor 2. Poor 3. Average
   4. Above average 5. Rich
6. Did you face any financial difficulty during the time of education? ☐
   1. Yes 2. No.

7. Which of the following were the sources of finance of your B.Ed.
   (give percentage share against each item)

Sl.No.	Items	Amount	%
1.	Income from parents	.....	.....
2.	Income from relatives	.....	.....
3.	Scholarships / fellowships	.....	.....
4.	Lumpsum grant / stipend	.....	.....
5.	Loans from various institutions	.....	.....
6.	Financial assistance from well wishers	.....	.....
7.	Income from personal earnings (if any)	.....	.....
8.	Sponsorship (if any)	.....	.....
9.	Others (specify).....	.....	.....

8. Reasons for choosing B.Ed. Degree course for your study.
(Rank the item 1, 2, 3, based on the order of preference.)

(a) Better job prospects ☐
(b) High social status ☐
(c) Influence of parents and others ☐
(d) Interest in the profession ☐
(e) Influence of teachers ☐
(f) Any other reason (specify) ..... ☐

9. Give the following details of your parents and other senior members in the family.

Sl.No:		Educational Qualifications	Occupation
1.	Father	.....	.....
2.	Mother	.....	.....
3.	Grandfather	.....	.....
4.	Grandmother	.....	.....
5.	Other members (specify the relationship)		
	1.	.....	.....
	2.	.....	.....
	3.	.....	.....

10. Did you experience any of the following problems while undergoing the course?

1. Not at all 2. Some extent 3. To a great extent

(put the relevant number in the boxes)

1. Difficulty in understanding the language of instruction ☐
2. Uninteresting curriculum ☐
3. Non-availability of learning materials ☐
4. Lack of institutional facilities ☐
5. Lack of personal and educational guidance ☐
6. Incompetent teachers ☐

7. Conveyance problem ☐
8. High cost of education ☐
9. Not suitable to taste ☐
10. Unable to understand well due to the abstract nature of study materials ☐
11. Residence and accommodation related problems ☐
12. Adjustment problems ☐
13. Any other (Specify) ..... ☐

11. Did you have any private earnings while undergoing the course? ☐

1. Yes 2. No.

12. If 1, (a) How long? .....Years

(b) Salary per month Rs: .....

(c) Details of job (specify) .....

13. Did you receive any extra assistance for your studies (put tick mark against relevant item (s)

1. From educated family members ☐
2. From classmates or friends ☐
3. Others (specify) ☐

Details regarding Employment

14. Nature of the present job: ☐

1. Temporary 2. Permanent

15. Nature of management of the institution in which you work ☐

1. Government 2. Private aided 3. Unaided

16. Period of waiting, if any. for getting employment after completion of the course

..... Years .....months

17.Reasons for the delay in getting employment.

Put a (✓) mark against the suitable items (s)

1. Government policy as temporary stoppage of posting ☐
2. Delay of getting certificate and mark list of B.Ed. Degree ☐
3. More qualified hands ☐
4. No vacancy in that period ☐
5. Personal reasons such as disease family problems etc. ☐
6. Delay of relieving from the previous job ☐
7. Any other reasons (specify) ..... ☐

18. Your present monthly income from all sources.

Sl.No:	Item		Rs.
1.	Basic pay		.....
2.	Other allowances		
	1. DA	.....	
	2. HRA	.....	
	3. CCA	.....	
	4. Others (specify)	.....	
		Total	.....
3.	Honorarium, special allowances etc.		.....
4.	Income from other sources, if any.		.....
		Grand Total	.....

19. Give the percentage of allocation of your monthly earnings on the following items

Sl.No:	Item	%
1.	Family expenses such as food, cloth etc.	.....
2.	Educational expenses of children	.....
3.	Your professional improvement	.....
4.	Savings	.....
5.	Expenses connected with your job such as meals, coffee, bus fare etc.	.....
6.	Any other (please specify)	.....

Private Non-monetary Benefits of B.Ed Degree Education

20. The following are some private non-monetary benefits of education.

1. Not at all 2. Some extent 3.To a great extent

(put the relevant number in the boxes)

1.	To develop skills	☐
2.	To behave rationally and properly	☐
3.	To find out the realities of life	☐
4.	To respond against injustice and exploitation	☐
5.	To become a better man	☐
6.	To develop artistic talents	☐
7.	To develop a better and planned life	☐
8.	To solve many social and personal problems	☐
9.	To find out values of life	☐
10.	To encourage the education of others	☐
11.	To develop self-confidence and expectation about future life	☐
12.	To develop personality	☐
13.	To make value judgement	☐
14.	To develop proper attitudes and interests	☐
15.	To develop good citizenship	☐
16.	To develop culture	☐
17.	To achieve high status in society	☐
18.	To keep away from social evils	☐
19.	Any other (specify)	☐

21. What are your suggestions for the improvement of B.Ed. Degree Education in Kerala ?

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