CHAPTER III
PART 1

COST OF EDUCATION
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III.1.1.0 Introduction:

The scope of the term 'cost' is extremely broad and general. Different authorities use the term from their own angles. Cost accountants, economists and others develop this concept according to their need. Therefore, the term 'cost' should be understood and studied in relation to its purpose and use. When the term 'cost' is used specifically it should be qualified with reference to the object on which cost is charged by such description as fixed cost, direct cost, labour cost, setting cost, marginal cost, standard cost, unit cost, opportunity cost etc. Thus, the cost has different interpretations.

III.1.2.0 Cost Concept:

Cost is the amount of resources given up in exchange for some goods or services. The resources given up are expressed in monetary terms. But cost is different from value as cost is measured in terms of money where as value is measured in terms of usefulness or utility of an article.

Cost should also be distinguished from expenses and losses though in practice the terms 'cost' and 'expenses' are sometimes used synonymously. An expense is defined as including all expired costs which are deductible from revenue. Examples are depreciation, selling expenses, office salaries etc. which are charged against revenue in the period in which they are incurred. On the other hand, loss represents diminution in ownership equity other than from withdrawal of capital for which no compensating value has been received, e.g. destruction of property by fire.
The dictionary meaning of the term “cost” is an amount given or required as payment; the effort or loss necessary to achieve something.\textsuperscript{1} According to Chambers’s Twentieth Century Dictionary, cost means “cost to be obtainable at a price (of); to involve an expenditure (of); to require to be laid on or suffered or loss.”\textsuperscript{2} In general, costs of an intervention are defined as the value of the resources that are given up by society to effect the intervention. These resources are referred to as ingredients of the intervention and it is the social value of those ingredients that constitute its overall cost.

From an economic perspective the cost of an action are determined by the value of the resources that are entailed in their best alternative use.\textsuperscript{3} Resources for the action are tied up after the cost is estimated. If the cost is under-estimated, the intervention will run short of funds during implementation and there is risk of the intervention coming to a grinding halt. On the other hand, if the cost is overestimated, it leads to a situation where more funds are available than required and under these circumstances it is more likely that the management may be induced to misutilise the resources which again is detrimental to the interests of both the institution and the funding authorities.

From cost accounting point of view a cost must always be studied with reference to its purpose and conditions. Different costs may be ascertained for different purposes and different conditions. If the purpose of the study cost is the same, different conditions may lead in variation in cost. The cost per unit of product charges with increase or decrease in volume of output as the amount of fixed expense to be borne by each unit of output decreases or increases with increase or decrease in unit of production.

Cost accounting is generally considered as being applicable only to manufacturing concerns. It is not so. Its applications are in fact much wider. All types of activities, manufacturing and non-manufacturing, in which monetary value is involved, should consider the use of cost accounting. Wholesale and retail business, banking and insurance companies, railways, airways, shipping and road transport companies, hotels, hospitals, schools, colleges, universities, farming and cinema houses, all may employ

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cost accounting techniques to operate efficiently. It is only a matter of recognition by
the management of the applicability of these concepts and techniques in their own
fields of endeavors.

It is to be noted carefully that there is no such thing as an exact cost or true cost
as no figure of cost is true in all circumstances and for all purposes.

Two more important concepts in cost accounting are ‘cost centre’ and
‘cost driver.’ Cost is ascertained by cost centers or cost units or by both.

A **cost centre** is a location, person or item of equipment (or group of these) for
which cost may be ascertained and used for the purpose of control. Thus, a cost
centre refers to a section of the business to which costs can be charged. It may be a
location (a department, a sales area) an item of equipment (a machine, a delivery
van), a person (a salesman, a machine operator) or a group of these (two automatic
machines operated by one workman).

A cost centre is primarily of two types, personal cost centre and impersonal cost
centre. A personal cost centre consists of a person or a group of persons. Impersonal
cost centre consists of a locality or an item of equipment or group of these. In
educational institutions teachers, office staff, various educational equipments,
infrastructural facilities etc. can be treated as the cost centres.

A **cost driver** is any factor that influences cost. A change in the cost driver will
lead to a change in the total cost of a related cost object. Examples of cost drivers are
number of units produced, number of items distributed number of customers served,
number of sales personnel etc. Any change made in any of the cost drivers will cause
a charge in the total cost. It is for the management to see whether any change in any
cost driver is to be made or not keeping in view the cost benefit analysis of the
change in the cost driver.

In educational cost the important cost drivers are number of teaching and non-
teaching staff, number of students enrolment, the number of completer per year etc.

Cost analysis is an integral part of business management. In business cost
concept is very significant because;

(a) The proper capital budgeting requires an estimate of cost;
(b) the knowledge of cost is helpful in deciding about the methods and resources of financing.

(c) the cost concept can be gainfully applied to evaluate the financial performance of a concern,

(d) the cost concept facilitates the ascertainment of optimum cost level of any operation.

III.1.3.0 Types of Educational Expenditure:

Education is no longer regarded as a social service, which every government has to provide to its citizen. It is investment, which will help the growth of the economy of a country. Therefore, in recent years larger amounts of resources are being devoted to the educational development of the developing countries. In India also, we are spending large percentage of the budgets of the states and central government on education.

The view that education is an investment also carries with it the implications that every effort must be made to make the best use of all the resources available for education. Economics is essentially concerned with the problems of making the best use of the limited resources and therefore, educational administration will find it quite useful to be familiar with the concepts and techniques of economic analysis.

The expenditure on education is financed through different sources in most of the countries. The public expenditure on education is generally devoted to teachers' salaries, buildings, equipments, inspection and direction etc. The private individuals and endowments do spend a considerable amount on education. Therefore, in order to assess the total costs involved in producing a graduate, the costs incurred by different sources and also on different activities and associated activities of education must be taken into account.

The OECD study group made an attempt to list out the various elements
or items of cost of education. It has taken a broader view of education, which includes education in the private sector and adult education, and has computed the total resources cost of education for France, Japan and United Kingdom. It has also pointed out that an economic definition of resource cost has to be used in the estimation of total resource cost.

The following are the items of expenditure included in the OECD study:

**III.1.3.1. Expenditure on Personnel:**
1. Salaries and wages of teaching staff and supporting teaching staff
2. Other emoluments of teaching staff
3. Salaries and wages of non-teaching staff
4. Other emoluments of non-teaching staff.
5. Payments to students or trainees.

**III.1.3.2. Other Current Expenditure:**
6. Maintenance and repair of land and buildings, furnitures and equipments
7. Expenditure on replaceable equipment and materials.
8. Fuel, water, light, heat, cleaning etc.
9. Administration expenditure other than personnel expenses
10. Other current expenditure

**III.1.3.3. Associated expenditure:**
11. Transportation, clothing and boarding expenditure
12. Transfer payments (students' Aid)
13. Welfare expenditure (health, recreation etc)

**III.1.3.4. Input Costs:**

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14. The earnings foregone by pupils and students (opportunity cost).
15. The imputed rent of educational buildings and equipment costs.

In the above classification of items of costs of education the 'associated expenditure' is a new item, which has been so far neglected, in the conventional estimates. In some countries, the items of this expenditure are provided by the govt. and in some other countries it is met by the individuals. In fact, it is not strictly related to the education of the student though it is necessary for a student to sustain. Therefore, it is treated as an associated expenditure and has been included in the cost of education for international comparison into OECD study.

III.1.4.0 Institutional Cost of Education:

In most of the cost studies, including that of Verry and Davis, the institutional costs only are considered as the costs of education. In fact, the institutional costs differ from the government cost where private management institutions exist and receive grants-in-aid from the government and fees income from the students. If the govt. gives full maintenance grants, the govt. cost will be the institutional cost minus the receipts from students, and income from endowments plus the government's direct subsidy to the students (scholarship).

III.1.5.0 Private Costs of Education:

In the case of the estimation of private costs of education a careful examination of the expenditure habits of students is needed. The private costs can be estimated only through the sample survey depending upon a well-knit methodology. In the private costs estimates, care should be taken to include all items of expenditure, which are related to the education of the students such as food, maintenance, transport, academic item etc.

In private cost study Chalam has provided the theoretical framework in

estimating such private costs in higher education. The unit cost estimate of this study, however, are limited to higher secondary and degree classes. But unit cost of higher education must take into account the costs of degree as well as postgraduate classes.

In economic analysis all types of sacrifices involved in producing an output including opportunity cost has to be taken into account. Therefore, the total costs of education must necessarily contain the following three components:

1. The Institutional or college related costs.
2. Students' or Private cost.
3. Earnings foregone or opportunity costs.

The sum of the three gives the total resources cost and the last two items explain the real private cost. However, sufficient care should be taken in estimation of these costs by eliminating double counting which generally occurs in such estimates by observing the precautions suggested by Chalam, Hallak and others.

The above theoretical frame gives a board understanding of the meaning, purpose and estimation procedures of unit costs in education. However, the costs analyst may not be able to follow strictly the procedures laid down in theoretical framework. It may be necessary to modify some of the rules to suit the database without altering the general meaning of the concept.

**III.1.6.0 Explanation of cost concept and terms used in the study:**

The following are some of the concepts and terms used in this study:

**III.1.6.1. Public Costs:**

The public cost means the costs incurred by the institution to operate and maintain the institution. The cost included the recurring or operating and non-operation or non-recurring (fixed) expenditure on the institution met from all

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sources to maintain the institution.

However, the major portion of the public cost in our collegiate education in incurred by the government (central and state) to educate the students. Investment in land and building, furniture and equipments etc are non-recurring costs. This cost is also termed as 'Capital Cost'. or 'Capital expenditure'. The important items of Capital expenditure include:

i) Purchase and development of land
ii) College buildings, classrooms, laboratory and equipments
iii) Other durable instructional equipments like slide projections, TV, VCR, computers etc.
iv) Welfare services, residence halls.
v) Library and other items of permanent nature.

Recurring or operating costs are salaries of the teaching & non-teaching staff, student's scholarship, maintenance charges etc. Thus, they may be grouped under three main categories:

i) Teaching staff cost:

The teaching staff cost means the cost per student incurred on teacher's salaries. The cost taken into account the total salaries of the teachers and their allowances provided in the development and the normal budgets of the institution.

ii) Administrative cost:

This item consists of institutional administration and the non-teaching staff of each institution. Expenditures on salaries of non-teaching staff, maintenance and repair of land and buildings, furniture's and equipments, fuel, water, light, heat, cleaning, chalks, dusters, black boards etc. come under administrative cost.
iii) Common Service and other recurrent costs:

The costs under this item include the expenditure on common services like examinations, student facilities, maintenance of institution’s dispensary, if any, and other auxiliary services and contingencies.

Direct and Indirect costs:

Public costs can also be classified as direct and indirect costs. The costs, which can be directly attributable to teaching department, are called direct costs and which cannot be directly attributed to a teaching department is called indirect costs.

Direct costs include salaries, allowances, investment in buildings & equipments, library facilities, furniture's etc. Expenditure on direction, inspection, hostel, canteens, community services and other miscellaneous items are termed as indirect cost. In computing the unit cost of education both direct and indirect costs are to be taken into account.

III.1.6.2. Private costs:

The costs incurred by the students and their parents for which no official records are maintained and which cannot be audited are called private costs of education. These costs include admission and examination fees, maintenance costs, costs of books, stationary, transportation, uniforms and other dresses, private tuition fees, fooding and lodging expenses and other petty expenses. They may be included under the following heads:

i) Maintenance Costs:

Maintenance of students include clothing, laundry charges, footwear, membership of sports or cultural clubs, expenses on medical check up and cost of medicines, toilets, body care items etc.

ii) Food:

The cost of food includes the expenditure incurred by the students on
their mess bills in the hostels, hostels and at home. In addition to the expenses on their food, the student might also spend on Tiffin's etc. at hotels, clubs etc. The expenses on all these items at different places are included in this cost. The cost of food of the students who live with their parents is imputed on the basis of size of the family.

Food and maintenance cost of education is purely personal cost of the student and therefore, it is expressed as one item in certain occasions to find out the remaining private academic costs of education to the parents or to the students.

**iii) Transport and Communication:**

This item includes cost of conveyance in the city, town, round trips to native place and cost incurred in postage, telephone etc. by the students.

**iv) Books and Stationary:**

This includes the expenditure on textbooks, magazines, journals, daily papers, pen, exercise copies etc.

**v) Fees on Academic purposes:**

This item takes into account the expenditure on academic matters, which includes various fees, educational tours or visits, tools or toolbox etc.

**vi) Pre-admission:**

This is a new term used to denote the expenditure incurred by students to attend interviews etc. in connection with the admission into the institution. This is considered as an expenditure on education as it is an academic item of expenditure relating to the students education. However, in the general degree colleges in Assam, no interview or admission test is held for selecting students for admission. Hence, this cost is excluded from the purview of our study.

The Private costs are incurred by the students or the parents according to their economic capabilities. There is no uniformity of such cost and it
varies from place to place and student to student. As these expenses are incurred privately, so there is little or no scope of audit. However, from social points of view private cost play significant role in quality and standard of education.

III.1.6.3. Opportunity Costs:

The opportunity cost of students' time is generally treated as the value of the opportunities or income foregone by the students while they are in the educational institution. It is equal to the amount, which they would have earned had they not attended the college with their educational qualifications at the time of entry to the educational institutions. In other words, opportunity cost is the alternative income lost or sacrificed due to adoption of a particular course of action. In a broader sense of the terms, it can be viewed that this cost is not only a student related cost, but also a social cost because the society loses the same amount that could have been added to the GNP of a country.

In primary and secondary level it is not desirable to calculate opportunity cost. But in case of higher education it is an important factor in the calculation of total cost. Opportunity cost varies according to the age of the student and job opportunities available in different localities.

However, some economists have argued against the estimation of opportunity cost of education. Vaizey, and Streeton have expressed their views against its inclusion in the cost of education. According to Vaizey, the inclusion of income foregone in the costs of education opens the floodgate of approximations which would take the concept of national income away from its origin as an estimation of the measurable flow of economy. If income foregone is added to educational costs, it must also be added to other sectors of the economy, notably housewives, mothers, unpaid sisters in voluntary works of all sorts etc.

But arguments provided by Schultz in favour of the inclusion of

8. Padmanabhan, C B : Economics of Educational Planning in India: (1971), P. 162
opportunity cost seen to be more logical and meaningful. Schultz said that, "One of the attributes of economic growth is that it increase the value of time, thus the earnings foregone by students tends to rise."

Bland and some other economists have estimated opportunity cost of education for Indian education in their study on the cause of graduate unemployment in India. In this work they have discussed the problem of unemployment, which comes in the way of estimating opportunity cost of education. They have rejected the plea that the opportunity cost is zero in under-developed countries where the problems of unemployment and under employment are present. They said "in any under developed country young children are frequently economically active, so that their time does have a positive opportunity cost. Thus, by sending them to schools/colleges, the family loose the income the child could have contributed either directly or indirectly by freeing the mother from looking after young children."

Moreover, the estimation of opportunity cost can solve many of the puzzles of economics of education such as, the early drop out of promising children of poor families and irregular attendance of children belonging to agricultural families during busy seasons.

In this study opportunity cost is included to estimate the unit cost of higher education keeping in view the following constraints in mind:

i) The opportunity cost included here is not exact but based on assumption.

ii) This cost varies from students to students, place to place.

iii) There is less scope for students in Assam to engage themselves in jobs after completing matriculation or higher secondary education.

III.I.6.4. Environmental Cost:

Some costs are incurred to create an educational environment in an area or a country as a whole. Non-government organisations, public trusts and institutions, government and individuals may provide funds to conduct and organise seminars.


on education, literacy and sports competition, educational excursion and tour, may provide subsidies for journals, magazines, newspapers, books, may construct library, may expend on memorial days of great men, advertisement and documentaries etc. which help to create an environment conducive for educational development.

All these fall under indirect costs of education. Environment cost is shared equally by all the institutions of higher education and hence, it is difficult to allot this cost among the colleges under our study. Moreover, there is no proper record of environment cost incurred by different agencies or bodies. Hence, it is dropped from the estimation of unit cost of higher education.

III.I.6.5. Monetary and Non-monetary Costs:

Costs of education can further be classified as monetary and non-monetary costs.

The costs of education refer to the economic value of the inputs used in education. All the inputs that are used in education cannot be valued in monetary or numerical terms. The costs incurred in education being capable of expressing in monetary terms come under monetary costs. Such costs can easily be estimated and recorded for the purpose of study and making analysis. All the costs under public and private costs be termed as monetary costs.

But in education the government, the society and the families not only are spending huge amount of funds for educating the up coming generation but also incurring some costs that are difficult to measure in quantitative terms. For instance, along with money the parents or guardians are giving their time and energies for providing education to their children or wards. The values of such time or energies are not countable, but this is also a cost to education.

However, for calculating the unit cost of higher education we have considered the monetary costs only though educational costing requires some consideration on this aspect.
III.1.7.0 Views of Education Commissions on Costs and Related Matters:

Since the establishment of formal universities at Calcutta, Bombay and Madras in the year 1857, the western system of Higher education has been progressing at a rapid pace. There have been many Committees and Commissions in colonial India. Their recommendations were not given due importance by the colonial rulers.

After independence, there have been attempts to review the progress of higher education and to suggest measures to be taken for it speedier progress. Such recommendations have expressed various views on many matters concerning higher education including its funding problem. Some of the recommendations of a few important commissions and committees are given below:


The University Education Commission (1948-49) under the chairmanship of Prof. (Dr.) S. Radhakrishnan made many recommendations for improvement of higher education in the country which include number of working days per academic session, provision of tutorial classes and library facilities, examination reforms, spreading of women education, students welfare, compulsory physical education etc.

However, the commission did not make any recommendation on cost of education or funding of higher education in the country. Perhaps at the dawn of the independence the state assumed the full responsibility for speedier progress of higher education and its funding was treated as a social commitment.


The report of the Education Commission (1964-66) under the chairmanship of Dr. D.S. Kothari made some important recommendation for bringing a radical change in the system of higher education in India. The
Report focused attention on functions of universities, examination reforms, and improvement in quality of programmes, medium of instruction, improvement in the functioning of the U.G.C. etc. The Kothari Commission is also silent on problems of funding the college and university education. However, it had recommended the post-graduate education to be the responsibility of the Central government. The commission also emphasised on women education and recommended that separate colleges for women at undergraduate stage, if there is a local demand. The commission recommended that 6% of the GNP be spent on education.

III.1.7.3. National Policy on Education, 1968:

The National Policy on Education 1968 made some observations about higher education. They included regulating student strength, regulating establishment of new universities, improvement of post-graduate education and research, introduction of part-time and correspondence course at the university stages etc. This NPE had made some observation on cost of higher education or financing of higher education by the state.

III.1.7.4. National Policy on Education, 1986:

The National policy on Education 1986 viewed higher education from various Corners and suggested measured for examination reform and improving teachers and their status.

The problem of funding the higher education was reviewed by the policy. Some important features of the NPE are :

1. It encouraged self-supporting institutions.
2. It suggested the enhancement of fees at higher education level gradually.
3. The Commission suggested restrictions of admission at University level.
4. Another important recommendation of the Commission was to make teachers accountable for teaching and results.

The National Government brought out a Document entitled Programme of Action (POA). This document gave details of various programmes to be undertaken as a part of follow up measures of NPE, 1986. The POA included programmes like regulation of admission on the basis of physical facilities, provision of entrance examinations for admission to institutions of higher education, provisions of funds for five years for programmes of autonomous colleges etc. There was no programme of action for monitoring the costs of higher education or reducing the state's burden of funding higher education.

III.I.7.6. Acharya Ramamurti Committee, 1990:

The Committee for review of NPE 1986 under the chairmanship Acharya Ramamurti stressed on improvement of the quality of higher and technical education. This committee, for the first time gave a serious thoughts on funding of higher education in India and made the following important recommendations for resource mobilisation:

a) Public investment in education to exceed 6 percent of G.N.P
b) All technical and management education to be self-financing with adequate support in form of student loans.
c) Increase in tuition fees, library fees, laboratory fees.
d) Increase in funds for scholarships.
e) Mobilisation of financial support from the community
f) Augmentation of income in form of offering consultancy and other services

III.I.7.7. Report of the CABE Committee on Policy, 1992:

The Central Advisory Board of Education Committee on Policy, under the Chairmanship of Sri J. Reddy made recommendations on resource mobilisation as follows:

Higher education should try to become self-financing by revising the fee structure with appropriate support to needy students by way of student loans.
III.I.7.8. Programme of Action (POA), 1992:

The programme of Action, 1992 document of the central government listed following actions to be taken for minimising the costs of education and ensuring optimum utilisation of infrastructural facilities available in the educational institutions:

a. Optimum utilisation of facilities by introducing extra shifts.
b. Stress on consolidation of existing colleges and deferring establishment of new colleges till old colleges have adequate resources.
c. Undertaking revision, review and updating of grant in aid rules with reference to per capita cost, teacher student ratio, types of courses, internal resource generation
d. Tightening of affiliation system through adequate measures.
e. Encouragement for establishment of autonomous colleges and departments.
f. Working out a scheme of sharing of resources by institutions in metropolitan cities by 1993-94 and provision of utility audit for costly equipments.

III.I.7.9. The Punnayya Committee’s Report, 1993:

The Punnayya Committee set up by the University Grants Commission in 1993 submitted its report on “Funding of Institutions of Higher Education” by the UGC and recommended that—

“Taking into consideration the historical background, the present stage of development and the role of higher education, the availability of alternative sources of funding and the global experience, the committee unequivocally reiterated that state funding must continue to be an essential and mandatory requirement to support higher education. It is the perception of the committee that the state must continue to accept the major responsibility for funding the essential maintenance and development requirements of the Universities.11

The Punnayya Committee and the Pylee Committee which submitted a report on the recommendations of the Punnayya Committee relating to unit cost of higher education and other issues, have both recommended that maintenance grants should be based on ‘unit costs’. The Punnayya Committee Report has also laid an expectation that the universities will increase their earnings within a lead period of 10 years, to about 25 percent. Subsequently, the Anand Krishnan Committee (1999) and the Mehmood ur- Rohman Committee (2000) have also laid emphasis on internal resource generation and the fee hike for the viability of state funded institutions of higher education.12


Following a commitment made by the Finance Minister in his budget speech for 1996-97, the Department of Economic Affairs, Ministry of Finance, Government of India, issued in May 1997, a discussion paper on “Government Subsidies in India.”13

The Department of Economic Affairs paper is based on a detailed research study by the National Institute of Public Finance and Policy, New Delhi, It provides an estimates of:

- The aggregate value of Governmental subsidies.
- Its distribution across service provided by the Government.
- The extent of subsidisation in various services.

The paper makes three important assumptions.

1) Subsidies are advocated when the social benefits of a particular service or commodity are greater than the sum of private benefits to the consumers.

2) Subsidies that are administered to final consumption or production are considered to be more desirable since they accrue to the target beneficiaries directly.

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12. Sharma, Pratim and Borah, Pranjal : Jinx on Higher Education . Shall we survive it? Souvenir, ACTA Annual Conference (2003), P5
3) Untargeted subsidies promote inefficiency and induce wastage of scarce resources, e.g. low recovery rates of electricity, diesel, irrigation water, lead to their wasteful use.

The paper divides services provided by Government into three broad Categories—

i) Public goods, like defence and general administration:

ii) Merit goods or services, which include primary education, public health, social welfare schemes etc.

iii) Non-merit goods or services which include education beyond elementary level. Higher education comes under the Category of non-merit goods. The reason given is that here benefit of subsidies accrue primarily to the recipients. In contrast, benefits of providing elementary education spread well beyond the immediate recipients. Thus, the ‘discussion paper’ recommends reducing government subsidies on higher education in India.

In addition to these Commissions, various state Governments have also appointed state Committees on higher education. In Assam too, three Committees were formed, such as—

i) J.N.Das Committee on Higher Education in 1977-78


A brief description of the three committees with their important recommendations are stated below:

i) J.N.Das Committee on Higher Education, 1977-78

This was the first Committee to be set up by the Government of Assam after independence to review and suggest measures to improve the quality of Higher Education in the State. The Committee was constituted in January 1977 headed by Sri Jitendra NathDas and it submitted its report to the Government in October 1978. Unfortunately, we could not find out the said report even after investigating

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14. Bhorali, Dr. Sailajananda, Member Secretary and Prof. Ali, Ashrof, Member, J N. Das Committee on Higher Education, 1977-78.
various probable sources. However, the researcher personally contacted Dr. Sailajananda Bhorali, Member Secretary and Prof. Ashrof Ali, Member of the said Committee. According to them the J.N. Das Committee reviewed some important aspects of Higher Education in Assam which include-

i) need for and justification of expansion of higher education;

ii) examination reforms;

iii) reforms in the system of evaluation of answer scripts;

iv) increase in actual teaching days in the Colleges & Universities etc.

The Committee did not throw light on cost aspect of higher education as financing of Higher Education was taken as state responsibility till the last decade of 20th Century.

**ii) The Education Reforms Commission, 1993-95:**

The Government of Assam constituted an Education Reforms Commission vide notification No. B(3)S.528/92/12, dated 6 October 1993 to go into the present functioning of the state system of education and to recommend measures for its overall development. The Commission submitted its reports separately for elementary, secondary and higher education including technical and vocational education. It provided as many as 21 recommendations to improve the quality of higher education in Assam. A few important recommendations are as under:

i) The Commission recommends that a well-laid procedure for recognition of colleges both by University and the Government should be worked out with a view to ensuring quality of teachers and planned development of collegiate education.

ii) The requirement of colleges and the minimum number of teachers' need be rationally worked out.

iii) An endeavor should be made to schedule the examination during vacation period and to advance the summer vacation so that classes could be started in early July.

iv) The Commission observes that more stringent procedure be adopted and well-laid need based norms be worked out and there be insisted upon while giving

permission for opening of a new college.

v) There should be sustained efforts in order to obtain funds from non-government sources through research projects, consulting etc. and to raise internal resources, for it would not be possible to improve educational facilities only through Government funds alone.

vi) The tuition fees account for a very small portion of the budgets of the colleges. There is some scope for raising internal resources through enhancement of tuition and other fees.

iii. Committee on Fiscal Reforms, 2001:

The Government of Assam set up “Financial Reforms Committee” in August 6, 2001 under the Chairmanship of Sri Harendra Nath Das. The Committee submitted its report to the Government on December 2001. In the Report from Pages 92 to 98, the Committee has made some recommendation under the head of “Grants-in-aid: Autonomous Institutions and NGOs.” The important recommendations of the committee on financing higher education in Assam are as under:

1) No fresh colleges should be taken over by the Government of Assam. No fresh post should be created in the existing colleges. Vacant posts should not be filled up.

2) Sanction of grants-in-aid to the Universities and Colleges should be contingent on the adherence to UGC guidelines.

3) All institutions of higher learning should aim to be self-sufficient and hike their user charges suitably.

4) Government should institute a number of scholarships covering tuition fees and maintenance allowances for meritorious students.

5) Grants-in-aid to all universities, colleges and institutions of higher learning should be reduced at the rate of 10 percent each year for the next five years and should be established at the level of 50 percent of the present quantum.

Thus, curtailment of grants, ban on appointment of teachers' enhancement of tuition fees, collection of funds from socially and economically powerful persons etc. are important recommendations of the Committee on Financial Reforms (COFR). If implemented, these recommendations will have long-term consequences on the scenario of Higher education in Assam in the years to come.

III.I.7.11. National Assessment and Accreditation Council (NAAC) on Funding of Higher Education:

In 1994 the NAAC was established at Banglore to assess and accredit the quality and performance of the institutes of higher education. The assessment and accreditation of universities and colleges have been made mandatory and the results are going to play a very crucial and even decisive role in determining the funding and the fate of the respective institution. All the Universities have been instructed by the UGC to get themselves assessed and accredited by the NAAC by December 31, 2002 and Colleges by December 31, 2003. However, subsequently, the dates for assessment and accreditation have been relaxed by the NAAC on request of the institutions of higher education from time to time.

The theme paper on NAAC sent to the Vice Chancellors of all the universities for their Conference at Pune University on November 13, 1994 clearly stated among other things that the NAAC was fully inspired and modeled on the similar systems prevailing in the USA, UK, Australia, France etc. which had paved the way for substantial reduction of government funding on higher education in those countries. In the theme paper, however, it was made clear that the assessment and accreditation of institutions would have nothing to do with their autonomy and funding and that it would be only voluntary. But it was also made clear in the theme paper as well as in “Rules and Regulations” of NAAC that it would assess institutions on the request of the UGC or Ministry of Human Resource Development (MHRD) or state government.17 Thus, it was quite apparent that the UGC or the concerned governments could later request the NAAC to assess a particular institutions for the purpose of funding.

The NAAC can play a significant role in the management of scarce funds available for education by stopping misuse and wastage. This will be a great service to poor masses of the country who finance higher education through indirect taxes.

III.1.7.12. Emerging Trend in Financing Higher Education:

With more than 300 Universities including Deemed Universities and National Level Research Institutions and about 15,000 Colleges the Indian Higher Education system is the largest among the Commonwealth Countries and second largest in the world.\(^{18}\) Even then it is not adequate to meet the growing aspiration of the younger generation for higher education. Only 6 percent of the relevant age group (17-23) is enrolled in these educational institutions. The percentage is abysmally low in comparison to developed countries where the percentage is around 50 percent. For economic progress the educational institutions must have infrastructure facilities to provide access to higher education at least to 20 percent to 25 percent of the relevant age group. But because of the financial constraints and budgetary compulsions, the government is finding it difficult to provide resources for the ever-expanding higher educational system.

In view of resource constraints of the government to support the growing demand for higher education, Privatisation has become a reality, which we have discussed in chapter VIII. In the wake of globalisation, higher education is being considered as a commodity to be bought and sold in world market. The students are regarded as consumers who must pay for their education. This shift in the mind set of the people is leading to increasing private participation in offering degrees, diplomas and certificates through self-financing courses, charging capitations fee and increased tuition fee. The private providers in the age of globalisation are turning educational institutions into business concerns for earning profits.

Thus, the emerging trend in financing of higher education in India may be put in a chart highlighting its important features as under:

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TABLE : III.1.1  
Emerging Trends in Policy, Planning and Financing of  
Higher Education in India

<table>
<thead>
<tr>
<th>Feature</th>
<th>Conventional System</th>
<th>Emerging system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach</td>
<td>Welfare</td>
<td>Market Approach</td>
</tr>
<tr>
<td>Financing</td>
<td>Public Financing</td>
<td>Private Financing</td>
</tr>
<tr>
<td>Recognition</td>
<td>Govt. Recognition</td>
<td>Institutions requiring no Govt. recognition</td>
</tr>
<tr>
<td>Degree/Diplomas</td>
<td>Degree Awarding</td>
<td>Non-Degree (Diploma/certificate) awarding</td>
</tr>
<tr>
<td></td>
<td>Institutions</td>
<td>Institutions</td>
</tr>
<tr>
<td>Fess</td>
<td>No fees / Low fees</td>
<td>Introduction of fees/ high fees</td>
</tr>
<tr>
<td>Student loans</td>
<td>No loans</td>
<td>Introduction of loan programmes</td>
</tr>
<tr>
<td>Repayment</td>
<td>high default</td>
<td>expected high recovery</td>
</tr>
<tr>
<td>Considerations</td>
<td>Charity, education</td>
<td>Commercial, Profit</td>
</tr>
<tr>
<td>Disciplines of study</td>
<td>Scholarly / academic</td>
<td>Self-financing/Commercially viable</td>
</tr>
<tr>
<td>Model</td>
<td>full-time education</td>
<td>Part-time education</td>
</tr>
</tbody>
</table>
CHAPTER - III
PART - 2

UNIT COST
AND
COST TO VARIOUS GROUPS
III.2.1.0. Introduction:

In this part an attempt is made to study the unit cost of higher education along with the cost to various groups on the basis of micro level analysis. The micro level study is undertaken with the help of a sample survey of the colleges in select districts in the state. Attempt is also made to study the benefit of unit cost study in terms of cost calculation.

The various groups who share the costs of higher education are broadly divided into three. They are, the governments, the institutions of higher education and the families whose wards are admitted to various courses of study. All these costs may be brought under two heads as public cost and private cost. Again, we have combined the government and institutional cost under one head as the government grants etc are utilised by the institutions with their self-generated funds.

The unit cost is calculated upto first-degree level as proposed by our study.

III.2.2.0. Cost per unit of Higher Education:

The interest in the unit cost analysis of education began in the 1960s, when economists developed a strong interest in the theory of human capital. The pioneer of this branch of economics, T.W. Schultz, has himself calculated the cost of education to estimate the stocks of human capital in USA during the 1900-1957.¹
Later, the unit cost estimates were recognised as an important tool in educational planning by the UNESCO experts who have also provided guidelines for costing of education, particularly for developing countries. In the international comparative study of management of costs of education, Coombs and Hallak have further pointed out the importance of unit costs in the analysis of the planning and evaluation. They said that the hard-earned experience of recent years, especially in developing nations where shortage are most severe, provides valuable lessons on how cost analysis can be used as a tool for decision making, and on the penalties paid when cost analysis is neglected.

The subject needs further study as the information available on expenditure and cost of education is much less detailed and satisfactory. Different countries adopt different definitions of cost expenditure. Statistics are generally available only for the public sector of education, and these statistics may or may not include expenditure on student grants or loans, medical or welfare activities, food and transportation*. However, the different definitions of unit cost of education in various countries donot detract the importance of unit cost as each country and study use the unit cost for different purposes. Naturally, when the objectives differ and the availability of statistics is limited, the definitions have to be modified in each case.

III.2.3.0 *The Appropriate Unit of Cost* :

The selection of an appropriate unit of cost is the most difficult problem of cost analysis. In economic analysis the unit cost of a good or service represents the ratio between the cost of a given quantity of goods or services and the quantity expressed as a number of units. The same applies to education. In other words, unit cost means cost per unit of output or average cost. It is simply the result of dividing the total cost by the number of units. Units' chosen will depend upon the purpose for which analysis is done.

The identification of the unit of output in education is a typical problem. However, in practice, the student enrolled or the completed degree is taken as the unit of output to estimate the unit costs of education. The unit has been defined by the Indian experts in a seminar on "Measurement of Cost, Productivity and Efficiency of Education" in terms of certain depth of knowledge per pupil year, weighted with certain physical and moral characteristics. Similarly Coombs and Hallak have defined the educational output as the "educational value added "to the student by his exposure to the particular educational process. Therefore, for all practical purposes even in advanced countries, experts like D. Verry, measure the output of a university department by the number of graduate and post-graduate students enrolled.

Some of the important items of unit costs are:

i. **Recurrent Expenditure per pupil:**
   Total current expenditure divided by the member of pupils enrolled or in average daily attendance or passing out.

ii. **The total cost per pupil:**
   Total expenditure including an allowance for the value of capital as well as current expenditure divided by the number of pupils enrolled or in average daily attendance or passing out (graduating).

iii. **Total Cost per graduate or completer:**
   The Total expenditure on all pupils including dropouts and repeaters divided by the number of successful students who completed the course.

iv. **Total Cost per unit entering the intended occupation:**
   If a large percentage of the Students donot enter the occupation for which they have been trained; this will be much higher and will be useful for some kinds of analysis. We donot consider this cost in our study.

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v. Capital Cost per pupil:
The Capital or fixed Cost of College divided by the total number of pupils it is designed to accommodate.

vi. Capital Cost for Utilised space:
Capital Cost divided by the average number of pupils daily attendance.
In the same way we can calculate the capital cost per classroom, capital cost per laboratory hour per pupil etc.

III.2.4.0 Expenditure per Student:
The Total amount of expenditure spent on education does not convey the real amount of money gone in favour of educating the students unless it is expressed as a ratio between expenditure and enrolment. In fact, the expenditure per student gives only the aggregate picture but does not explain the real cost involved in producing a graduate. The cost and expenditure may appear similar in meaning, but in fact, they are different concepts. The total expenditure divided by the number of student's enrolled give the expenditure per student. But, the cost per student is estimated by taking into account the actual amount used for educating the Student during the period.

For example, the expenditure on buildings may be expressed as the expenditure per Student by dividing it by the Total enrolment, but when it is expressed as a cost, it should be imputed at its depreciation rate for the year or market rate or at some appropriate rate and that amount only for the year will be entered into the Cost per Student.
III.2.5.0 Analysis of per pupil cost by items of expenditure:

The per pupil cost could be divided into as many parts as are meaningful. Estimate done on the basis of the knowledge of such components will be more realistic than when it is done on the basis of global knowledge.

We can have the following notations indicating different kinds of per pupil cost as suggested by Padmanabhan.\(^5\)

\[ N = \text{per pupil recurring cost} \]
\[ N_a = \text{per pupil teacher/salary cost} \]
\[ N_b = \text{per pupil personal cost other than teacher salary} \]
\[ N_e = \text{per pupil cost of general administration} \]
\[ N_d = \text{per pupil cost of maintenance and character of institution} \]
\[ N_e = \text{per pupil cost of books} \]
\[ N_f = \text{per pupil welfare costs (meal etc)} \]
\[ N_g = \text{per pupil auxiliary cost (like transport etc)} \]
\[ N_h = \text{per pupil cost of institutional materials, other than books}. \]

Thus, per pupil recurrent cost for any level of education:

\[ N = N_a + N_b + N_c + N_d + N_e + N_f + N_g + N_h \]

The components of the above formula are actually averages of the gross costs divided by the enrolment.

Another formula developed by S. Natarajan for unit cost calculation is as follows: \(^6\)

\[ UC = \frac{(T + A + Q + M + J)}{N} \]

Notations:

\[ UC = \text{Unit cost of education} \]
\[ T = \text{Salary of teaching staff} \]

\(^5\) Padmanabhan, C.B.: Economics of Educational Planning in India, Arya Book, New Delhi, (1971) P. 70

The two formulae suggested by C.B. Padmanabhan and S. Natarajan respectively, make it clear that when the sum of the expenditures from all sources is divided by the number of students then the result obtained thereby is termed as unit cost. In other words, it is the average expenditure from all sources per student in an institution, a stream or a class.

However, the two formulae, we observe, are inadequate to calculate the unit cost as both ignore the costs incurred by the institutions in providing infrastructural facilities, which is a major item of costs in higher education. S. Natarajan has even not considered the private costs in unit cost calculation.

Taking the College as unit for cost calculation we can use the following formula for unit cost:

\[
UC = \frac{T + A + I + P + O + M}{N}
\]

Notations:
- UC = Unit Cost
- T = Salary of Teaching staff (in a year)
- A = Salary of Non-teaching staff (in a year)
- I = Infrastructural cost
- P = Private cost
- O = Opportunity cost
- M = Miscellaneous expenditure
- N = Total number of students

For the purpose of cost calculation under each head stated above, the following expenditures are taken into account:
i. Salaries of teaching and non-teaching staff:

They include the salaries of only regular staff. Many colleges appoint teachers and other staff on ad-hoc basis and pay the lump sum amount out of college fund. This fund is not generated from a particular source and the amount spent is also irregular, and subject to variation. Hence it has been excluded from our cost structure as mentioned in the limitations of study.

ii. The infrastructural costs:

They include all investments made by the institution for creating an infrastructure for higher education, i.e. land & buildings, library facilities, laboratories, playground, furniture and equipments, computers etc. The total costs of the fixed assets is diffused to the life of the assets and to calculate the cost per year only depreciated amount of the fixed assets are taken into account for 5 years.

iii. Private costs:

Under private costs we have included the costs incurred by the students and their parents. A part of the private costs in the form of admission fees, examination fees etc. are incurred by the students at almost uniform rate irrespective of their economic conditions. But the major portion of the total private costs like costs of books & stationary, fooding & lodging, refreshment & recreation, uniform and dresses, private tuition fees and petty expenses mostly depend upon the economic capabilities of the parents.

iv. Opportunity costs:

Here we have considered the possible income lost by the students of +2+3 stage due to continuation of study and not going for any private job. This is particularly important from two points of view:

(a) The students have lost possible income.

(b) They have contributed to increase in educational costs of the families as well as the state.
However, it is very difficult to determine the exact amount of possible income lost by the students during their courses of study. Here, we have calculated this cost keeping in mind the opportunity of employment, localities of the students, level of and stream of education etc. In other words, opportunity cost is an assumed cost in our study.

v. Miscellaneous Costs:

Under our study they include the various petty but recurring expenses incurred by the educational institutions. These expenses are incurred particularly for meeting basic requirements of an academic atmosphere. They include purchase of black boards, chalk and duster, electricity charges, telephone bills, printing and stationary, cleanliness of the campus, maintenance of building and other fixed assets, newspaper & journals urinals & laboratories etc.

Thus, the total of these costs divided by the total number of students enrolled in a particular college can give us the unit cost. This will be the unit cost for one year. It we take the figures for 5 years (5 years to obtain the first degree) we can find the unit cost of graduation or the cost of graduating a student in general education.

However, there may be variation in the unit cost from one college to another because of the following reasons:

a) The private costs incurred by the students are not uniform.

b) The number of students enrolled and the number of teachers can contribute significantly in cost variation

c) The institutional costs in all three streams, i.e. arts, science and commerce are not the same.

III.2.6.0. **Cost to Government and Institutions**:

The institutional cost is expressed as the cost incurred by the institution or college in operation and maintaining the institution.
The Government or public cost is calculated here as the institutional cost minus the students' contribution to the institution by way of tuition fees, admission fees, fines etc. plus the student scholarships and other subsidies given by the government. This method is adopted because the entire deficit of the institution is met by the Government in case of private management institutions through the grants-in-aid system. The expenditure on scholarship awards for the students is a transfer item and scholarship in some cases are paid direct to the students and not through the institutions. Therefore, these amounts donot find a place in the accounts prepared and submitted to the Government by the institutions for the reimbursement of deficit. The estimated capital cost is deducted from the institutional cost for the purpose of estimating Government cost. The Government cost thus indicates the amount of funds actually provided by the Government during the year.

The pattern of Government cost included that a large part of the total Government cost in each college is met by the government for the institutional operating function. The students tuition fees amounts to show that science student pay more than the arts and commerce students and students of all faculties studying in the private colleges pay more than their counter parts in government college. Tuition fees and endowment income constitute less than 15 percent of the cost incurred by the Government. In some colleges with less number of students' enrolled the percent comes to below 10 percent.

The unit selected for estimation of unit cost in this study is taken as the student on rolls in the institution. It means the public or institutional costs are estimated per student per one academic year only. If a course of study requires two/five years for completion, the unit cost per course may be taken for 5 years and the total amount so arrived at be divided by the number of student per academic year. That will give total cost per pupil. If the same figure is divided by the total number of passed out students, it will reveal the total cost per graduate or completer. We have shown both the costs in our study.
The unit costs are presented by course of study, by type of management and also by urban and rural locality of the educational institution.

III.2.7.0. Benefits of Unit Costs:

Unit costs are very important for the purpose of decision-making process. With the help of unit cost, measurement of efficiency and productivity can be done. The educational planners and the educationists also need unit costs for various purposes, some of which are as below:

i) to estimate financial needs of educational institution and their departments;

ii) to workout financial allocations for different departments belonging to different streams;

iii) it helps in costing of educational schemes;

iv) it also helps in measuring efficiency level of an institution;

v) it helps in understanding the comparative costs over a period of time.

vi) it helps in inter-institutional Comparison so far as costs and efficiency are concerned.

vii) Optimum utilisation of resources possible through the study of unit costs;

viii) it helps to evaluate the input-output design departments.

ix) it facilitates the different authorities concerned with higher education to device appropriate methods of cost control.

x) it may create an atmosphere of cost consciousness resulting in thinking out of alternatives of traditional system of higher education.