CHAPTER-1
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INTRODUCTION

1.1 INTRODUCTION

Human resource is an essential factor for economic development. But this human resource will be rotten, unless it is sculptured as per the need. Education is the only tool to shape this human resource. Since, education has always been recognized as a major instrument to achieve the objectives of social, economic and political development of a nation (Tandon Pramod, 2008). This valuable education often has relationship with the branch of economics.

1.2 ECONOMICS AND EDUCATION

The earlier definitions of economics encompass views such as the science of wealth (Adam Smith), science of material welfare (Marshall), and science of scarcity of choice (Robbins). There is no short definition of economics, to serve the purpose. However, a proper definition may include “Economics is the study of those activities that involve the production and exchange of goods”. It is the study of scarce resources to satisfy unlimited human wants; scarcity forces people to make choices; and to evaluate the costs of alternative actions. Economists call these opportunity costs to emphasize that doing one thing removes the opportunity to do something else.

Education is defined as the process of training and developing, knowledge, skill, mind, character etc. Educational activities involve the production and distribution of knowledge, whether they are undertaken in regular institutions of learning or elsewhere. Educationists and economists have a great deal in common. Economists are concerned with how scarce resources such as labour, land, buildings, machinery, fuel, blackboard, and other educational instruments are used. Education requires vast quantities of these resources plus many more things. Educators are concerned in the actual process of making decisions relative to the use of these resources for the purpose of specific functions (educating the youth).
Based upon these definitions and views, economics of education is defined as the study of how men, women and society choose to employ scarce resources to produce various types of training, the development of knowledge, skill, mind, character and so forth. Economics becomes integrally connected with education which guides and modifies the activities of human beings in various ways and in diverse areas of activities. The reason for this is that, education modifies human behaviour in all aspects by developing the mental powers of thinking, planning, and evaluating, so that he is able to lead a very purposeful life, promoting social welfare along with his progress and development.

The economics of education is naturally linked with the study of human capital. Human capital refers to the skills and productive capacity embodied in individuals. While implicitly part of economics for several centuries (Kiker, 1968), this idea has recently developed into the central concept in both theoretical and empirical analysis with the foundational work of Schultz (1971), Becker Gary (1964) and Mincer Jacob (1974).

The economics of education is conceptually very broad. It could logically cover all aspects of the demand for schooling, relationship between input and output, association between educational expenditure and income, contributions of education to GNP, manpower planning, and the impacts of schooling on subsequent outcomes. In essence, then, the economics of education is concerned with:

- the process by which education is produced,
- the distribution of education among competing groups and individuals and
- question regarding how much should be spent by society or individuals on educational activities, and what types of educational activities should be selected.

The economics of education also borrows from other disciplines such as sociology and psychology, but the underlying behaviour perspective remains unique to economics. Given that the process of education involves the use of a substantial amount of scarce resources, a number of questions arise for which answers may be sought within the domain of economics analysis.
1.3 HIGHER EDUCATION

Higher education means education beyond the secondary level, especially education at college or university level. While the school education equips the society with the enlightened work force, higher education provides competent leadership by supplying a well developed human resource such as scientists, engineers, doctors, teachers, managers and so on. Hence, everyone should confess one thing that, development is possible through the brilliance of human mind produced by the system of higher education. But this valuable system of higher education is not available with quality for everyone. There has been considerable expansion of higher education in our country. Despite much argument in favour of expanding the higher educational institutions, the rapid growth over the years has sometimes resulted in the dilution of its quality and standard, which in turn, has affected the quality of man power produced (Tandon Pramod, 2008). Therefore, rapid growth of enrollment will also hit the quality of higher education.

The government spends more expenditure on education, particularly on higher education. It postulates that education is productive and developmental nature of expenditure. But this will come to true only if it is qualitatively provided. Then only, it will bring some returns to the public and private individuals. After the independence, there has been significant growth in higher education in terms of quantity. From 30 universities and 590 colleges in 1947-48, today Indian Higher education system has around 435 universities and 20,700 colleges (Tandon Pramod and Gupta, 2008). Inspite of such an expansion and contribution, we still fall short of universities and colleges, as only 10 per cent of the relevant age group (17-23 years) are enrolled in the higher education system which is far below the world average of 23 per cent. The report of the Knowledge Commission (2007) wanted the enrollment in higher education to increase by 15 per cent by 2015 for which it has recommended the setting up of about 1500 universities in next 5 few years (Tandon Promod and Gupta, 2008).

Apart from the problem of quantity enhancement, there are much serious problems containing the development of our Indian higher education system. Of which, accessibility, equity, quality, administration, infrastructure, curriculum,
financing educational outcomes, wastages, educated unemployment and uneven distribution are burning issues.

More importantly quality occupies a major place, which has to be solved promptly. Today there is a strong feeling that the skills of a graduate or post graduate produced by our colleges and universities do not match the needs and expectations of the job market. Hence the students are not able to function in proportion to the education acquired. On the one hand, we do not want such a large number of educated unemployed and on the other, we have lakhs of jobs for which suitable candidates are not available. In a developing country like ours, unemployable graduates pose a great problem than unemployment itself. Hence today’s competitive environment demands better quality of education. Only those candidates who can get quality education on a continuous basis shall be in a position to compete in the global market. Therefore, improving the quality of higher education has become a primary concern of countries all over the world. It is said that, the quality of a nation depends upon the quality of its citizens, which in turn, depends on the quality of education. These words are true especially in the case of higher education. In order to compete in the global market, it is necessary to bring about qualitative improvement in the system of our higher education.

To augment the quality of higher education, institutions need huge amount of funds to improve the quality of academic and physical infrastructure, modernizing the laboratory and class rooms, updating the stock of books, journals and reference materials, payment of salaries of teaching and non-teaching staff and so on. But the amount of resources allotted to the institutions should be proportionate to the quality of output. Hence, there has to be a mechanism to measure and maintain the quality of higher education on continuous basis.

There are several opinions about the concept of quality in education, but one thing is true that it is a never ending multi-dimensional process. The term quality by itself is a very complex issue and can be interpreted in several ways.
1.4 QUALITY IN INDUSTRY AND EDUCATION

The concept of quality has been drawn from industry. Not very long ago, education and industry functioned independently of each other and displayed very contrasting ethos and values. This is no longer true, as in recent years, the two have moved towards each other, borrowing ideas and practices.

The quality is an industrial term commonly used to refer the degree of excellence and standard of products or goods and commodities set by the producers and manufacturers to satisfy the customer needs and thus, to stay in business. Broadly, quality means fitness for purpose, value for money, satisfaction of the customers and conformity to standards pre-determined by an organization. As far as higher education is concerned, students are customers and staff members are producers and, education is the product or service provided by them.

1.5 QUALITY IN HIGHER EDUCATION

The Webster’s dictionary describes that quality is “a degree of excellence” and “superiority in kind”. In reality, it is a relative concept that means different things to different people (Sallis, 1993; Green and Harvey 1993; Green 1994).

In the field of education, while discussing quality, the focus of students on the facilities provided, teachers on the teaching - learning process, management and parents on the scores or grades achieved, and of prospective employers on the nature of the output.

Green and Harvey (1993) have identified five different approaches to the viewing of quality in the field of higher education. According to them, quality may be viewed as in terms of the exceptional (highest standard), in terms of consistency (without defects and getting it right the first time), as fitness for purpose, as value for money and as a transformative process (transformation of the participants).

The quality is defined as “the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs” (Bureau of Indian Standards, 1988).
The term quality cannot be the same and standard at every place, because we cannot expect the quality of education in the rural side colleges as provided in the Indian Institutes of Technology (IITs). Anyhow, it must fulfill the basic criteria of quality higher education as they can provide. The quality education therefore, must be locally relevant and culturally appropriate (Panda Sushanta Kumar, 2008).

It is possible only through developing an efficient Internal Quality Assurance (IQA) system. There is no single model that fits for all institutions. It is up to the institution to decide what model fits it best. However, there are some basic conditions that have to be met. At least the IQA system should cover the basic steps of Deming cycle: Plan, Do, Check and Act (PDCA) for quality enhancement (Hegde Ganesh and Shyamasundar, 2008).

1.6 DEMAND FOR QUALITY HIGHER EDUCATION

All over the country, the demand for quality higher education is rapidly increasing. Unprecedentedly, at the higher secondary level, the students are being trained to demand high quality education in colleges and universities. For this purpose, young boys and girls are resorting increasingly to supportive tuition outside the school (Shah, 2005). There are large numbers of tuition classes run by individual teachers in their homes and some are operating all over the country and registered as companies. Formerly, children who are weak in subjects used to go for tuition classes. Bright children were ashamed of doing it, but now even the bright students are doing the same. They not only take tuition in subjects taught in the school but also for certain subjects they may not be able to study within the school system, for example, English or some other foreign languages and computer science.

All these are happening not only among the forward castes and classes but also among the lower ones, including scheduled castes and scheduled tribes. Good secondary education has become expensive; still parents are prepared to invest in it. Even Government, NGOs of various kinds such as communal and religious organizations also provide scholarships and loans. Parents also obtain loans from banks, now available at low rates of interest. Boys and girls of this new generation enter into colleges or universities with the expectation of education of high quality in every field. If they find that the local colleges and universities are not good enough,
they are prepared to migrate to long distances. Many students openly blame the syllabus, text books, and teachers regarding their quality status. To meet the demand for quality education, many foreign universities are also establishing branches in India, and students are also going to foreign universities in large numbers. In the past, students used to go abroad usually after undergraduation, but now they go in large numbers after their high school education. The U.S.A, Canada, Britain, and Europe are no longer the only destinations; Australia, New Zealand, and Singapore have also become recent attractions, thereby it can be assimilated that the real situation prevailing in connection with the demand for quality higher education in India.

1.7 QUALITY RELATED TERMINOLOGY

1.7.1 Quality Control

In education, quality control indicates an operational process concerned with the organization, imparting and evaluating teaching activities in order to ensure fitness for purpose, optimal utilization of resources and attainment of identified goals. In a white paper of the British Government presented in 1991, 'quality control' has been used to describe internal procedures for quality maintenance and enhancement (Green, 1994).

1.7.2 Quality Audit

The quality audit is concerned with processes and procedures. As defined in British Standards (BS 7229) and International Standards (IS 13999), it is the “Systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives” (BIS, 1988). In the British white paper referred to earlier, quality audit refers to external scrutiny of documents and procedures.

1.7.3 Quality Assurance

The quality assurance has been defined by Green and Harvey, 1993 as “the mechanisms and procedures designed to reassure the various ‘stakeholders’ in higher education that institutions accord a high priority to implementing policies designed to maintain and enhance institutional effectiveness”. More simply, the quality assurance
is the achievement of desired standards through application of agreed procedures (Calder, 1995).

### 1.7.4 Quality Policy and Quality Management

The quality policy refers to “the overall policy intentions and direction of an organization as regards quality, as formally expressed by top management”, and the quality management is “that aspect of the overall management function, that determines and implements the quality policy” (BIS, 1988).

### 1.7.5 Assessment of Quality

The quality assessment is the evaluation of teaching and research quality in a specific subject (Calder, 1994). It is often used, in an extended sense, for the evaluation of an institution, or part of it, for overall performance using both internal and external procedures. In the United Kingdom, the aim of quality assessment is, to assess the social relevance of an institution’s programs and the worth of its products in terms of societal goals.

It is accepted that for implementing programmes of quality assurance, it is necessary to first assess the functioning, performance and current standards of an institution and that this assessment has to be made against the institution’s mission, goals, and objectives. However, there is a debate on the manner in which the assessment is to be conducted – through internal mechanisms (self-assessment) or by external reviews (external audit).

The quality is increasingly becoming a matter of concern for academic institutions. The starting point, for quality assurance programmes in universities and colleges is usually the creation of an Internal Quality Assurance (IQA) cell. The activities of the cell include the collection and dissemination of information related to quality, and the organization of orientation programmes.

### 1.7.6 Internal Audit

Many academicians, placing stress on academic freedom and autonomy of institutions, believe that assessment of quality should be done through self-evaluation. It is argued that every institution has its own goals and objectives and that the ethos of
an institution is best understood by its constituents. Members of an external visiting team, however objective, may not be able to appreciate, during a short visit, the goals, traditions and manner of functioning of an institution, and may therefore go astray in their evaluation. Moreover, self-assessment can be fruitful only in an institution that has a culture in which continuous quality enhancement occupies a central place.

1.7.7 External Audit

The quality assessment through external reviews is now a standard practice in all developed, and in many developing countries. It provides the outsider's perception, validating the conclusions of self-assessment and offering suggestions but what is done with these. Post-accreditation actions are what really lead to improvement. They should include activities that are innovative and aimed at continuous improvement.

1.8 WAYS OF MEASURING EDUCATIONAL QUALITY

The measurement of quality in education is a highly complicated issue. Expenditure per pupil would ordinarily be a reasonable measure of quality. However, it is difficult to estimate the proportion spent on individual pupil since such a high fraction of spending goes to teacher's salaries which should in themselves reflect the standards of quality and productivity. Spending per pupil in education is often used as an indicator of educational quality (Fuller, 1986). Other common measures are repetition rates and completion rates. More repetition and less completion lead to lower standards of education. Often, the cost per completing pupil is estimated, showing that in countries where repetition and dropout rates are high, the cost per pupil in terms of "learning outcomes" is also very high. Such an estimate also suggests that the costs of quality improvements may reduce cost per pupil substantially by reducing repetition and dropout rates. However, estimating quality of education through repetition and dropout rates is applicable only to school education. Because, these rates may be set by the availability of places at the next level of schooling, not by the quality of education at the lower level. But in the case of college education, the availability of seats will not diminish during the whole course period.

Because of these problems, economists have increasingly relied on other indicators of education quality (Fuller, 1994). Generally, inputs have been shown to be correlated with pupil's achievement when pupil's social class and ability are taken
into account for quality measurement. Such school inputs include teacher educational level, cognitive skills and the availability of text books, black boards, computers, laboratory equipment, and other physical inputs (Behrman and Birdsall, 1985 and Fuller, 1986). They also can include the amount of time (number of hours per day and number of days per year), the people goes to institute, absenteeism, and the number of pupils per teacher in the class room. But it is assumed that pupils’ native ability does not differ greatly among institutions in different places. The educational quality for a given level of schooling is often measured by achievement test scores. But in the real situation, native ability will differ significantly. Hence, this method has also some drawbacks.

Generally, the quality of higher education is being measured in quantitative terms such as student strength, faculty strength, the number of academic programs available, number of research papers published or research projects completed and the like. Hence, the quality is being looked only to numbers. But these are not the true indicators of quality. It is the need of the hour to identify some specific qualitative criteria to assess the quality like quality of teaching, quality of learning facility, quality of research work produced and so on.

There is another issue with regard to the quality and relevance of higher education. It is about the internal and external productivity of higher education. Those who are concerned about quality of higher education have been looking at it only from its internal perspective by using their own yardsticks like marks, publication etc. But the industry and other sectors of the economy that need the students in their production system are not concerned about the marks obtained or the merit certificates awarded. They are basically concerned about the knowledge skills possessed. They look at the quality from their practical perspective and not necessarily on the academic knowledge base of the students. Thus, it is found that there are two approaches in understanding the quality of higher education. They are:

- The internal perspective of the institute.
- The external perspective of the market, where these graduates are to be employed.
The institutes which are assessing their qualities on the basis of their internal functioning may not meet the quality requirements of the industry. For instance, the criteria used by National Assessment and Accreditation Council (NAAC) to assess the quality of colleges and universities consist of a set of seven items such as

- curricular aspects
- teaching, learning, and evaluation
- research, consultancy and extension
- infrastructure and learning resources
- students' support and progression
- governance and leadership
- innovative practices.

These criteria are used to assess the quality of institutions. The industry on the other hand is interested in a person, as mentioned earlier, who can deliver the goods. Therefore, the quality of education or standard that is expected from the student is measured in terms of its own parameters.

1.8.1 Perception of Quality

The quality is a dynamic idea and exact definitions are not particularly helpful. Some of the ambiguities in the meaning of quality arise, because it can be used both as an absolute and a relative concept. The quality in everyday conversation is mainly used as an absolute concept. As an absolute concept, quality is similar in nature to goodness, beauty, and truth; an ideal with which there can be no compromise. In the absolute definition, quality are of the highest possible standard which cannot be surpassed. Rarity and expense are the two features of quality in this definition. The quality, in this sense, is used to convey status and positional advantage, and the ownership of things of quality sets their owners apart from those who cannot afford them. It is synonymous with high quality or top quality. It also demonstrates that pursuing quality is all about performing to the highest standards.

In the relative concept of quality, it is not an attribute of a product or service, but something which is ascribed to it. The quality can be judged to exist when a good or service meets the specification that has been laid down for it. The quality products
or services, in this relative or ascribed definition need not be expensive and exclusive. They may be beautiful, but not necessarily so. They do not have to be special. They can be ordinary, available in common place, and familiar. The overhead projectors, ball point pens, and the school catering service may all exhibit quality, if they meet simple, but crucially important standards. They must do what they claim to do and do what their customers expect of them. In other words, they must be ‘fit for their purpose’, as the British standards institution (BSI) defines quality. The relative definition of quality has two aspects to it. The first is measuring up to specification. The second is meeting customer requirements.

The first usage — measuring up — is often summed up as ‘fitness for purpose or use’. This is sometimes called the “producer definition of quality”. The quality for the producer is achieved by its products or services meeting a pre-defined specification in a consistent fashion. The quality is demonstrated by a producer having a system, known as a “quality assurance system”, which enables the consistent production of the good or service to a particular standard or specification. A product exhibits quality so long as it consistently meets its maker’s claims for it. This view of quality is sometimes called ‘quality in fact’. The quality in fact is the basis of the quality assurance systems devised in accordance with the British standards institution in the BS5750 standard or the identical international standard ISO 9000.

1.8.2 The Producer or the Consumer?

Who should decide whether a school or college is providing a quality service? The answer will tell us much about the values and aspirations of the institution. It is essential to have a clear idea of who is ascribing the attribute to quality; is it the producer or the consumer? The reason for posing this question is that the views of producers and consumers are not always identical. Sometimes it happens that perfectly good and useful products and services are rejected by consumers. Making a product to specification does not guarantee sales. A different version of the ascribed view of quality is needed to take account of this problem. The organizations who follow the Total Quality Management (TQM) path regard quality as being defined by their customers. The reason for this is simple. Consumers are the final arbitrators of quality and without them the institution does not exist. The TQM institution has to use all means at its disposal to explore its customers’ requirements. The total quality
means knowing them in ways and depths never fully explored before and using this knowledge to translate needs into innovative new products and business approaches.

The quality can be defined as that which best satisfies and exceeds customers’ needs and wants. This is sometimes called ‘quality in perception’. The quality can be said to lie in the eyes of the beholder. This is a very important and powerful definition, and one that any institution ignores at its peril. It is the consumers who make the judgement on quality, which they do by reference to the best comparable performer. Some educational economists argue that quality as defined by the customer is more important than price in determining the demand for a majority of goods and services. They expect that customers will always pay more for the best quality, regardless of the type of product. Hence, it is realised that the customers are the predominant players in the case of quality.

1.8.3 Student’s Perceptions of Educational Quality

Both the broader consumer perspectives, that service quality can be equated to the extent to which the perceived level of service delivered matches consumer expectations, and the more specific view that service satisfaction equals consumer perception minus consumer expectation, are not without problem in the higher education context. However the implication that satisfaction will result if perceptions are greater than expectations has a great deal of intuitive appeal. This balance between consumers’ perceptions and expectations as a measure of service quality has been fairly widely discussed and appears to be useful (Rao, 2003). But validly measuring student perceptions and expectations is not a simple matter but can be approached in a systematic way to reveal useful information. In the year 1988, the Student Satisfaction Research Unit (SSRU) at Birmingham polytechnic has produced an abundance of information related to students’ perceptions of educational quality and their satisfaction with their educational experience. Hence it is strongly advocated that quality and its measurement through students’ satisfaction is a recognized one.

Some studies argue that students are the central focus in assessments of educational quality. What is less frequently acknowledged is that they are also major stakeholders in higher education. To date, quality criteria have reflected administrators or faculty priorities. As both the subjects of assessment and
stakeholders, students and their perceptions of quality criteria need to be incorporated into the assessment process. For example, students have a different perception of grades, a central component of assessment, than do professors (Goulden and Griffin, 1995). Whereas faculties focus on the role of grades as feedback, students see grading as including a gate keeping function. They are thus likely to assign a different value to grades than faculty do. It is also confessed that in spite of differences between students’ and other stakeholders’ views, students’ perceptions are rarely examined.

1.9 INDIAN APPROACH TO QUALITY ENHANCEMENT

Since independence, concerted efforts are being made in the country for the improvements of quality of higher education. Various measures have been outlined in policy documents of the government including, for example, the Report of the Education Commission (1964-66), the National Policy on Education (1986) and the Programme of Action 1992 (Govt. of India, 1966, 1986, 1992). The responsibility of assuring quality is basically that of the University Grants Commission (UGC) and the different statutory bodies dealing with professional education. The UGC Act, 1956, empowers the UGC to take all such steps as it may think fit for promotion and co-ordination of university education and for determination and maintenance of standards in teaching, examination, and research in the universities (UGC, 1994). In keeping with this objective, the UGC has formulated and issued, from time to time, guidelines and regulations related to:

- Minimum infrastructure facilities to be fulfilled before a university is declared fit for central assistance.
- Minimum infrastructural facilities to be fulfilled before the grant of affiliation to a college by university.
- Essential qualification for the appointment of lecturers, readers, and professors.
- Workload of teachers, duration of courses, and minimum number of teaching days for first degree programmes.
- Schedule of academic events.
In order to bring about a qualitative improvement in teaching at the undergraduate level, the UGC introduced in 1974-75, the College Science Improvement Programme (COSIP) and the College Humanities and Social Science Improvement Programme (COHSSIP) under which the colleges were given special grants for the development of infrastructure. The scheme of autonomous colleges was introduced under which selected colleges, that have a reputation for academic excellence, have been granted freedom to develop their courses and syllabi and to evolve methods of evaluation and conduct of examination. There is a proposal under consideration related to the recognition of empowered colleges that will further have the right to confer degrees and diplomas.

In the late 1980s, the UGC established Curriculum Development Centres in 28 subjects and these prepared model curricula in their respective subjects. These were recommended to the universities for adoption. A second cycle of the development of model curricula was completed in 2001 and it is now more or less mandatory for the universities to adopt these curricula with small modification as may be necessitated by local needs.

The central role played by teachers in the promotion of quality teaching and learning has long been accepted in India. The National Policy on Education, 1986 (Government of India, 1986) recognized the importance of staff development and in the Programme of Action 1992 (Government of India, 1992) made a reference to the crucial link between teacher motivation and the quality of education. It is noted, "the present system does not accord teacher proper orientation in concept, technique and value-system to fulfill their role and responsibilities". It is therefore, proposed, amongst other things, the organization of specially designed orientation programmes in teaching methodologies, pedagogy, educational technology etc., for all new entrants at all levels and the refresher courses for serving-teachers to cover every teacher at least once in five years. The UGC Committee Report on the revision of pay-scales of teachers of universities and colleges (University Grants Commission, 1986) also stressed the need for providing opportunities for professional development. Accepting these recommendations, the University Grants Commission established 48 Academic Staff Colleges in different universities throughout the country in the beginning of the Seventh Five-Year Plan period (1985-1990). These Academic Staff
Colleges have been assigned the responsibility of organizing orientation courses and refresher courses of a minimum of three weeks duration.

In order to promote excellence in research, the UGC has devised a Special Assistance Programme, under which selected departments in the faculties of science, humanities, social sciences, and engineering and technology are given support at three levels. These are Departmental Research Support (DRS) that can be successively upgraded to give the departments the status of Departments of Special Assistance (DSA) and finally Centres of Advanced Studies (CAS). A recently introduced scheme is to give a few chosen departments (the Departments for Potential of Excellence) very substantial financial support. The UGC also assist departments in the procurement of sophisticated and costly equipment under a scheme formulated by the Committee for Strengthening of Infrastructure in Science and Technology (COSIST). The financial assistance is also available for departments in the universities and colleges from the Department of Science and Technology (DST), Fund for Improvement of Science and Technology (FIST) to improve the infrastructure in higher educational institutions, Government of India.

In order to promote excellence in technical education, the All India Council for Technical Education (AICTE) has introduced a Technical Education Quality Improvement Programme (TEQIP), under which well-performing technical institutions will be developed into ‘Excellent Institutions’ of world-class standard (Lead Institutions). These Lead Institutions will then network with 4-6 institutions in the neighbourhood (Network Institutions) to bring about overall quality improvement.

The UGC has established six autonomous Inter-University Centres for providing common facilities, services, and programmes in frontier areas. The centers are the Nuclear Science Centres, New Delhi; Inter-University Centre for Astronomy and Astrophysics, Pune; Inter-University Consortium for Department of Atomic Energy Facilities, Indore; Consortium for Educational Communication, New Delhi; Information and Library Network Centre (INFLIBNET), Ahmadabad, and the Inter-University Centre for International Studies, Hyderabad. In addition, the UGC, has set up national facilities in different universities. These include the Western Regional Instrumentation Centre at University of Mumbai, Mumbai; the Regional Instrumentation Centre at India Institute of Science, Bangalore; the Crystal Growth
Centre at Anna University, Chennai; the M.S.T. Radar Centre at Sri Venkateswara University, Tirupathi; the Inter-University Centre for Humanities and Social Sciences at Indian Institute of Advanced Study, Shimla.

The Department of Science and Technology, Government of India, realise the need to provide the researchers in universities with access to sophisticated analytical instruments. Hence, it allocates resources through its Sophisticated Analytical Instrument Facilities (SAIF) Programme, set up 12 Regional Sophisticated Instrumentation Centres (RSICs) in universities. These are functioning at Indian Institute of Technology, Chennai; Indian Institute of Technology, Mumbai; Bose Institute, Kolkata; Central Drug Research Institute, Lucknow; Punjab University, Chandigarh; North Eastern Hill University, Shillong; Nagpur University, Nagpur; Sardar Patel University, Vallabh Vidyanagar, Indian Institute of Science, Bangalore; All India Institute of Medical Sciences, New Delhi; Gauhati University, Guwahati; and Indian Institute of Technology, Roorkee.

Two important quality monitoring agencies established in 1994 are the National Assessment and Accreditation Council (NAAC) under the University Grants Commission and the National Board of Accreditation (NBA) under the All India Council for Technical Education. While NAAC does institutional assessment of generally the conventional universities and colleges, NBA undertakes programme assessment in professional institutions. The responsibility of promotion and coordination of educational programmes in the distance education system is that of the Distance Education Council of the Indira Gandhi National Open University (DEC-IGNOU). The responsibility of maintaining standards in different professional disciplines is that of the various statutory councils that have been established through Acts of Parliament (Powar, 2005). These include the All India Council for Technical Education (AICTE), Council of Architecture (CA), Bar Council of India (BCI), Medical Council of India (MCI), Pharmacy Council of India (PCI), Indian Nursing Council (INC), Dental Council of India (DCI), Central Council for Homeopathy (CCH), Central Council for Indian Medicine (CCIM), Veterinary Council of India (VCI), and Rehabilitation Council of India (RCI).
1.10 NEED FOR QUALITY AND EFFICIENCY

Higher education is a place of excellence and excellence comes from the quality. Higher education has special value in the emerging society. According to a recent study of World Bank, in 192 countries, physical capital and natural wealth account for only 16 and 20 per cent respectively of the total wealth. Human capital accounts for the rest of the 64 per cent of the wealth. It means there is a positive correlation between the extent of human capital and economic prosperity. Thus quality of higher education institutions is found to be having a strong bearing on the physical and academic infrastructure. This sort of institutions can only make a student of higher education with certain capacities and skills to face the challenges in the real world, in his professional career and also facilitate his participations in national development (Singh Shailja, 2009).

The education provided should ensure that the students develop the capabilities needed to earn their livelihood and at the same time contribute towards the economic growth of the nation.

For participating in the nation building task, the capacities required to be built among the students by higher education are capacity for research or knowledge inquiry, capacity for creative, capacity to use technology, capacity for entrepreneurial leadership, and capacity for moral leadership (Dutta, 2007).

Educated unemployment has many reasons and parameters such as the numbers produced, the rate of growth of the economy, mobility, recruitment procedure, and the nature of education and training. Albeit very often the phenomenon of educated unemployment is blamed on quality and relevance of education (Swamy Kulandai, 2003). Therefore, it is essential to achieve the quality of higher education before accomplishing all others. Efficiency of students can be enhanced through the quality of education system, other things being equal.
1.11 EFFICIENCY IN EDUCATIONAL SYSTEM

The conventional economic approach to the study of education is as similar to economic production. In economic production, given production objectives, prices, and technology, inputs are transformed into desired outputs. To describe an educational production function, it is therefore necessary to define and measure the inputs, outputs, and the process by which the inputs are transformed into outputs. In very general terms, it is commonly recognized that educational outputs are functions of a number of types of inputs.

The earliest frameworks for educational production function with categories of inputs, which include student ability, family background and peer and school inputs were proposed (Eric Hanushek, 1973). The equation states that educational outputs are the results of interplay of many factors.

\[ Y = f(I, St, F, Sc, P) \]

where,

- \( Y \): Outputs of education (all outcome such as learning outcomes, desirable changes in student attitudes and behaviour).
- \( I \): Student innate ability.
- \( St \): Characteristics of the student
- \( F \): Family background inputs
- \( Sc \): School inputs including teachers
- \( P \): Characteristics of the peer group

Efficiency is not the same thing as productivity. Efficiency refers to a comparison of inputs and their related outputs. A more efficient system obtains more output for a given set of resource inputs, or achieves comparable levels of output for fewer inputs, other things being equal.
Daniel Rogers defined efficiency as either achieving the greatest amount of output from a given set of inputs or achieving a specified amount of outputs utilizing a minimum quantity of inputs. Productivity on the other hand, is the amount of output per unit of input.

Blaug and Woodhall, Vaizey, et al distinguished between internal measurement and external measurement of productivity. Internal measurements are concerned with ratios and external measurements with real resources and costs measured by units determined for the economy in general. Similarly, index of efficiency measures the ratio of educational outputs to the corresponding index of educational expenditure in real terms. The index of educational variables is selected both from qualitative and quantitative aspects of all levels of education.

According to Blaug, the efficiency can be defined at one point in time, in the context of the existing level of technical knowledge, whereas productivity is almost always measured between two calendar dates.

While using the educational production framework, it can be distinguished into several concepts of efficiency in education to which cost analysis can be applied. These are internal, external, technical and economic efficiency.

The internal efficiency of education compares the costs of education to the outputs or reflects within education, such as the acquisition of cognitive and non-cognitive skills. Education production is said to be more internally efficient when it can produce more desired outputs given the same resources.

The external efficiency of education compares the costs of education to the benefits of education that are external to educational production, such as higher productivity and earnings in post schooling work. It provides a measure of the profitability of investing in education. Whereas external and internal efficiencies are defined with respect to the boundary of educational production, technical efficiency and economic efficiency concern the very nature of educational production.
1.12 MEASURING EFFICIENCY

In the simplest case, where a process or organizational unit or Decision Making Unit (DMU) has a single input and single output, the efficiency is defined, as in engineering, as

\[
\text{Efficiency} = \frac{\text{Output}}{\text{Input}}
\]

However, more typically, processes, organizational units, and even students have multiple incommensurable inputs and outputs, making it difficult to make comparisons among units or to arrive at an overall measure of performance or efficiency of managerial and operating practices that can then be used for ranking purposes. This feature leads to the problem of aggregation, particularly so in regard to organizations in the not for profit and social sectors, where it is difficult to estimate or quantify in monetary terms the cost of inputs and the price of outputs.

In the case of units in the education and health sectors, it becomes extremely difficult to agree on what the monetary value is corresponding to various kinds of surgery or health care provided by a hospital or the outputs of an academic institution in terms of degrees or research papers or patents or student’s quality. Moreover, in many situations, there is lack of knowledge of the exact relationship in terms of mathematical formulae among the various inputs and outputs. In other words, the production function is not known. The Data Envelopment Analysis (DEA) approach aims to overcome these complexities, the idea of aggregation of inputs and outputs by using weightage.

1.12.1 Aggregation of Inputs and Outputs

Multiple inputs and outputs are to be linearly aggregated using weights. Hence, the virtual input of a Decision Making Unit (DMU) is defined as the weighted sum of inputs and virtual output as the weighted sum of outputs. Given these virtual inputs and outputs, the efficiency of the DMU in converting the inputs to outputs can be defined as the ratio of virtual output to virtual input. Hence,

\[
\text{Efficiency} = \frac{\text{Virtual Output}}{\text{Virtual Input}}
\]
In other words,

\[
Efficiency = \frac{\text{Weighted Sum of Outputs}}{\text{Weighted Sum of Inputs}}
\]

Using the usual notation, this can be written in algebraic terms as:

\[
\text{Efficiency of unit } j = \frac{u_1 y_{1j} + u_2 y_{2j} + \ldots}{v_1 x_{1j} + v_2 x_{2j} + \ldots}
\]

where,

- \( u_1 \) = weight given to output 1
- \( y_{1j} \) = amount of output 1 from unit \( j \)
- \( v_1 \) = weight given to input 1
- \( x_{1j} \) = amount of input 1 to unit \( j \)

In this mode only the current study follows to measure the efficiency of the students. It has been discussed briefly in the successive parts.

1.13 STATEMENT OF THE PROBLEM

Higher Education holds the key to inclusive growth and to lead in the world of knowledge. There are several benefits that can be derived from education directly and indirectly.

In general, countries that have higher levels of educational attainment also have higher levels of income. Hence virtually, education is the necessary cause for higher levels of output and income. There is also strong evidence that education contributes to better health. It is necessary for constructing effective democracy and institutions. It is important for efficient markets and the adaptation to technical change. It also lowers crime rates and reduces penal system expense. It is also witnessed that labour market status is heavily influenced by education. Some critics pointed out that education simply serves as a screening device, enabling employers to identify individuals who have superior natural ability or attitudes or personal qualities that make them more efficient. Otherwise, it is hard to identify the superior ability.
In another sense, education has both the private benefits and social benefits. The economist distinguishes private benefits from social benefits. The student who learns to read in school is better off than where he or she is unable to read. This is known as a private benefit. Social benefits are those that accrue to people other than being educated. If a student graduates from medical college, he or she will obviously obtain the benefits of high income and the satisfaction of curing the sick. In this case, the society also gets better-off because of the education of that individual. Here, the social benefit is beyond the private benefits received by the individual doctor. Hence, it can be said that education has huge amount of returns both to private and society. However, all these kinds of benefits will reach the society or private, if only they serve their purpose. Hence the education, irrespective of the levels of education, should provide the receiver with excellence. Particularly, higher education system should not give up the quality. Now-a-days, the demand for quality higher education is significantly increasing.

The Government has also been augmenting its educational expenditure and taking initiatives to increase the quality over the years. Inspite of all such advantages, India could educate approximately 8 per cent of its young people in higher education compared with more than half in the industrial countries and the 15 per cent in China. Even out of that 8 per cent of enrollment, how many are getting quality education is a very big threat to the education system. The striking fact is that only 1 per cent of student population could enroll themselves in the world class quality institutions like IITs, IIMs, IISc, AIIMS etc. The remnant 7 per cent come are from other institutions.

There are umpteen reasons which are the causes for the students not being able to get quality higher education. Non-availability of quality higher educational institutes and high educational expenditure may be the supply side reasons. Apart from this, the student's individual characteristics and family background influence more on the demand for quality higher education. Therefore, it is vital to analyse the factors which are determining the demand for quality higher education. Hence, the main focus of the present research work is to study the determinants of demand for quality higher education.
In this connection, measuring the college quality is essential. Selecting the parameters to measure the quality of education is a matter under prolonged discussion. Some educators have measured educational quality by looking only at the products of the college. Others view the process of education as the yardstick for the quality i.e., ways to educate students. Some theories take this approach that institutions are of higher quality when they have greater positive impacts on the students who attend or on other recipients of educational benefits. Here, every approach has its own limitations due to various reasons. In the present study, each and every activity of the college is taken into account for measuring the quality. From the tip of teaching methods followed in the colleges, infrastructure facilities to the bottom of social participation by the colleges are considered to measure the educational quality.

Next concern is who has to measure the quality of the institute. There are many stakeholders in the educational system viz., administrators, teachers, students. Since, students are the final consumers of the educational product they have to assess the quality, many studies reported. This has been much discussed in the earlier pages of this chapter. Therefore, the present study makes an attempt to assess the quality of educational institutes through the perception of students themselves.

As it is said earlier, higher education is waste, unless it made productivity or efficiency among students. Because, efficient students are only demanded in the labour market. The term efficiency is also very hard to measure, because economics has no exclusive claim to the correct definition of efficiency. The conventional economic approach to the study of education regards education as similar to economic production. It is the internal process, that transforms inputs to outputs, represented by a production function that is the relationship indicating the maximum amount of outputs that can be produced for given inputs. Likewise, to describe an educational production function, it is necessary to define and measure the inputs, outputs, and the process by which the inputs are transformed into outputs. For this purpose, the study makes an attempt to measure the input such as ability of the students, quality of institutes, family background of the students and the output which includes learning outcomes, students' attitude and behaviour.
To avoid the aggregation problem, weightage has been given for each and every unit of inputs and outputs. This has been elaborately discussed in the previous pages.

It is not easy to answer the question why the efficiency difference arises among the students. The present study tries to answer this question. In this connection, the learning outcomes have been kept as dependent variable and the individual characteristics, college quality, and the family background have been kept as independent factors. If the efficiency affecting factors of the students are found, it will be easy to concentrate on that particular factor to enhance the quality of the student and to bring equality in the efficiency of the students. Further, labour market status can also be improved. With such importance, the objectives of the present study are formed.

1.14 OBJECTIVES OF THE STUDY

The present study intends to deal with the following objectives.

- To study the socio-economic background of the students engaged in higher education;
- To measure the range of quality of higher educational institutions in Salem district;
- To determine the factors influencing the demand for quality higher education among the students in Salem district;
- To assess the level of efficiency and efficiency inequality among the students; and
- To ascertain the determinants of efficiency difference among the students.

1.15 FORMULATION OF HYPOTHESES

- There is no significant difference in the socio-economic background of the students and the demand for quality higher education.
- There is no significant difference in the students’ efficiency among the students who are studying in various types of quality colleges.
1.16 METHODOLOGY

1.16.1 Sampling Design

To accomplish the above said objectives, the present study depends on the primary data only. The primary sample study was restricted to Salem district, which consists of six taluks. In this district, all types of colleges are available viz., arts and science, engineering, medical, nursing, management, catering and hotel management, dental, law and so on. As many as 40 colleges are running with various streams of education. Salem district was selected for the present study. The rationale behind this is that, the district is one of the emerging regions in education in Tamilnadu. Further, this is the last resort to get quality higher education for the students residing in the nearby districts say Dharmapuri, Krishnagiri, Karur and Namakkal. There are umpteen students selecting this junction to pursue their higher education from the surrounding districts. Moreover, various types of colleges in terms of quality can be found easily. For instance, World class institutions say Sona College of Technology are running and worst performing colleges which are crying for basic amenities are also being operated. However, the students are demanding such type of colleges as well. Hence, the researcher selected this field to study the objectives.

The sample size was restricted to 514 students due to the time and resource constraints. From the selection of sample colleges to the selection of sample students, multi stage sampling technique was adopted. Sample students were divided proportionately by their respective stream of education say General education and Professional education. Other kinds of education were ignored in this study, due to the low strength in terms of colleges and students. This study has taken only undergraduate students, as sample (i.e., those who are studying colleges after completing the higher secondary school level). More specifically, students who are studying in the final semester were only included in the study. Because, it is assumed that they only have good college experience and know well about the quality of the institutions concerned than other students. Moreover, they are only the best sample to make study regarding the efficiency.
1.16.2 Techniques of Data Collection

To collect the primary data, well structured and pre-tested interview schedule was framed and language Tamil was used. The reason for using the Tamil language was, to make the sample students convenient and understand. The interview schedule consists of information on demographic and socio-economic profile as well as data on family size, wealth of the family, student's and parent's educational aspiration, student's studying habit, previous course's mark details, family's investment behaviour, accessibility and availability of colleges, educational loan and its interest rates, loss of income due to the present study, expected returns from the study, expected non-pecuniary benefits and so on. Apart from this, to assess the quality of higher educational institution, students were asked umpteen questions under various categories viz., college's standard, teachers' ability and activities and other sort of facilities provided in the college.

1.16.3 Scope and Limitations of the Study

This study provides an alternative way to measure the quality of higher educational institutes. This study measures the quality through the final consumer's perception. Further, currently the quality of higher education is being measured in quantitative terms such as student strength, faculty strength, the number of academic programs available, number of research papers published or the research projects completed and the like. They are looking only to numbers. These are not true indicators of quality. Hence the present study intends to measure the quality by some qualitative criteria.

In addition to this, this study tries to explore the determinants which are responsible for the demand for quality higher education by the students. Hence, socio-economic background, individual characteristics, and school educational style have been included to study. So far, it is easy to scour the studies regarding the demand for higher education. But the present study aims to look at the significant factors, if the higher education is given quality. It is rare to see the literature in the context of demand for quality higher education.
Further, the present study measures the efficiency of the students. It is diverted from the earlier method of measuring the efficiency of the students. This study has added some input and output variables which are used for measuring the efficiency. Apart from the quantifiable inputs and outputs, such as educational expenditure and marks obtained, the qualitative inputs and outputs have also been included, say, quality of the institutes, English fluency, technical proficiency, problem handling skill etc.

Along with these directions, the factors which are responsible for the efficiency inequality among the students who are studying in various ranges of quality colleges have also been studied. It is necessary to weed out the hindrances faced by the students to increase their excellence. Hence this study makes this attempt as well.

The present study has some limitations as well. While measuring the quality of higher education, final consumer of this firm, that is, students only are taken into account. Other stakeholders such as administrator, teachers, and other parties involving in the business are neglected.

When exploring the factors which cause for the demand for quality higher education, demand side factors only are considered, the most of the supply side factors are ignored in this study.

There is no benchmark fixed for measuring the quality. Quality is measured through the student’s perception. It is on the basis of student’s expectation and the student’s satisfaction. Hence, this type of quality measurement does not fulfill the definition of quality such as fitness for purpose and quality of highest standard. Hence, the wrong perception of the student regarding the college quality leads to wrong result. Simply the quality measured in the study indicates, relative form and not the absolute level of quality. Anyhow, this type of possible error has been reduced as much as possible by asking cross questions to the students.

The samples drawn from the colleges are just the students who are in the final semester of their study. It is operated under the assumption that only the final semester students know well about their college regarding the quality. Sometimes, fresh candidates who entered the college recently can also reveal the actual situation
prevailing in the college. Hence, some of the valuable observers (fresh candidates) were eliminated from the samples.

The weightage has been assigned to the input and output variables for measuring the efficiency. The variation in weightage appears on the basis of current needs or current situation. It may vary in some places or in the near future.

While providing the data, some students felt that they would have to face some personal problems from the management or administrator side, if it was shown to the authorities. Hence, they were reluctant to convey the original picture of the college. When they were convinced by ensuring that it would not be shown to their college authorities or to anybody, they came forward to answer with half-mind. Hence, the real picture of the colleges was hidden sometimes.

1.16.4 Scheme of the Work

This research report is divided into seven chapters

- The introductory chapter highlights the higher education, quality related terminology, demand for quality higher education, Indian approach to quality enhancement, efficiency in educational system, statement of the problem, objectives, methodology, scope and limitations of the study.
- The second chapter deals with the theoretical frame work regarding the study.
- The third chapter fetches the review of literature on demand for higher education and efficiency of students made by various researchers.
- The fourth chapter pictures the profile of the study area and the socio-economic background of the sample students.
- The fifth chapter discusses the parameters for measuring the college quality, students's perception on various quality indicators, and the factors determining the demand for quality higher education.
- The sixth chapter analyses about the measurement of efficiency and the determinants of efficiency of the students.
- The final chapter covers the summary of findings and conclusions of the study.