CHAPTER - I

INTRODUCTION

(Conceptual Framework and Objectives of the Study)

Conceptual Framework

The importance of education in the process of economic development became clearly recognised in the mid 60's, with the publication of the theory of human capital formation by T W Schultz. This theory viewed educational inputs in man as embodiment of capital in human being in the form of knowledge, skills and values. Subsequently, a good number of empirical and theoretical studies were conducted by Becker, Hansen and others to conceptualise and verify the contribution of education to economic development and the cost-benefit and rates of return analysis of expenditure on education. As a critique to this theory, Shaffer questioned the concept of human capital mainly on three counts namely: a) investment in man is not always done keeping in view the monetary returns; b) there is a basic inseparability of education as consumption and education as investment; c) even if the consumption and the investment aspects are separated, it would be wrong to use the information for social policy making. Sen AK also questioned the theory of human capital and economic development as indicated by the residual factor analysis in Cobb-Douglas constant elasticity-of-substitution production function on the ground of: a) non-substitutability of human capital with physical capital, b) difficulties
involved in comparison of benefits from educational projects with those from other physical projects.

Similarly, methodologies of rates of return analysis and the cost-benefit and cost-effectiveness studies were also questioned on the basis of following four points that:

1. no account is taken of the knowledge, skills and learning acquired on the job as well as the cost involved in that process;

2. earning is equated in the studies to the marginal productivity of labour whereas wages/earnings of a person are not always determined by productivity alone and other factors significantly influence the earnings;

3. the cost and benefit of education cannot be measured because of the externalities involved in education;

4. the cost of educational inputs is difficult to measure or attribute because of:
   a) the problem that expenditure in educational institution is spread over a long time (same may be centuries old) and cannot be estimated by simple aggregation of book values;
   b) the overlapping between fixed and variable and between recurring and capital costs in all the typical educational expenditures;
c) the problem of determining an appropriate unit of cost estimation and the problem of determining the value of an important input;

d) peer group and intra-class learning in the campus.

Notwithstanding, these limitations, the concept of human capital has influenced greatly various countries to increase expenditure on education and it has also encouraged many economists to carry out empirical and theoretical studies in the area of economic analysis of education. In fact, a branch of economics of education started with the publications of human capital theory and subsequent studies. However, economists are now more aware of the limitations and difficulties in establishing relationship between education and income. They feel that macro economic analysis needs to be replaced by micro analysis and more sophisticated approach to study the issues of education, which might necessitate inter-disciplinary work. We may indeed witness the birth of a political economy of education rather than economics of education which has been so far based on a narrow paradigm of human capital. Only such a political economy of education can provide, to quote Mase, "powerful insights into educational policy making, whether that policy is concerned with efficiency, finance or educated unemployment. It may also have much to offer on such diverse subjects as recurrent education, brain drain the labour market for teachers,
overseas student fees policy and a host of other educational issues. Its relevance to educational policy making in times of scarce resources would be greater than ever ".

The present study is in the category of micro analysis and attempting to spell out the possibilities of efficient use of scarce resources.

In the recent past, the importance of education particularly in the larger context of human resources development and building of R & D base has gained lot of attention in developed and developing countries. Several 'modes' of education have been innovated and tried out for imparting education to a larger sections of society-workers, prospective workers, and the household population. The economists' interest has been mainly to examine the economics of investment in human capital formation as a whole as well as the economics of different methods of human capital formation, e.g. analysis of the comparative cost-effectiveness of different modes of imparting higher education or the cost-effectiveness of a particular mode of higher education, namely, the normal universities, and colleges or the open universities. Since the term mode of education has been introduced, it may be pertinent to spell out its meaning.

Mode of Education

Historically, the organised form of imparting education has undergone three major changes. First, a single teacher
passed on information, skills and values to a group of students. This mode of education was found in the Gurukul, the Church, the Mosque and the temple system on the one hand, and on the other, vocational and professional education in guilds under master craftsmen. The second major shift took place when the practice of institutional arrangement of School, College and Universities started. This mode of education also helped in the spread and democratisation of education to a larger section of society.

Both these modes of education had conceived of a specific time period of education for the student. Having completed education in this period, it was expected that the student would enter the work force and in social and family life and use the knowledge so gained in the working situations and in life. Though this system helped democratisation and the spread of education, still it was mainly limited to persons who were likely to join working life in the future, i.e. to "prospective workers". But the spread of this concept to all the "prospective workers" was constrained by the pace of development of educational facilities and the availability of economic means to avail such facilities. Hence a good number of persons were not able to have educational opportunities for one or the other reason particularly during the period of life specified for education. Although the print media and the library system offered the scope for learning by individual at any age and at his/her own pace, such system did not provide the
opportunity for evaluation or an organised education for those who would have liked to learn at any age of their life.

The third major shift in the educational mode that has lately taken place has been in the form of the "open learning system". This system provides educational opportunity to both the prospective workers, those already in the work force and the household population.

This system started in 60s in United Kingdom and is now being experimented in a good number of countries of the World including India. This system of education intends to overcome the limitations of the earlier two modes of education. It attempts to liberate the educational process from the conventional institutional arrangements. For the students of economics of education, the interesting questions here are: a) What is the cost-effectiveness of the alternative modes of education? and b) What are the internal economies of operations of this new system?

NEED OF THE STUDY

The need for conceptual and empirical examinations of these issues arise from the fact that if an alternative mode is cost effective and is able to get the same output then the economic rational suggests that the more cost-effective mode be preferred. If scientific analysis suggests that such modes are not comparable, then the choice needs still to be made on the basis of some accepted criteria of
internal efficiency. If the choices are made on the basis of the internal efficiency of the individual mode of education, then it may be examined whether inputs of the system are exploited to the advantage of particular mode or not?

The new mode of higher education through the open learning system is very capital intensive in nature and seems to have advantage of economies of scale. Thus when operated efficiently, it reaches out to a large section of the population. However, these very advantages can be converted into disadvantages, unless proper analysis of economies of scale of operation and cost effectiveness is carried out at the various points of optimum size of operations are determined scientifically. There are a number of studies conducted in other countries, (a review of which is attempted in the subsequent chapter), reveal that attempts have been made to handle some of these questions. But their findings owing to difference in the historical settings and differences in approaches to education cannot be used fully for making choices in India. Studies in India, on the other hand, are hard to come by. Hence an attempt is made in this study to empirically examine the above questions in the specific setting of an Indian open University viz. Indira Gandhi National Open University (IGNOU).
The study, to begin with, defines (the open learning system) - the new mode of higher education and rates its history of development in other countries and in India. Such a description would help us understand the characteristics of the new mode as well as help us in interpreting the cost figures. Followed by this review of the cost studies and specific areas of analysis of the present study are delineated, methodologies of analysis spelt out, and the scope of the present study is defined. Having discussed this, the study addressed the following aspects:

1. What are the characteristic of cost structure of the two systems i.e. the open learning system of higher education and the conventional university education system?

2. Are there any comparative advantage in imparting education through open learning system?

3. What would be the per unit cost of imparting education through an open learning system? What is the definition of the Unit Cost?

4. Whether there exists any size-cost relationship or possibility of reaping economies of scale at any given level of operation of an educational activity?

5. Can the internal efficiency of the system be improved by increasing the cost-effectiveness and making optimal use of internal resources?
The main objectives of the study are to:

I. analyse the cost structures of the two prevalent systems of imparting higher education in India, namely the conventional university system and the open learning system of IGNOU;

II. discuss the limitations and scope of comparing cost advantages of open learning system and a conventional education system;

III. compare the unit costs of education in open learning system to that of a conventional education system;

IV. analyse the unit cost of the various academic and non-academic activities of the open learning system. (in particular, the Indira Gandhi National Open University).

V. analyse the size-cost relationship and determine the optimum enrolment size of an educational activity of the open University for reaping the economies of scale; and

VI. provide suggestions for making the present system of open learning in India more cost-effective.

Hypotheses

The study attempts to examine the following hypotheses:

i. that functions of conventional and open universities
are the same i.e. teaching, research and evaluation, but owing to difference in characteristics, the structure and components of cost may vary between these two modes of higher education;

ii. that, unit (per student input) cost in open learning system, is relatively less than in conventional education because of the presence of economies of scale in the former and the absence of it in the latter;

iii. the unit cost of educational programme in open learning system depends on audio, video and print mix of the teaching material.

iv. that unit cost also shows the following characteristics because of heavy initial investment on fixed cost and indivisibility of limited educational inputs : (a) educational programmes with low credits and low number of students have higher unit costs; (b) this unit cost falls as the credit and student number increases to a certain point; (c) beyond this point the unit cost again increases (due to the lack of infinite divisibility of inputs and the need of a minimum fixed cost). Thus the cost-size relationship in the open learning system ensures a classical 'U' - shaped average cost curve.
The Chapter Scheme of the Study may be given as below:

Chapter Scheme

Chapter I. Introduction
(Conceptual framework and objectives of the study)

Chapter II. Open Learning System and IGNOU
(Concept of Open Learning System and historical background of IGNOU).

It first discusses the concept and then gives the historical background of the evolution of the open learning system of higher education in India, and narrates the organisational and academic structure of the IGNOU in India.

Chapter III. Cost Studies on Open Universities
(Review of Cost Studies and the methodology & scope of the present study)

This Chapter surveys the studies on cost of open learning system in India and abroad. Along with this it also discusses the concept of costs to be used in the cost analysis of the study. The Chapter ends up by giving the methodology, problems of data collection, limitations of the study and problems of adjustments made in the calculations of costs.
of different variables in this study.

Chapter IV. Conventional and Open Universities
(Comparison of structures of costs and unit costs)

Discusses the unit cost of various academic and non-academic activities and academic services of the University. The main academic activities for which unit cost have been calculated are:
a) programme development; b) curriculum transaction; c) material production; d) material distribution. The non academic activities for which unit costs have been calculated are:
a) general administration; b) common services and general charges; c) estate management. The academic services for which unit costs have been calculated are:
a) library and documentation; b) computers; c) examination/evaluations; and d) admissions.

Chapter V. Unit cost analysis of IGNOU
(Unit cost of academic programmes and total unit cost of IGNOU).

The Chapter on the basis of norms of costs for different programmes attempts to develop
simulation exercises of economies of scale and cost-effectiveness. It determines the optimum level of enrolment of an educational activity for reaping the economies of scale and optimum utilisation of resources.

Chapter VI. Cost-size and economies of scale analysis
(Analysis of cost-size relationship and projections of economies of scale of academic programmes of IGNOU).

It contains some suggestions for making the present system of open learning in India more effective and cost efficient.

Chapter VII Summary and Conclusions
NOTES

1. a) SCHULTZ T W Investment in man : an economist view, social service view, 33, 109, 1959
   
   b) Capital formulation by education, journal of political economy, 1960

2. a) HANSEN W LEE Total and private rates of return to investment in schooling, journal of political economy, volume 81, 1963.


