CHAPTER I
INTRODUCTION

Education is becoming an area of extensive research and analysis abroad and to some extent in India. It is now argued that human resource development should be given the highest priority in nation building. It is pointed out that countries like South Korea, Taiwan, Singapore and Japan have achieved the status of miracle economies by giving education the most favoured treatment. It has become clear that the national wealth and income of different countries are dependent on the of investment in education. No nation can survive in the new millennium without developing its own intellectual base. The Human Development Report (1999) makes a reference to the global race for knowledge. It says: “writing computer programmes and revealing genetic codes have replaced the search for gold”. It goes on to say that “knowledge is the new asset and the global gap between the know and know-not is widening”. According to World Bank “If knowledge is electricity of
the new informational international economy, then institutions of higher education are the power source on which new development process must rely” (World Bank 1993)².

The notion of human capital revolution had been postulated by the Chicago School with contributions from T.W. Shultz³, G.S. Beeker⁴, J. Mincer⁵ and others. Shultz says: “Truly the most distinctive feature of our economic system is the growth of human capital Without it there would be only hard manual work and poverty except for those who have income from property”. Investments in higher education are important for economic growth. They increase individual’s productivity and income and bring about externalities like the such as long term returns to basic research in the form of technology development and transfer.

1.1 Financial Crisis in Higher Education—Global Experience

Despite the clear importance of higher education as an engine of development in the new world economy, this sector is facing severe financial crisis throughout the world in both developed and developing countries. A major reason for the crisis in higher education is that it has been the fastest growing segment of education. There is acute pressure of enrolment expansion. Besides, the unit cost of tertiary education, which is comparatively
high, is increasing fast. But the expenditure per student is being cut down because of widespread fiscal constraints.

One reason for the set back in funding higher education in the developing countries lies in the lower priority accorded to this sector than to primary and secondary education sectors. It is pointed out that investments in higher education have lower social rates of return than investments in primary and secondary education. It is also argued that the investment in basic education can have more direct impact on poverty reduction. Recognising this, developing countries are investing more at these levels at the cost of higher education. These countries are slow to realise the inter linkages between the different sub sectors of education. Unless the performance of higher education is improved, many countries are destined to enter the twenty first century insufficiently prepared to compete in the global economy where growth will be based ever more heavily on technical and scientific knowledge (World Bank 1994).

As the mechanism of funding has a significant bearing on the outcome of education, decision regarding its financing should be based on sound principles, rather than being derived from projections based on mechanistic trends (JBG Tilak 1990b, 1992a).
Adequacy, equity and efficiency are the three major goals that should guide educational planners in funding education in general. Flexibility and autonomy are also considered as basic principles of management of any higher educational institution.

Reforms of the financing and management of higher education are to be designed to establish a more equitable, efficient and high quality system. The composition of the package of reforms however may vary by countries reflecting each country's socio-economic and political circumstances. Reform measures may aim at (a) controlling access to public higher education on the basis of efficient and equitable selection criteria; (b) encouragement of diverse institutions with different programmes and missions; (c) creating a positive environment for private institutions; (d) diversification of funding; (e) provision for loans and grants to all qualified students; (f) transparency in resource allocation; (g) greater autonomy to institutions (World Bank 1994).

1.2 Developments in India

Higher education in India has expanded at a very fast rate during the post independence era. There was spectacular increase in the number of institutions, enrolment and expenditure. At the time of independence, there were only 20 Universities and 400
colleges with a student strength of 2,50,000. But now, the Indian educational network is the second largest in the world. This has helped the country to become the third largest pool of scientists and technologists in the world. We have now about 232 Universities and deemed Universities, 11100 colleges and over 74.2 lakhs students. The system expanded considerably during the last five decades, as a result of greater democratisation of higher education and large government investment. Though country’s achievements in terms of absolute numbers are impressive, they are quite inadequate in relation to its population. For instance, India had only 134 scientists and engineers per one million population in 1992 compared to 5183 in Japan, 3874 in USA, 2000 in France, 1550 in UK etc (Tilak 1995) Enrolment in higher education is only 6% of the eligible age group against 20% which is the threshold level for a developing country to reach an adequate level of economic development (JBG Tilak 1997).

1.3 Developments in Kerala

Educational development had taken place in Kerala well before independence. Education has been able to play a key role in the development of the state, thanks to the investment made by the
progressive people of Kerala. (Ramanchandran 1987\textsuperscript{11}, Mathew E.T. 1991\textsuperscript{12})

There has been a phenomenal growth of educational infrastructure at the college level since the formation of Kerala in 1956. In response to organised demands from various constituencies, the state government began to build or sanction the establishment of colleges offering degrees in arts and sciences. (Oommen M.A.)\textsuperscript{13}. The expansion took place both in public and private sectors, but more in private sector. In 1956-57, the total enrolment of students in pre degree, degree and post graduate courses in the then existing 28 arts and science colleges was a mere 22294. This shot up to 2.82 lakhs in 174 colleges in 1982-83 and further to 3.54 lakhs in 206 colleges in 1996-97. Now, we have seven Universities and 186 arts and science colleges with an enrolment of 290121 students. Besides, there are 30 engineering colleges already functioning or in the pipe line with an enrolment of 8543 (Economic Review 2000)\textsuperscript{14}. All these achievements may, \textit{prima facie} look impressive. But in relation to demand and in relation to school enrollment, this growth is inadequate.

With near universal enrolment in schools, the demand for higher education has gone up. But the enrolment in higher education
in Kerala is lower than the national average (Tilak 2000, George and Ajith 2000). It is pointed out that Kerala’s present problems in higher education are second generation problems. With almost total enrolment in schools, the demand for tertiary enrolment is very high. It appears that Kerala has inherited one of the problems of the advanced countries in education without the financial means to solve them. The state’s higher education system, obviously, is a victim of its success in school education (George 1993).

The technical education system has expanded at much slower pace during the past four decades. In 1962, Kerala had only 6 engineering colleges with an intake capacity of 780 students. In 1997-98 it has grown to 15 engineering colleges with intake capacity of 5798 students. Much of the expansions has taken place during the nineties. Despite the expansion in intake capacity in recent years, there is still excess demand for technical education in the state, because it ensures a secure profession with social status. This is indicated by the massive exodus of students to join the self financing colleges in Tamilnadu, Karnataka, Andhra Pradesh and Maharstra. It is this unsatisfied demand for technical education that provides the social setting for the spread of ‘self financing institutions’ in the technical sector in Kerala (Kerala Education Commission Report 1999). The recent inability as also the
unwillingness of the state and central government to fund higher education adequately also contributed to this new development.

The unprecedented growth in the number of institutions and enrolment in the past have resulted in a sharp increase in educational expenditure of the State Government. The state till recently was spending about 6 percent of its SDP on education, the only state to meet the norm recommended by the Kothari Commission (D.S. Kothari 1966)¹⁹. From the eighties onwards, the state is facing acute fiscal crisis partly as a result of slow growth of its resource base (George 1993)²⁰. Till the close of the eighties, the SDP growth in the state was very slow. The small size of the SDP and its slow growth has made it difficult for the state to mobilize enough resources to meet the ever increasing demands of the educational sector for expansion of capacity as well as for improving the quality. Besides, from the Fifth Five Year Plan onwards, expenditure on education in Kerala has shown one of the lowest growth rates among states. The annual growth rate, at constant prices, of 3.2% recorded during the period 1974-75 to 1984-85 dipped to 1.1 percent during the subsequent period of 1985-86 to 1991-92 (Prabhu, Seetha and Chatterjee 1994)²¹. The share of education in the total budgetary expenditure came down
steadily from 32.5 percent during the Fifth Plan to 27.0 percent during the Eighth Plan (George 1999).22

There are many other reasons for the financial crisis in Kerala's higher educational system. The inadequate provision for Kerala's educational sector by the Planning Commission and the Finance Commission, the reduction in funding by central government funding agencies like the University Grants Commission (UGC), declining investment by private managements and local bodies, inadequate cost recovery from students etc. are some of these reasons (these are explained in detailed in Chapter III).

1.4 The Genesis and Growth of Self Financing Engineering Colleges

A large chunk of professional education in the neighbouring states has been taken over by private agencies. The state of Kerala was an exception as far as privatisation and commercialisation of professional education were concerned. Somehow, Kerala resisted the temptation for self financing institutions till last half of eighties. The resistance against self financing in graduate engineering and medical courses lasted till the nineties. Both the government and the academics in Kerala were divided on the issue
of self financing higher education. But in July 1993, the then government of Kerala took a decision to sanction three self financing engineering colleges, one each under the Institute for Human Resource Development in Electronics (IHRDE) and Lal Bahdur Sastri Centre for Science and Technology (LBSCST) and the Muslim Educational Society (MES). Cochin University of Science and Technology (CUSAT) also announced its decision to start the fourth self financing engineering college under its School

Table 1.1
SELF FINANCING ENGINEERING COLLEGES-AFFILIATION AND OWNERSHIP 1993-1997

<table>
<thead>
<tr>
<th>Name of College</th>
<th>Affiliation</th>
<th>Ownership</th>
</tr>
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<tbody>
<tr>
<td>College of Engineering Chengannur</td>
<td>CUSAT</td>
<td>IHRDE</td>
</tr>
<tr>
<td>College of Engineering Kasaragod</td>
<td>KANNUR</td>
<td>LBSCST</td>
</tr>
<tr>
<td>MES College of Engineering Kuttippuram</td>
<td>CALICUT</td>
<td>MES</td>
</tr>
<tr>
<td>CUSAT Engineering College Cochin</td>
<td>CUSAT</td>
<td>CUSAT</td>
</tr>
<tr>
<td>S.C.T. College of Engineering Trivandrum</td>
<td>KERALA</td>
<td>KSRTC</td>
</tr>
<tr>
<td>College of Engineering Adoor</td>
<td>CUSAT</td>
<td>IHRDE</td>
</tr>
<tr>
<td>University College of Engineering, Thodupuzha</td>
<td>M.G.U</td>
<td>M.G.U</td>
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Note
IHRDE: Institute for Human Resource Development in Electronics
LBSCST: Lal Bahdur Sastri Centre for Science and Technology
MES: Muslim Educational Society
CUSAT: Cochin University of Science and Technology
KSRTC: Kerala State Road Transport Corporation
S.C.T. Sri Chithira Thirunal
M.G.U. Mahtma Gandhi University
of Technology in four emerging areas. The fifth one was started by the Kerala State Road Transport Corporation (KSRTC)—Sri Chithira Thirunal College of Engineering. In 1996, two more self-financing engineering colleges were started, one by Mahatma Gandhi University at Thodupuzha and the other in Adoor by IHRDE under CUSAT.

The total engineering colleges in Kerala in 1997-98 was 15 with an annual intake capacity of 5798 students. Out of the 15 engineering colleges in the state, eight of them were government owned and aided colleges. The remaining seven were self-financing colleges. At present (2000-2001), there are 30 engineering colleges sanctioned or already functioning in the state of which 9 are in the public sector and five in the aided sector. The Regional Engineering College (REC), Calicut and Model Engineering College (MEC), Thrissur and Model Engineering College (MEC), Thrikkakara fall in the above categories. The remaining 16 engineering colleges in the state belong to the self financing category (Economic Review 2000).

The first attempt by Government agencies and Universities in Kerala to establish self-financing engineering colleges was made in 1993 though self-financing courses in paramedical education and teacher education were started by Universities in Kerala in the
1980's itself. The scheme of self financing had undergone a number of changes since 1993. The idea of self financing is to raise from the students, by way of fees and donations/deposits enough revenue to meet not only the recurring costs but also the capital costs. The intake proposed in each of the three engineering colleges was 240 students per year. Sixty percent of students were to pay Rs. one lakh as a refundable deposit. Forty percent of the seats were earmarked for dependents of Non Resident Indians (NRIs) and they were to pay $ 5000. on a non-refundable basis.

The principle of reservation for SC/ST was not envisaged in the original scheme but was adopted at later stage. The concept of "free seats" and "payment seats" did not figure in the beginning and it was challenged in the court (Mohini Jain Case). The Supreme Court ruled that the colleges and courses started by government agencies do not come under the scheme of free seats and payment seats set by the court earlier. The College of Engineering run by the Muslim Educational Society (MES) and Sree Chithra College of Engineering were offering fifty percent free seats from their beginning.

After the change of government in 1996, the principle of equity was given some consideration by declaring 50 percent seats
in all self financing engineering colleges as free seats with regular fee (Rs 1200 per annum) that are charged by government owned and aided colleges. The tuition fee for payment category was fixed as Rs. 30000 and infrastructural fee as Rs. 5000. But the NRIs have to pay $5000 as non refundable development fee. Thus from the year 1996-97, 50 percent seats were converted as free seats and 50 percent as payment seats in the six self financing engineering colleges started by IHRDE, LBSCST, MGU, MES and KSRTC. But CUSAT did not follow this pattern of free and payment seats initially. The present position of admission and reservation is as follows. Of the total seats in self financing colleges 10 percent is allotted to NRIs. From them a non refundable deposit of $5000 is collected at the time of admission. Of the remaining, 50 percent are free seats and 50 percent are payment seats. The reservation principle applicable to regular engineering colleges also apply to self financing colleges. Fees payable by the reservation category students in the self financing stream are paid by the government to the institutions directly. The students getting admission under the payment category pay tuition fee of Rs.35000 per year.

As mentioned earlier, the starting of self financing colleges was a new experience to Kerala. It represented a sudden reversal of policy. No full fledged study is available which discusses the socio
economic and academic impact of such a drastic shift in the pattern of funding. It is in this context that the present study is made.

The study starts with the broad hypothesis that engineering education in the state has already become elitist and has already got many entry barriers to the first generation learners and those from the socially and economically deprived strata. The study seeks to examine whether engineering education may become super elitist with self financing mode of financing.

1.5 Objectives of the Study

The specific objective of the study are

1. To examine the recent trends in the modes of financing higher education globally, in India and in Kerala.
2. To examine the factors behind changes in policy on financing higher education.
3. To examine the academic and equity implications of such changes
4. To examine whether there exist any socio-economic entry barriers to regular engineering courses in Kerala where fees are highly subsidised
5 Whether withdrawal of the subsidies and charging of high fees to cover the total cost in the self financing stream reinforce the entry barriers, if existing.

6 To estimate the private cost of engineering education—both academic and maintenance—in both the streams and to examine whether the present policy of restricting the coverage of government subsides largely to fees has been acting as an entry barrier.

7 To find out whether the present system of entrance coaching has reinforced the entry barriers.

8 To examine the relationship between the two modes of financing and academic performance of engineering students.

9 To examine alternate ways other than self financing to tide over the financial crisis in higher education in Kerala.

1.6 Methodology

In order to understand the changes in the pattern of funding higher education and their implications at the global, national and the state levels, the study relies exclusively on secondary data and secondary sources of information. It also relies, to a great extent, on the earlier studies and official reports. Secondary data were collected from the State Planning Board, Directorate of Collegiate
Another very important source of data used in this study was World Bank's publications. For meeting the objectives 4 to 9 above we adopted a case study method. Engineering education under the regular and self financing streams were taken for the case study.

Though the study, as the title indicates, is about the pattern of funding higher education as a whole, only engineering education was selected for the case study meant to understand the implication of the self financing method of financing higher education for four reason. Firstly the fees charged are much higher than in other self financing courses. Secondly the difference between fees under the two streams is very high. Thirdly engineering education offers larger opportunities for more highly paid jobs. Fourthly, this method financing has come to dominate engineering education as most of the new colleges started are operating under this principle. Therefore any entry barrier to this education will have larger implications for social mobility. To find out the details of the private cost of education and other entry barriers, primary data were
collected through a pre tested questionnaire administered to the engineering students belonging to the two streams, in selected engineering colleges.

The survey was carried out at the end of the academic year 1998-99. The engineering colleges selected were NSS Engineering College, Palakad, Mar Athanasius College of Engineering (MACE), Kothamangalam, TKM Engineering College, Kollam, Colleges run by IHRDE at Chenganoor and at Adoor, Center for Under Graduate Study in Engineering (CUGSE), Cochin University of Science and Technology. The choice of students was made by random sampling. The details of the sample selection, data collection and the techniques used for analyzing the data are discussed fully in chapter five.

1.7 Limitations

The survey has been confined to six engineering colleges taken from three University areas- three regular colleges and three self financing colleges. It covers only six colleges out of 15 engineering colleges working in the state at the time of the survey in 1998-99. This again is partly due to the fact that many of these colleges were of recent origin and their students had not reached the last semesters to enable us to examine their academic performance.
Due to reasons mentioned above it is admitted that, the study is not representative of the whole population of engineering students in the state. It was not meant to be so. It is basically a case study of engineering students belonging to two streams viz. regular and self financing. It was considered that this case study of the two streams of students is adequate as our focus is to throw light about the comparative impact of the change in the funding patterns on equity, and efficiency. The other limitations of the study will be explained in the course of the analysis in Chapter V.

1.8 Outline of the Study

In the second chapter, an overview of the theoretical and empirical literature on issues in higher education particularly those relating to its funding is made. The important Education Commission Reports have been reviewed along with the studies sponsored by UGC, ICSSR, NIEPA, World Bank etc. A number of case studies by individual researchers have also been reviewed.

Chapter III gives an account of the global and Indian developments in the pattern of funding higher education. The paradigm shift from welfare to market economy and its implications to the financing of higher education have been critically analysed.
Chapter IV analyses the problems of funding higher education in Kerala in the context of the global and Indian experiences. The laudable achievements in Kerala's higher education have been taken note of while its deficiencies and inefficiencies have been brought out. Chapter V presents the report of the comparative study of students from the self financing and regular streams. The chapter examines the different types of private costs incurred and the socio-economic background of the students in the two streams of engineering education. The last chapter sums up the discussions and presents the major conclusions of the study along with our suggestions for alternatives in financing higher education in Kerala.

END NOTE


19. Kothari, D.S., Education and National Development. New Delhi:
Govt. of India Press, 1966


21. Prabhu, Seetha and Chaterjee., “Social Sector Expenditure and
Human Development - A study of Indian States “. Quoted in
George, K.K. “Whether Kerala Model” Paper presented in
International Congress of Kerala Studies A.K.G. Center,
Trivandrum 1994
