UNIT COST OF HIGHER EDUCATION:

A CASE STUDY OF COLLEGES IN MIZORAM

(ABSTRACT)

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INTRODUCTION

The process of economic development involves a number of factors such as physical, financial and human resources. Conventional economic analysis on capital and investment thoery usually concentrated on investment in physical capital such as machines, tools, factories and buildings, as strategic inputs for economic growth and development. It was contented that the dynamics of economic growth and fluctuation in output and income could largely be explained and analysed in terms of change and movement in the level of investment in physical capital assets. However, since the middle of 1950s, several studies of economic growth in advanced countries showed that the growth of capital stock was relatively minor importance in accounting for the growth of output. These studies confirmed the importance of non-material investment especially human capital in the growth process of the economy.

It was realised that investment in human capital or improvements in human quality through education, work experience and health facilities were a decisive factor in the development process of a nation and that investment in human beings had been the major source of economic growth in the advanced countries.

Human capital can be developed in many ways. The following activities may be identified as the important factors that develop human capital : (i) health facilities and services, (ii) on-the-

job training, (iii) formal education (iv) adult education, and (v) migration. Among these activities education is considered to be the most critical for the formation of human capital. Thanks to the pioneering works of Shultz, Becker, Dennision, Blaug and others, education has been firmly asserted as an important factor contributing to economic development. Today education is regarded as an investment that produces economic returns compareable to investment in physical capital activities. There are numerous empirical studies which show that investment in education contributes to increased labour productivities, higher individual earnings and higher level of national economic development. Equally strong evidence is also availble to show that investment in education helps to a reduction in poverty and improvement in income distribution, in addition to social, demographic and political development. Economists and other social scientists have attempted to analyse the contribution of education to economic development from time to time. Basically, there are four approaches so far to study the interrelationship between education and economy, namely, (i) The Correlation Approach, (ii) The Residual Approach (iii) The Returns to education Approach, and (iv) The Manpower Planning Approach.

THE PROBLEM : NATURE AND SCOPE

Education, being the basis of an overall development of the economy has been given topmost priority in the socio-economic programme in both developed and developing countries. Therefore, a large proportion of national investible resources are allocated to the development of educational sector. In India, the national

educational expenditure has been increasing rapidly during the period since Independence. It was Rs 114 crores in 1950-51 and rose to Rs 25,502 crores in 1992-93, measured in current prices and in terms of proportion of GDP, it has increased from 1.27 per cent to 4.06 per cent in 1992-93.

A small state like Mizoram also witnessed spectacular progress in education. The state government as well as individual households devoted a good deal of resources towards the development of education. Although the magnitude of educational expenditure incurred by the public authority is known to some extent, we do not have much idea about the pattern and structure of educational expenditure. Moreover, the pattern of resource allocation at the institutional level and how far they are effectively utilized is not known and the costs of education incurred by household is not yet estimated. The present study entitled, "Unit Cost of Higher Education: A Case study of Colleges in Mizoram" is therefore an attempt to look into these and other related issues. The scope and coverage of the study may be as follows:

(1) The study is confined to the cost analysis of college education which includes pre-university and degree courses. The study does not deal with post-graduate education conducted at the University level and technical as well as professional education which are also post-matric education like Polytechnic and teachers training institutes.

(2) The estimation of institutional cost excludes the expenditure incurred on administration at the secretariat and directorate level i.e direction and inspection.

(3) Expenditure on scholarship, stipends and other financial assistance received by student from various sources are treated as transfer payment and hence excluded from the calculation of unit cost of higher education.

(4) Opportunity costs are not estimated. The total cost of college education is estimated by taking into account only direct expenditure on the maintenance of the institution and direct private costs of education, net of transfer payments.

OBJECTIVES OF THE STUDY:

The study has the following objectives:

1. To analyse the pattern and growth trend of public educational expenditure in Mizoram between 1972-73 and 1993-94;
2. To analyse the various sources of educational finance with special reference to college education- their organisation, control and administration;
3. To estimate unit cost of college education and to analyse the pattern and trend of institutional unit cost;
4. To study the relationship between unit cost and enrolment size; and
5. To estimate direct private cost of college education and to assess the impact of socio-economic status of the parents on the educational expenditure pattern of children.

IMPORTANCE OF THE STUDY:

Unit cost analysis serves the following purposes:

1. Estimating and working out resources required for educational sector and for various sub-sectors of education;

2. To improve the efficiency of resources invested in education;

3. To evaluate if resources allocated to education are optimally used and within educational sector whether resources are optimally allocated between different sub-system of education;

4. To assess the cost-effectiveness and cost-benefit ratio of the educational sector as a whole and of the different level of the system.

CONCEPT OF EDUCATIONAL COSTS:

Educational institutions are considered to be the firm of educational industry. Schools, colleges and university, therefore, constitute the firms that undertake the production of the good or service called 'education'. The education industry as a whole comprises all educational institutions, physical equipments, student, teachers and management. Educational institutions, like any other industrial process, transform inputs into outputs, incurring costs in the process. The identification

of the unit of output is a typical problem. Enrolments are generally taken as the output of education in order to estimate unit costs of education. Students enter into educational industry as the raw materials to be processed, and are transmitted from lower to higher stages as goods in process. The output of education may be said to be the "knowledge added" or "educational value added" which consist of the knowledge absorbed and capabilities developed by the student at each stage of their education. Total enrolment is taken as gross output and the number of passed out or graduates can be regarded as Net Output.

The inputs of educational plant consist of both the human and physical resources. These factor inputs comprise of the service of teachers and other non-teaching staff as human inputs, inputs of students' time and service as raw-materials, services of the means of transportation and communications, services of material goods such as books, stationery, uniforms, buildings, laboratory and other equipment as capital inputs of educational production. The factor cost of education is nothing but the amount paid for the factor inputs used in the production of education. In other words, factor payments are the prices at which the services of factor inputs such as teachers, non-teaching staff, buildings, equipment, furniture books, stationery and others are purchased.

The cost of education consists of three components. These are: (i) institutional cost, (ii) Private or Student cost and

(iii) oppprtunity cost. Institutional cost represents the cost incurred by the government or educational institution or both in operating and maintaining the institution to provide facilities of education. Private cost is defined as that part of investment in education which is made either by the student or the parents or both. Opportunity cost is the earning foregone by a student on account of pursuing a given level of education or the benefits foregone that would have been available to the society in the absence of educational programme. In this study, no attempt is however made to analyse opportunity cost of education.

Institutional cost is classified into recurring or current and capital cost and also sometimes as variable and fixed cost of education. Recurring expenditure or cost includes all expenditures on consumable goods and services which bring immediate or short term benefits and have to be regularly renewed while capital expenditure or costs mean the purchase of durable assets which are expected to yield benefits over a longer period.

The major items of recurring cost are: (i) salary and allowances of teaching and non-teaching staff, (ii) current expenditure on the use of consumables in the laboratories, maintenance and repairs of buildings, equipment, furniture, rent, electric and water charges, contingent expenditure on postages, stationery and others and (iii) expenditure on activities of student including games and sport and socio-cultural functions. Recurring cost may also be divided into two parts - divisible and non-divisible. Some of the components of recurring cost are divisible in the sense that these costs are incurred in providing

services to a group or part of the student body e.g. salaries and allowances of teachers and current expenditure on consumable stores for laboratory. Non-divisible costs comprise those items of expenditure which are incurred for providing common services to all students in institution and cannot be assigned to any category of students or course. These items include salaries of non-teaching staff, common services and other recurring costs excluding current laboratory expenses and costs of student activities.

The major items of non-recurring or capital cost include the expenditure on buildings, land, library books, furniture, office and laboratory equipments and other items of permanent nature. Thus, capital costs are the costs incurred for creating a seat of education and infrastructural facilities which are crucial to the improvement of quality of education.

Private cost of education is broadly divided into direct and indirect cost. Direct private cost is defined as the cost directly incurred by a household for the education of students. Direct cost has two components: academic cost and non- academic cost. Academic cost indicates expenditure directly related with the education of the student, whereas the costs which are related with the support and maintenance are referred to as non-academic cost. The major components of academic cost are fees given to the college, cost of book and stationery and other instructional costs. Non-academic costs include expenditure on food, transport and communication and personal maintenance.

The expenditure on food forms one of the most important components of private cost of education. In this connection, the students may be divided into two categories: (i) hostellers and (ii) day-scholars. The day-scholar are of two types: those who stay with their parents and those who make their own arrangement outside hostel. The cost of food bill of these two categories will be different. The corect estimate of cost can be arrived easily in case of hostellers but it is not so easy for those of day-scholars. Both expenditure on food and personal maintenance may vary considerably according to individual tastes, habits and more importantly, the economic status of the student or his parents.

Indirect cost or opportunity cost of education is generally assessed in terms of the foregone earnings. It consists of loss of income that a student could have earned, had he gone for employment instead of pursuing further education. There is some controversy relating to the inclusion of opportunity cost of student in the total cost of education. Some argued that earnings foregone should be included in any estimate of the true cost of education but other rejected this view. However, several economists have attempted to measure the opportunity cost especially in cost-benefit analysis of education as well as for assessing the total resources cost of education.

METHODOLOGY AND SOURCES OF DATA:

Higher education in this study implied college education including Pre-University and degree course in general education. The study is mainly based on data collected through a survey conducted in these colleges. The information relating to institutional cost were obtain from the selected colleges. Data with regard to the cost of education directly borne by students and their parents were collected by sample survey among the students of these colleges. Other required data and information were also collected from several published and unpublished records of the Government departments and other secondary sources. The growth of institutional cost was examined for the period between 1983-84 and 1993-94. The pattern and structure of unit institutional cost is also estimated seperately by type of management and the number of courses serviced in the college. The estimates of private cost was related to the academic year 1993-94. The calculation of total cost of higher education has included the estimates of direct institutional cost and direct private cost for the year 1993-94.

(i) Estimation of Institutional Cost:

Institutional cost included direct expenditure incurred by the college to operate and maintain the institution. This cost consisted recurring and non-recurring expenditure met from all sources to maintain the institution. Recurring cost were classified into four components: (i) teaching cost (ii) non-teaching staff cost (iii) common services and other recurring

cost, and (iv) student service cost. Annual unit recurring cost per student referred to the sum total of expenditure incurred on these items divided by the number of enrolment.

Non-recurring cost included the expenditure on buildings, library books, furniture and equipments. In this study, the annual per student capital expenditure were estimated. In other words, the annual capital flows on buildings, library books, furniture and equipments are taken into consideration to measure unit capital costs. The total stocks of educational capital could not be measured as the amount of capital expenditure incurred annually in each of the colleges from their inception were not available.

The overall institutional cost per student was estimated by taking the number of students on rolls. However, institution received tuition fees, library fees, games fee, laboratory fee, examination fees and other fees from the students. Hence, the actual institutional unit costs was estimated by deducting these receipts from the overall institutional cost.

The following methods and concepts have been used to calculate institutional unit cost :

Teaching Costs: Teachers are the basic input of the educational system. The teaching cost means the cost incurred on the salary and allowances of teachers employed in the college. Although the principals of the colleges do not take regular classes, they have been considered as members of the teaching staff.

Non-Teaching Staff cost: Non-Teaching staff constitutes an auxilliary input of educational production system. Wages and salaries of non-teaching staff were treated as an item of recurring expenditure or cost. Non-teaching staff includes staff engaged in the general administration of the college, finance/account staff, laboratories and library staff.

Common services and Other Recurring costs: The cost under these items includes expenditure on consumable items for laboratories, current expenditure on maintenance and repairs of buildings, equipments and furniture; rent, telephone bills, electric and water charges, stationery and postal charges.

Student Service Cost: This cost included the expenditure incurred on games and sports and other socio-cultural activities organised by the students themselves.

Building: General investment on building happens to be the largest component of non-recurring or capital cost. There were two types of expenditure on building: firstly, annual expenditure on the routine maintenance and repairs of the existing buildings and this portion was classified as recurring expenditure, and secondly, expenditure on building construction, addition and major alteration were considered as non-recurring cost.

Library books: Expenditure on books and Journals were treated as investment in capital assets. They are available for use by students and teachers for several years. But expenditure on binding, insecticides and other consumables were regarded as recurring cost.

Furniture and Equipment: These items are the essential inputs of educational production. They have their own life span and their services could be utilised during their life time. Therefore, any expenditure on typewriters, duplicating machines, laboratory equipments, benches, tables, and desks were treated as non-recurring cost while annual maintenance and repairs are a part of non-recurring cost.

(ii) **Estimation of Direct Private Cost:**

The cost of education directly borne by the students and their families had two components: (i) Academic cost which were directly related with their education such as expenditure on fees, books and stationery, and (ii) Non-academic costs which were expenditures related to their supports and maintenance such as food, transport and personal maintenance. The net private cost was estimated by subtracting the amount of scholarship received from total expenditure incurred by the household.

ACADEMIC COST:

Fee: Fee consisted of tuition fee, admission fee, examination fee, laboratory fee and other fees and charges payable to the institution and university.

Books and Stationery: These items included the expenditure incurred by the student and their families on textbooks, magazines, daily newspapers, exercise books, paper, pens, tools and instruments.

NON-ACADEMIC COST:

Food: The cost of food included the expenditure incurred by the students on their mess bills in the hostels and at home and daily tiffin expenses in the colleges. The rent paid by the students to the hostels and accomodation charges in rented houses were also included in the cost of food. The cost of food of day scholars who live with their parents was imputed on the basis of the size of the family; similarly, the imputed rent paid by these students were also calculated from the average rent paid by the students who arranged their own accomodation outside hostel.

Transport and communication: This item included the amount of expenditure incurred by the students for their journey to and from the place of study, daily transport for going to the college, postages and others.

Personal maintenance: Expenditure on personal maintenance incurred by the student included items on clothing, footwear, medicines and medical care and consumables like soap, tootpaste and other toiletries.

(iii) Selection of the sample:

The sample design of the study involved two stages:

(i) the selection of colleges, and (ii) the selection of students. At the time of collection of data in 1993-94, there were 29 colleges in Mizoram and 13 of them were degree colleges affiliated to NEHU while the rest had either recognition or affiliation upto pre-university level. All these degree colleges

were selected to represent the sample of the analysis. However, data could be collected only from 10 colleges. In terms of management, the sample colleges included one University college, seven State Government Colleges and five Private colleges. Again, according to the number of course serviced by them, the colleges consisted of four Art colleges, three Arts & Science colleges, one Arts & Commerce college and 2 Arts, Science & Commerce Colleges.

In the sample survey relating to the students, stratified random sampling technique was applied. Students were stratified into their respective classes and the student sample was drawn randomly from each class. Five percent of the student from each class were selected and administered the questionaire specifically prepared for them. However, the actual sample contained four percent of the student enrolled after eliminating incomplete responses from the sample. The total number of students in the sample thus turned out to be 351 students drawn from the selected colleges. The distribution of the student sample population collected classwise is given in Table below:

Table : Distribution of sample population of the Students.

Categories of classes	Number of student in the sample
1. Pre-University (Arts)	155
2. Pre-University (Science)	37
3. Pre-University (Commerce)	27
4. B. A	100
5. B.Sc	19
6. B. Com	13
Total	351

(iv) Collection and Sources of Data:

There was no secondary data available to estimate either institutional cost or private cost directly borne by the students except tuition cost and other fees paid to the college. Hence, most of the required information and data on institutional cost as well as private cost of college education were collected from primary sources. For this purpose questionaires were developed and administered to the sample population. All the colleges included in the study were visited and the relevant information and data relating to the institutions were collected personally with the help and cooperation of the college authorities. Students were randomly selected from each class and were guided to the procedure of filling up the schedule. The data collected in this way formed the basis of estimation of unit cost of higher education in Mizoram. Data were analysed with suitable ststistical tools and methods such as, mean, standard deviation and simple Regression analysis.

Three types of questionaires were constructed and used for data collection. They are:

(1) **State level questionaire :** This questionaire was designed to collect data and information from primary sources like the Directorate of Higher & Technical Education, Directorate of school Education and other concerned officials. State level data on enrolment, financial expenditure on recurring and non-reccuring items were collected through this questionaire.

(2) **Institutional Level Questionaire:** This Questionaire was developed to garner the various components of institutional cost and other related materials needed for the estimation of unit cost. The questionaire collects informations like number of teaching and non-teaching staff, enrollments,. university examination results and financial expenditure on recuring and non-recurring items like salaries and allowances of teaching and non-teaching staff, games and sports, office expenditure, buildings, library books, other durable goods like furniture and equipment and finally fund received from various sources like government, fees, and other donation from individuals.

(3) **Questionaire for students:** This questionaire was used for collecting information about different components of private costs and the socio-economic status of the parents of the students. It dealt with the following aspects: (1) Student background - family size, income and occupation of the parents, (2) monthly average expenditure on food and rent paid to the hostel and other accomodations charges (3) annual average

expenditure on transport and communication, (4) expenditure on text books and stationery (5) annual expenditure on clothing, footwear and other personal expenditure on toilet items, (6) expenditure on private tuition. The items collected on monthly basis were adjusted per year at the tabulation level and the overall expenditure was aggregated and axpressed as cost per student per year.

(4) **Other sources of Data:**

In addition to the data and information collected with the help of questionaires, other sources of data included published and unpublished data of government departments like Directorate of Economics and Statistics, Planning and Programme Implementation Department, Budget Documents from the Government of Mizoram, Ministry of Education Government of India and North Eastern Council, Shillong.

(5) **Cost of Education at Current and Constant Prices:**

Cost of Education can be expressed at current/ market prices and constant prices. When the costs of education are expressed at constant prices, they take care of increase in prices of goods and services and thus represents the real cost of education. When costs of education are computed over a period of time, it is necessary to convert current prices into constant prices because current prices can be quite deceptive if the economy is experiencing price inflation. The best way of solving of this kind of problem is to construct educational price index, based on the prices of goods and services used in educational

process. But this is not an easy task as it requires a huge information. Hence, no attempt is made at present to construct educational price index leaving the task for future research In the absence of any appropriate price index at the state level, Net National Product deflator is used therefore to convert current prices into constant price taking 1980-81 as the base year.

SCHEME OF CHAPTERS:

The study is divided into seven chapters. Chapter 1 deals with introduction, objectives, methodology and sources of data. Chapter 2 gives a broad outline of the socio-economic profile of the State. Chapter 3 contains a brief review of the relevant literature on the subject. Chapter 4 analyses the profile of educational development and growth of public educational expenditure in Mizoram. Chapter 5 attempts the analysis of institutional cost of higher education. Chapter 6 deals with the estimation of private cost of higher education in Mizoram; and lastly, Chapter 7 deals with the major findings and conclusion.

SUMMARY FINDINGS AND CONCLUSION:

1. Educational Profile of the State:

The following broad findings can be drawn from the analysis of the educational profile of the state:

(i) The system of formal education in Mizoram begins with the arrival of two christian missionaries in 1894 who introduced Mizo alphabets based on Roman script. By 1903, there were 15 Lower Primary Schools in Mizoram. The first two Middle schools were established in 1909. The first High School was started in 1944. Twelve years after Independence, the first college was established in 1959 Mizoram has no university of its own but North Eastern Hill University (NEHU) Mizoram Campus offers post-graduate degree courses in a few subjects like Economics, Education, English, Public Administration, Psychology, Forestry, Social Works and Mizo.

(ii) Mizoram follows the national pattern of 10+2+3 educational system as recommended by Education Commission of 1964-66. Administratively, there are two separate directorates, viz., Directorate of School Education and Directorate of Higher and Technical Education that supervise and control the overall educational activities of the state. Educational isntitutions may be either under state government or private management.

(iii) During 1950 to 1993 , the growth rate of teachers has been found to be higher than the growth rates of enrolment and institutions. Again, enrolment has been increasing at a faster rate than the growth rate of educational institutions resulting in a continuous expansion and overcrowding of educational institutions. The growth of enrolment, teachers and institutions have been observed to be high at each successive level of education as compared to the preceding level. The decadal growth rates of enrolment, teachers and institutions at all stages of education have also registered declining trends.

(iv) Though Mizoram enjoys the second highest literary rates in the country, the literacy rates at the district and block level have not been uniform. Chawngte block in the southwestern part of the state has the literacy rates as low as 24.76 percent in 1991 as against the average state level of 82 per cent. Similarly, there is a wide variation in the distribution of educational facilities among the three districts of the state.

(v) Technical and professional education in the state is not only poor in quality but also highly inadequate.

4. Pattern and Trend of Public Expenditure on Education:

Following are the main findings of the empirical analysis of public expenditure on education:

(i) public expenditure on education in nominal and real terms in 1993 were 32.5 times and 4.5 times higher than their levels in 1972 respectively;

(ii) the annual growth rate of public educational expenditure in current and constant prices were much higher than the annual growth rates of enrolments and population during the period under study;

(iii) the expenditure on education as a proportion of the total revenue expenditure declined from 18.2 percent in 1972 to 15.3 per cent in 1993.

(iv) the distributive pattern of public educational expenditure indicated that the expenditure on elementary education increased from 37.8 to 55.5 per cent during the period between 1972 and 1993; the proportion of public expenditure on secondary education declined from 47.8 per cent to 22 per cent and expenditure on college education increased from 4.8 per cent to 11.8 per cent during the same period;

(v) public expenditure on elementary and college education increased faster than the growth rate of overall public educational expenditure; expenditure on college education had the highest growth while secondary education had the lowest growth rate during this period;

(vi) the nominal public expenditure on elementary education increased 47.8 times between 1972 and 1993 but it is only 6.6 times in real terms; expenditure on secondary education increased 15.02 times in nominal terms but only 2.1 times in real terms; and expenditure on college education in nominal terms rose 80.4 times as against only 11.1 times in real terms;

(vii) the ratio of annual plan expenditure to total expenditure showed a declining trend. From 9.6 per cent allocated to education in 1972, the share had fallen to 6.5 per cent in 1993. The intrasectoral allocation of plan expenditure during the Seventh Plan (1975-90) and the proposed outlay in the Eight Plan (1990-95) indicated that the major chunk of educational expenditure of the state had been earnmarked for elementary education followed by secondary education and then higher education;

3. Unit Cost of Edcuation:

Estimates of unit costs of education from state level data revealed that unit cost per student per year increased in all levels of education during 1976-91 and unit cost per student increased as one moves from lower to higher levels of education. Other findings are:

(1) nominal unit cost of education at the primary level in 1991 was 5.6 times while real unit cost was 1.6 times higher than its level in 1976; unit cost of middle school education in nominal terms increased 4.8 times as against is only 1.4 times in real terms. Increase in unit cost at the primary and middle school level had been dominatd by rising salary cost of teachers;

(ii) the nominal unit cost of education at the High School level increased 5.3 times, but in real terms, it has increased 1.5 times only. Increase in unit cost has been dominated by increase in expenditure on non-teacher inputs. Non-teacher cost increased much faster than the growth rate of overall unit cost and teacher cost per student;

(iii) the unit cost of education at the college level increased 2.8 times in current prices and 1.3 times in constant prices in 11 years between 1976 and 1986;

(iv) the estimates of quadratic functions to the cost data of different levels of education colleges indicated that primary school system in Mizoram had a U-shaped cost curve while the cost curves for middle school, high school and college were concave to the origin, i.e., inverted U-shaped.

4. Sources of Educational Finance:

(i) The analysis of the overall funding pattern of education shows that the share of government has been increasing over the years while the student's contribution in the form of fees had declined considerably.

5. Institutional Cost of Higher Education:

The analysis of institutional unit cost of higher education has brought out the following important conclusions:

(i) College education in the state was mainly dominated by education in Arts stream while education in science and commerce were relatively given low priority. Low priority given to science and commerce education reflected the inadequacy of urbanisation, slow growth of commercial and industrial activities and domination of the economy by agriculture;

(ii) The overall institutional unit cost in nominal terms had increased from Rs 1,583 to Rs 4659 per year. The annual compound growth rate was estimated at 10.3 percent.

(ii) Real institutional cost per student declined by Rs 15.14 per student, registering a negative growth rate of 9.12 per cent over the period;

(iv) The pattern of institutional unit cost indicates that more than 80 per cent of the total institutional resources had been devoted on the operation and maintenance of the institution which were recurring in nature. Teacher cost accounted for 58 per cent to 63 per cent during the period under study;

(v) All items of recurring cost except teaching cost had registered a negative growth rate in real terms;

(vi) The pattern of capital cost shows that in real terms, while per student expenditure on building increased, per student expenditure on library books and Furniture/equipment had registered a negative growth rates between 1983 and 1993;

(vii) The proportion of fee to total unit institutional cost had declined from 45 per cent in 1983 to 15 per cent in 1993. In other words, the level of subsidy per student had increased both in nominal and real terms.

(viii) The cost of education varied sharply between private and government colleges. The cost of education was higher in government than private colleges. The institutional cost in the University college was estimated at Rs 8,715 per annum

while cost per student in state government colleges and private colleges were Rs 4,346 and Rs 3,201 per annum respectively. The variation in unit cost was attributed to (1) difference in the average pay of teacher and (2) difference in teacher-student ratio.

(ix) In terms of the number of courses serviced, the lowest cost per student was associated with the college providing Arts and Commerce streams. The unit cost of education was the highest in case of college serving the three courses-Arts, Science and Commerce.

(x) There was an inverse relationship between enrolment size and unit cost. Out of 10 colleges under study, 8 of them showed negative regression and correlation coefficients. The pooled regression analysis also indicated that there was negative relationship between enrolment and cost per student.

(xi) The quadratic cost function had been estimated to find out the level of optimum size and its corresponding minimum cost in different colleges. Eight out of 10 cost functions estimated were concave to the origin while the cost curves for two colleges were U-shaped.

6. Private Cost of Higher Education:

The analysis of private cost reveals the following major findings:

(i) The item-wise analysis of private cost of higher education shows that the cost of food and personal maintenance constituted the maximum amount followed by academic cost

which included expenditure on books & stationery and fees. The cost of food items alone constituted more than 60 per cent of the total personal cost.

(ii) Direct private cost of higher education increased with the increase in the level of education.

(iii) There were wide variations in the private cost of education for different classes and within each class on different items. A number of factors like the income and occupation of the parents nature of management and the cost of education materials may be identified as the explanatory variables for the variations in the private cost of education.

(iv) The private cost of education increased progressively with the increase in the parental income of the students.

(v) Students belonging to the families of professional and administrative occupation spent the highest amount on their personal expenditure among all students. The private cost of the children of farmers were found to be the lowest.

(vi) Student from the lower income group and occupation status were under represented in higher education in relation to the total population of the state.

(vii) The government subsidies by way of scholarships constituted 11.92 per cent of the private cost of education. The share of students and their families has been found to be 86.47 per cent of the total private cost.

7. Total Cost of Higher Education:

(i) The estimate of the total cost of higher education shows that, contrary to the general belief, the institutional cost of education forms a relatively small part of the total cost of education. Institutional cost constituted 27.14 per cent of the total cost of education at the college level while nearly 72.86 per cent was made up of private cost of education.

(ii) Cost per student is the highest in the university college and lowest in the private colleges.

8. Policy Implications of the Study:

Some of the broad policy suggestions emerging from the analysis may be mentioned as follows:

(i) College education in the state has been mainly dominated by general education in Arts while education in science and commerce along with technical and professional education were lagging behind. The state government should make effort to develop these studies in line with the manpower needs of the economy. Education should be planned as a major components of human resource development strategy and as an important input into the development process.

(ii) Budgetary resources allocated to education has been falling. This may have adverse effects on the development of the state economy in the long run. Therefore, the state government should make an effort to devote more resources

to the education sector as a whole. Again, public bedgets for higher education is at best limited and declining in real terms, hence the need for mobilization of additional resources arise. In the present context of Mizoram, besides enhancing the existing fee rates, alternative means such as community financing and student loans may be considered.

(iii) The opening of new colleges should be made on the basis of academic and economic viability of the institutions rather than political considerations and popular pressure to have a college in a particular locality or area. Educational opportunity especially higher Education may be opened up to the students coming from educationally backward areas by providing special subsidies schemes including reservation in hostel and colleges. The new college may be given affiliation and recognition by the university and government only after the potentiality of its viability has been properly assessed.

(iv) The pattern of institutional cost indicates that little attention has been paid to student activities, library books and furniture/equipment. This clearly shows that the quantity and quality of academic infrastructure is very poor and inadequate. Therefore, it is necessary that a larger share of educational budgets must be allocated to these activities and items.

(v) The study shows that higher Education was liberally subsidized by the State Government. In fact, these subsidies were shared by the rich and the poor alike. A proper policy in this respect may be that a higher tuition

fee is charged from student coming from the well to do families while students of poor families pursuing higher education may be given subsidies not only for tuition fees but also for their maintenance.