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ECONOMICS OF HUMAN RESOURCE PLANNING
With Special Reference To
HIGHER EDUCATION IN KERALA

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CERTIFICATE

Certified that the thesis entitled “**Economics of Human Resource Planning with Special Reference to Higher Education in Kerala**” is the record of bonafide research carried out by **Sri. Devasia. M. D.** under my supervision. The thesis is worth submitting for the award of the Degree of Doctor of Philosophy in Economics under the Faculty of Social Sciences.

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LIST OF ABBREVIATIONS

A.C	Aided College
AICTE	All India Council of Technical Education
Appx	Appendix
ASC	Academic Staff College
BE	Budget Estimate
CBSE	Central Board of Secondary Education
CSIR	Council of Scientific and Industrial Research
CUSAT	Cochin University of Science and Technology
DC	Degree Course
DCE	Directorate of Collegiate Education
DES	Directorate of Economics and Statistics
DyDCE	Deputy Directorate of Collegiate Education
G.C	Government College
GDI	Gender Development Index
GDP	Gross Domestic Product
GNP	Gross National Product
Govt.	Government
GR	Graduate
HDI	Human Development Index
HDR	Human Development Report
HED	Higher Education Department
HRD	Human Resource Development
ICSE	Indian Council of Secondary Education
IMA	Indian Medical Association
IQ	Intelligence Quotient
L-I-S	Lower Income Students
M-I-S	Middle Income Students
NAAC	National Assessment and Accreditation Council
NCTE	National Council of Teacher Education
NFE	: Non-Formal Education

NIT	National Institute of Technology
NRI's	Non-Resident Indians
NSDP	Net State Domestic Product
NSSO	National Sample Survey Organisation
NT-S R	Non-Teacher-Student Ratio
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Square
PG	Postgraduation
PP	Pages
Pvt.	Private
SAARC	South East Association for Regional Co-operation
SDP	State Domestic Product
SPB	State Planning Board
S-S R	Staff-Student Ratio
STD	Standard
T. Ed	Technical Education
T-S R	Teacher-Student Ratio
TVET	Technical and Vocational Education and Training
TVM	Trivandrum
U&HE	University and Higher Education
UG	Under Graduate
UGC	University Grants Commission
UK	United Kingdom
UNCTAD :	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNESCO :	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations Children's Fund
US/USA	United States of America
USAID :	United States Agency for International Development

CHAPTER 1

INTRODUCTION

The concept of human capital as a branch in economic theory has developed rapidly since 1960. Ever since it has become the focus of research in economics of education. Many studies have shown that human resource is the principal driving force behind rapid economic development and education is a crucial catalyst for Human Resource Planning and Development (*Blaug 1967; Becker 1960; Denison 1962; Schultz 1961; Griliches 1964; Foster 1987*). Being the basis of the wealth of nations, human resource ultimately determines the character and pace of its economic and social development. Human beings are the active agents who accumulate capital, exploit natural resources, build social, economic and political organizations, and carry forward national development. Obviously a country, which is unable to develop and effectively utilize the skills or knowledge of its people, will be hog-tide to build up anything else (*Harbison 1973*).

Human resource development is the process of increasing knowledge, skills and other dexterities of people. In economic terms it could be described as accumulation of human capital. The most obvious way by which human resources are ameliorated is the formal education beginning with primary or first-level continuing with various forms of secondary and then higher education including Colleges, Higher Technical Institutes and Universities.

Educational advancement initially consequent upon a degree of structural economic change became a catalyst for further economic progress

and that rate of economic growth is now largely determined by the supply of high-level manpower. The favourable influence of the stock of human capital is generally justified by its positive impact on labour productivity and technology. Education not only enhances the ability of a country to fabricate its own technology but also to adopt and implement technologies contrived elsewhere. Thus, educated (skilled) labour force is a necessary condition for enduring economic growth. It is the key to all sorts of inventions and innovations, and is regarded as the chief investment avenue as it raises the productivity of all factors of production. It creates assets in the form of knowledge and skills, which increases the productivity of labour in just the same way as the investment in new machinery raises the prolific capacity of the stock of physical capital (*Woodhall 1987*). It augments the quality and inventiveness of the labour and pays them high. The increased earnings by educated workers benefit not only the individuals themselves but also the society as a whole. From 1929 to 1957 in US the amount of education that the average worker received has increased by almost 2 per cent per year and this has raised the average quality of labour by 0.97 per cent per annum and contributed 0.67 per cent to the growth rate of real national income. Thus it was the source of 23 per cent of the growth of total real national income per person employed (*Denison 1962*). The resulting rates of return (in US) to the cost of acquiring a college education for urban white males were 12.5 per cent in 1940 and 10 per cent in 1950 (*Becker 1960*). The capital value at the age of fourteen of lifetime income (after taxes discounted at 6 per cent) was \$ 25380 at the completion of 8 years of schooling, \$ 33466 at the completion of high school, and \$ 41432 after the completion of four or more years of college or university education (*Houthakker 1959*). Similarly, a 10 per cent increase in

the farmer education raised productivity by 3 to 5 per cent compared to only 1 to 2 per cent due to 10 per cent increase in land, fertilizer and machinery in US agriculture (*Griliches 1964*). The resources allocated to education have risen about 3.5 times relative to consumer income and gross formation of physical capital. The income elasticity of the demand for education was about 3.5 over the period and alternatively investment in education may be considered as 3.5 times more attractive than investment in physical capital (*Schultz 1961*).

Population Quality is derived from two sources: namely, genetic endowment and acquired abilities. Education and training succor one to acquire such skills. Bowen pointed out that, “the primary purpose of higher education is to change people in desirable ways, which in turn have profound effects on the economy and the society and even on the course of history. But in the first instance, the objective is to modify the traits and behaviour patterns of individuals”. He further states “on the average, College education significantly raises the level of knowledge, the intellectual disposition and the cognitive powers helps a great deal in making lifetime choices ... greatly enhances the practical competence as citizens, workers, family members and consumers... They are more likely to be in the labour market.... have greater allocative ability, i.e., ability to adjust promptly and appropriately to changing economic demands, technologies and resource supplies... also contribute to the quest for human equality” (*Bowen 1977*). According to Hicks (*1980*) “there is a strong correlation between literacy levels and life expectancy and that literacy may have an important influence on health and hygiene.”

“There is in our time no well educated literate population that is poor and there is no illiterate population other than poor”(*Galbraith 1994*).

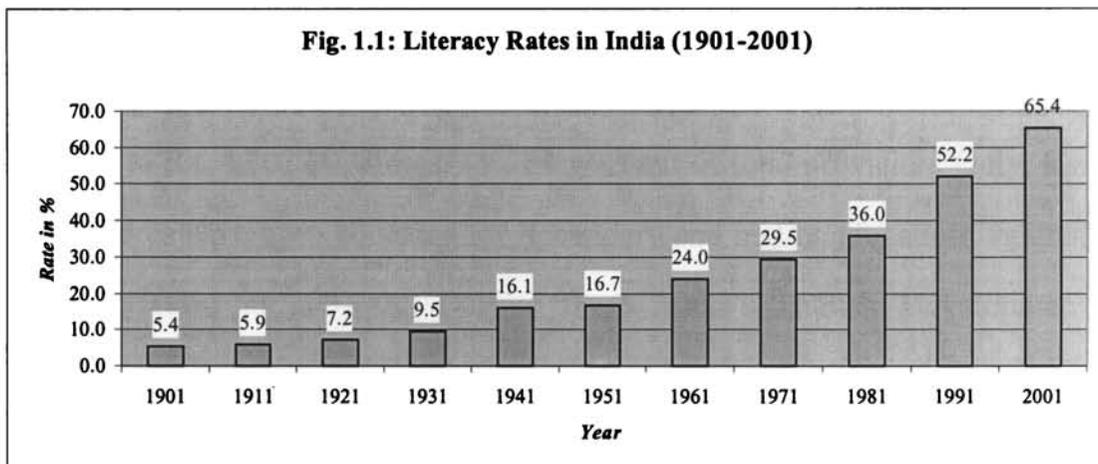
Education is the only way up and out of poverty. For a large segment of our population even with education life is difficult, but without education there is no hope at all. Individual youth with low educational accomplishments are the ones most likely to suffer from unemployment while person with higher educational attainments suffer the least (*Majumdar 1996*). In other words, the individual who obtains more schooling finds it easier to secure first place or are less miserable in the overall job queue. Similarly, in all economies, people with more education earn on an average higher income than people with less education, at least if the people are being compared of the same age. Additional education pays-off in the form of higher life-time incomes. Distinctly, those with more education usually differ from people with less education and seem to earn more. The increased earnings by educated workers benefit not only the individuals themselves but also the society as a whole. Moreover, education influences savings positively. As for each percentage point increase in the stock of education the saving rate increases by 0.37 per cent (*Revoredo 1996*).

The development of man for himself may still be considered as the ultimate end of education, but economic progress is the real outcome. In other words, human resource development is a necessary condition for achieving the role (goal) of modern societies; country needs educated political leaders, planners, managers, teachers, lawyers and judges, doctors, nurses, engineers, artists, architects, craftsman, writers, journalists and various other professionals to spur to development. Countries are underdeveloped because most of their people are underdeveloped having had no opportunity of expanding their potential capacities in the service of society. The UDCs need high-level manpower just as urgently as they need capital. Indeed, unless these

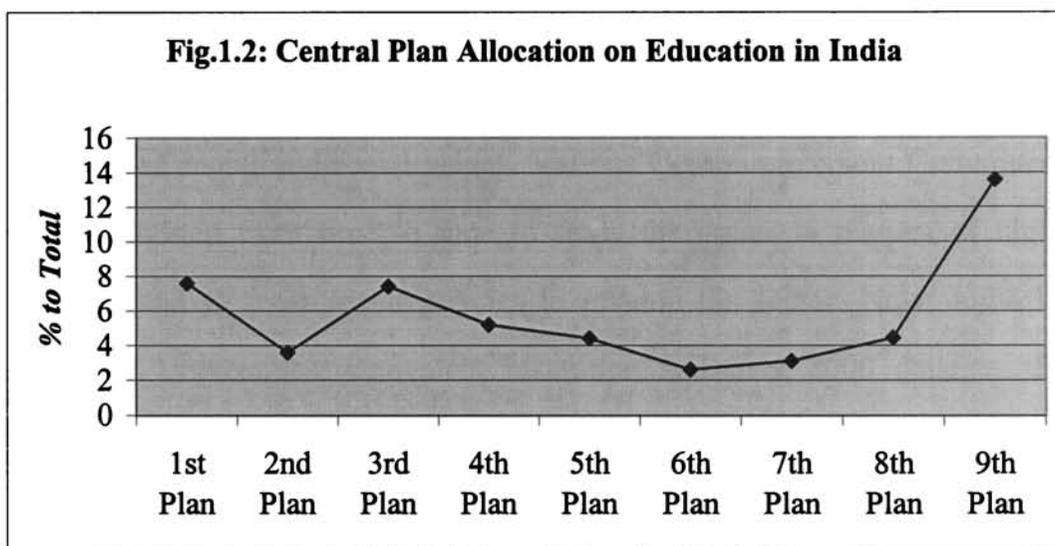
countries are able to develop the required strategic human resource they cannot effectively absorb capital. Of all the resources required for economic development high talent manpower requires the longest 'lead time' for its creation. Dams, bridges, power stations, railways, steel mills, etc. can be constructed in a few years but it takes 20 to 25 years to sprout administrators, managers, doctors, engineers, etc. The existence of such manpower, however, is essential if these countries are to achieve self-sustained growth. According to *World Education Report (1993)* world's public expenditure on education in 1991 was \$ 1,11,910 crores. Of which, the share of the developed countries was \$ 95,110 crores (85 per cent). America alone accounted for \$ 34,710 crores (31 per cent). This undoubtedly stresses that the UDCs has to do a lot in this regard.

1.2 Indian Scenario

With World's largest population next to China¹ manpower planning in India, especially with respect to education has not yet received the real fillip. The total literacy rate of 18.33 per cent in 1951 rose only to 65.4 per cent in 2001 of which 75.85 per cent are males. (T.1.6, pp 192)

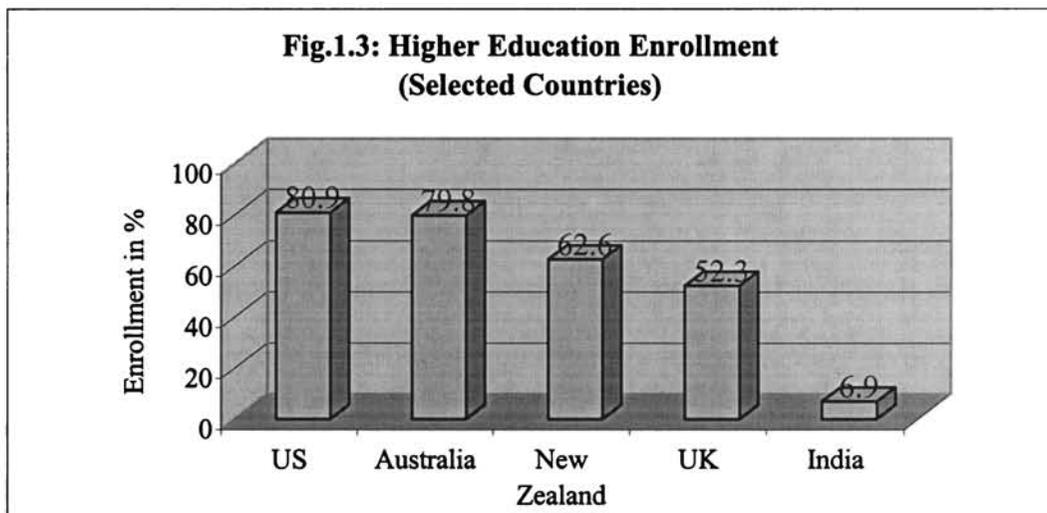


As against the goal of 6 per cent of GDP, the total expenditure on education in India is currently 3.99 per cent of GDP (2001-02). The high priority accorded to education sector in the 10th Plan with an allocation of Rs. 43,825 crores as against Rs. 24,908 Crores in 9th Plan (76% increase), is rather a positive indication. But the allocation for education was low in all the previous Five Year Plans. And the per capita education expenditure² was only Rs.190/- in 1990-91 and Rs.546/- in 1999-2000.



The total Central plan allocation for education has been enhanced from Rs. 5,920 crores in 2001-02 (B E) to Rs. 7,025 crores in 2002-03 (B E) i.e., an 18.7 per cent increase. Out of this elementary education has received the highest priority with the allocation increasing from Rs. 3,800 Crores in 2001-02 to Rs. 4,302.30 Crores, i.e., 61 per cent of total provision. Only, Rs. 2,125 Crores have been allocated for Secondary and higher education³ against Rs.1,920 crores in 2001-02. Despite these, India's Human Development Index⁴ is very low.

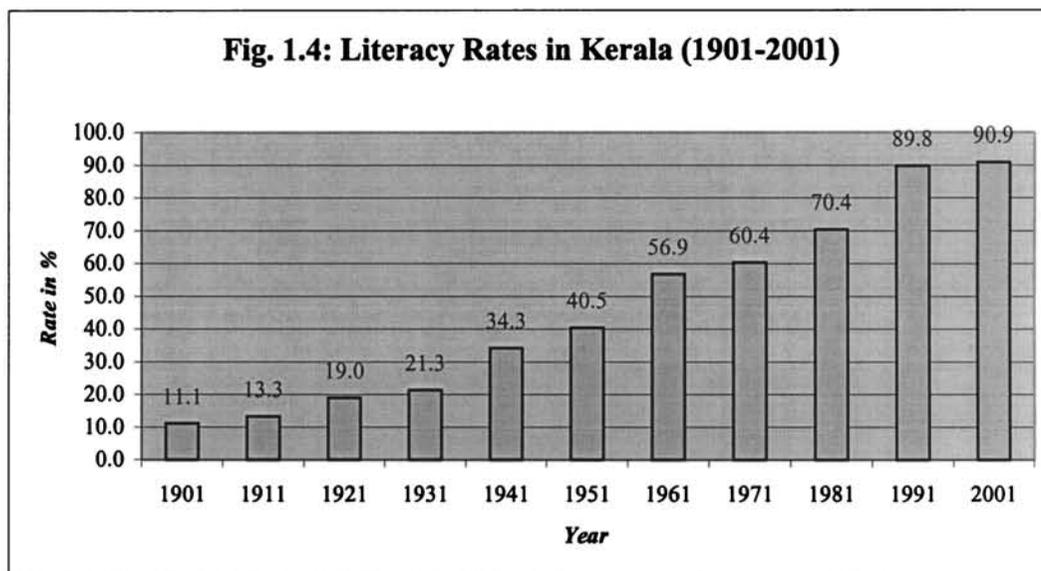
Though having a much longer history⁵, the solemnity of education in India was apprehended during national movement and greater emphasis was laid on the need to provide “quality education”, which was commensurate with economic aspirations as well as social and cultural milieu of India. The Resolution on National Policy of Education 1968 spearheaded the need to (a) transform the educational system so as to relate it more closely to the life of the people, (b) make continuous efforts for expanding educational opportunities, (c) make sustained efforts for raising the quality of education at all levels, (d) give a special accent on the development of science and technology and (e) to provide and cultivate moral and social values. Various Commissions and Committees⁶ were constituted from time to time to study the issues in matters of higher education and to recommend policies to revamp the sector. Now, India has about 300 Universities, equivalent institution and over 8000 colleges. But students far outnumber the seats available. Barely 6 per cent of those in the 18–23 age group have access to higher education. One million more students are expected to require higher education in the next five years. According to the *UNESCO World Education Report for 2000*, only 6.9 per cent of youth in the age group 17-23 are enrolled for higher education in India.



While in US the figure is 80.9 per cent, in UK 52.3 per cent, Australia 79.8 per cent and New Zealand 62.6 per cent. The implication is that there is an overwhelming section of the population deprived of higher education in India.

1.3 Kerala Scenario

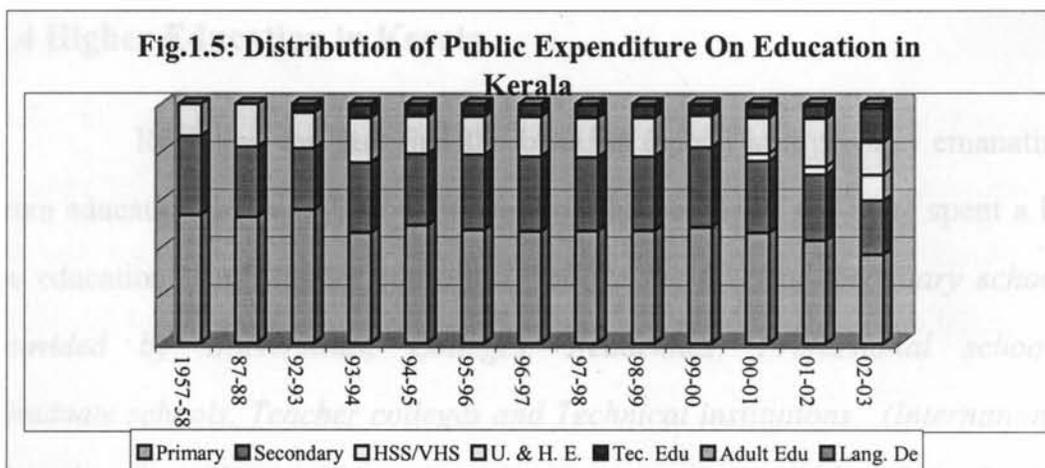
Kerala a tiny State in India has historically been ahead of other states in respect of literacy and it is the only state in the country that achieved 'total literacy' or in which more than 90 per cent of the adult population is literate. For instance, in 1901 the literacy rate in Kerala was 11.4 per cent compared to only 5.35 per cent at all-India level, which increased to 40.47 per cent as against 16.67 per cent for India in 1951. The corresponding figure in 2001 is 90.92 per cent in Kerala and 65.38 per cent for the country⁷.



Indigenous system of education that prevailed in Kerala in the 18th century and earlier had contributed significantly to the literacy level and social transformation of the people of Kerala⁸. Arrival of Christian missionaries by A D.1543 paved the way for modern (western) education in the state. Another

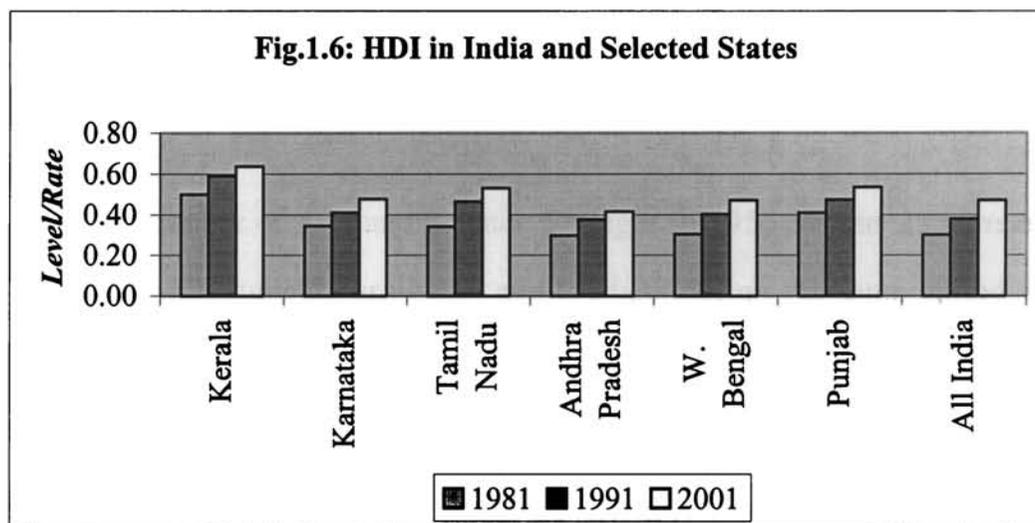
major milestone is the Development Scheme of T. Madhava Rao in 1860, important components of which are (a) linking the government jobs with educational qualification, (b) government to start new schools of its own, (c) private agencies to be encouraged through liberal grants in aid, and (d) indigenous schools to be upgraded and integrated with modern system.

Expenditure on education in Kerala in the first plan was only 0.83 per cent compared to 7.60 per cent at all-India. Later, in all other plans, the share of education in Kerala was higher than all-India level with 14.57 per cent in 2nd Plan, 11.88 per cent in 3rd and, so on. Similarly, the proportion of total government expenditure spent on education in Kerala is much higher than the corresponding figures spent by all other states in the country (26.9 per cent in 1992-93). The per capita expenditure per student is the lowest in Kerala (*Mooniz 1984*). But, it has increased slightly to Rs. 884/- compared to Rs. 546/- for all other states during 1999-2000. In the field of expenditure on University and higher education, the proportion is less than 16 per cent⁹ during 1995-96 to 2002-2003, except with 20 per cent in 2001-02.



Adherence to its remarkable progress in the field of education, the share of tertiary sector to GDP in Kerala increased from 48.20 per cent in

1994-95 to 57.56 per cent in 2000–01. In the case of employment, education is the biggest employer of the State where teachers constitute nearly 18 per cent of the total employment in the organized sector. (*George 1999*) The experience of the Malayalee migrants reveals that they were able to enter into the formal urban labour market due to their better educational status, vocational training... (*Prakash 1999*). Last but not the least, in the case of HDI Kerala ranked top with 0.651 (*UNDP 2001*) or 0.638 (*Planning Commission 2001*) among other states, and all India average of 0.472 in 2001.



1.4 Higher Education in Kerala

Realizing the fact that the benefits (social and private) emanating from education are many, Government and the people of the State spent a lot on education. And, higher education, “*above the level of secondary school, provided by Universities, Colleges, Academies, Professional schools, Graduate schools, Teacher colleges and Technical institutions*” (*International Encyclopedia of Higher Education*) occupies a strategic position in the field of education. Improving the higher education system is vital for the State’s progress as it contributes to employment, income generation, dissemination of

knowledge and skills, export of labour, etc. In addition to these, it may also act as an effective instrument in ensuring equity and social justice.

The total expenditure on education in 1996–97 amounted to Rs. 1617 crores. Of which, the share of Primary, Secondary, University and higher education, and the technical education were Rs. 753 crores (47 %), Rs. 511 crores (31.5 per cent), Rs. 267 crores (16 per cent), and Rs. 78 crores respectively. But, in 2002-03 it has increased to Rs. 2550 crores with Rs. 1040 (41 %); Rs.635 (25 %); Rs. 382 (15 %); and Rs. 145 (6 %) respectively for Primary, Secondary, University and higher education, and the technical education.¹⁰

Number of Arts and Science Colleges in 1956-57 was 28 increased to 172 in 88-89, student enrollment and teachers during the same period was 25,254 to 3,29,064; and 1,262 to 13,465, respectively. But as per recent records there are 286 arts and science colleges (38 Govt., 148 Pvt. Aided and 100 unaided) under the four affiliating Universities and two deemed Universities in the State¹¹. Total enrolment of students at the University level stood at 3.43 lakhs in 1997 and the size in 2001–02 declined to 1.60 lakhs (after de-linking Pre-Degree) and 1.59 lakhs in 2002–03. Technical education consisted of 15 Engineering colleges with 5,156 students in 1997 increased to 76 colleges and 18673 enrollments in 2003 (excluding NIT Kozhikkode and CUSAT). In the field of medical education, there are six medical colleges, two dental colleges, three Nursing Schools for degree education, five Ayurveda medical college and four Homeo medical colleges in Kerala. In addition to these, there are 174 Nursing Schools (offering Diploma) at present (11 Govt. and 163 Pvt.) and 56 paramedical institutions. In case of Teacher education at

higher levels there are 4 Govt. Teacher Training Colleges and 15 Aided Teacher Training Colleges, and few Self-financing B.Ed Colleges in the State.

In spite of all these, the percentage of students going for higher education of the students in higher secondary schools was only 13.8 per cent in Kerala as against 22.9 per cent in the country, and Kerala rank 24th among 26 States in the Country (*George 1999*). According to another estimate, the enrollment in higher education in Kerala in 1998–99 was 1.7 lakhs. Another estimate have shown that the enrollments in higher education hardly form 3.7 per cent of the relevant age group of population (*Tilak 2001; Ashok 1999*).

The quality standards have been coming down steeply at all levels of education in Kerala. In the field of higher education, Kerala lags behind not only in quantitative terms but also in qualitative terms (*George 1999*). Quality embraces all the main functions and activities of higher education: teaching and academic programmes, research and scholarships, staffing, students, infrastructure and academic environment” (*Rodrigues 1998*) According to Panikkar (2003), the World Bank prescription of higher education as a non-merit good was responsible for a sharp decline in the quality of instruction. An enclavised, commercialized and communalized system of education, can be countered only by strengthening the public system, the revitalization of which depends up on a variety of issues, more important among them being quality assurance, democratization and autonomy.

Various institutions¹² are involved in the operational structure of higher education in Kerala with Central Government at the top, Ministry of HRD, the UGC/ CSIR and its Constituents, AICTE, NCTE, IMA, State Government, Ministry of Education, Higher Education Department and its

various constituents, Universities, Colleges, College Managements, etc. Though this looks hierarchical and each has distinct roles, in most cases they are not like that, but generate undue delay and complications.

Similarly, the self-financing and cross border institutions is now mushrooming all over the country. Govt. of Kerala is also picked up this thread, ignoring the adverse impact on poor and weaker sections of the community.

Labour market paradox is another important issue pertaining to Kerala's development experience. In one end Kerala is hailed top in literacy rate among other States in the Country but in the other, it maintains top position in terms of rate of growth of unemployment and especially educated unemployment.¹³ Many studies on the relationship between education and employment have shown that both are positively correlated. (*Denison 1962; Blaug 1974; Grillichez & Mason 1972; Tilak 1981; Varghese 1988; Psacharopoulos 1985 & 1994; Smith 2000; etc.*) Contradicting this Kerala experiences highest rate of unemployment amidst high level of education.

1.5 The Research Problem

Manpower planning with respect to education especially higher education has not received the required emphasis, so far in the State. It is alleged that, despite there being high literacy rate and higher educational investment compared to all other States in India, Kerala has the highest rate of unemployment in the Country and it is acute among educated persons. It is often argued that there exists a relatively reliable relationship between levels and types of education and job status of persons (*Varghese 1988*). Opposing

this, some studies have pointed out that there is no such reliable relationship between employment and education in Kerala (*Oommen 1993*). Of course, smooth and harmonious relationship between labour market and education market can be established only if the nature, type, quality, and quantity of demand are matched with the supply of that kind of labour. In most of the developing countries a wide range of disparity exists between the demand for and supply of labour due to the fact that, (a) the training providers (educators) do not deliver the skills required by the industry (economy) and (b) the industry / economy is not aware of how should it effectively use its available labour supply (*Warrender 1996*). Similarly, proper utilization of beneficiaries and resources in ensuring maximum benefit to the society is a difficult task for a resource crunch State where most of its educational provision is on subsidized basis. Setting up of Self-financing colleges is suggested as a remedy for cost minimization of govt. But it is criticized that the cost of education for poor will be unaffordable. In short, certain issues coming up in this context are: Is there any disparity between the demand for and the supply of higher education in the State? What is the position of them in terms of costs and benefits? Is the cost of education incurred by the government an unaffordable one, on either side (govt. and beneficiaries)? Does the State government take any positive step for solving this or does they aggravate this by reducing social costs involved in it? What would be the future viable strategy in this regard? Is there any mismatch between demand and supply of qualified people with higher education? Is there any association between education and income or employment? The studies conducted in this area so far have not looked into these problems. Thus the present study is an attempt to look into these important areas for suggesting the need for improving the

higher education sector of the State, as it is important in building up a satisfactory human resource base so as to garner the best.

1.6 The Objectives of the Study

1. To give an account of the investment and institutional or structural framework of higher education in Kerala.
2. To analyze the higher education market and the strengths and weaknesses of supply – demand conditions in Kerala.
3. To compare the cost and the benefits of higher education in Kerala.
4. To examine the impact of recent policy changes in higher education.
5. To suggest the need for expanding higher education market to solve the grave problem of unemployment on the basis of a systematic manpower planning.
6. To analyze higher education and its association with income and employment

1.7 Hypotheses

1. Supply conditions of higher education sector is inadequate with respect to its growing demand.
2. Both Social and Private costs of higher education exceed their corresponding (social and private) benefits in Kerala.
3. Except on payment of price (fee) of education and distribution of student aid, both aided/govt and self-financing students are in equal status
4. Education-Employment mismatch is the cause of growing educated unemployment in the State.

5. Higher personal income is positively related to higher levels of education.
6. There is a close association between education and employment (and higher occupation statuses) in the State.

1.8 Theoretical Frame Work

The theoretical framework of the present study is presented under three main heads: (1) Human Capital Context; (2) Is Education a firm? and, (3) Labour – Education market links.

1.8.1 Human Capital

Ongoing changes in global economic structures, along with information revolution have produced an environment where knowledge and skills or education and training are considered increasingly valued commodities. This is based on the simple notion that nation's economic progress is linked to education and training. This idea is embodied in the theory of human capital, according to which the knowledge and skills found in labour represents valuable resources for the market. Thus the important assumptions of the human capital theory are, (1) Human capital is an investment for the future, (2) More training and education leads to better work skills, (3) Educational institutions play a central role in the development of human capital, (4) the technological revolution is often cited as the most pressing reason why education and knowledge are becoming valuable economic commodities, (5) Training enhances employability, (6) Training can compensate for skill shortages (*Bouchard 2002*).

1.8.2 Is Education a firm?

Gordon (1997) opines that, “although Colleges and universities sell goods and services (education) for a price (tuition fee), make those goods and services with purchased inputs and hired workers (professors, staff), use a lot of plant and equipment (classrooms, labs, parks and computers) and they compete hard for customers and for faculty inputs, it isn’t like a firm. There are half a dozen economic characteristics that differentiate colleges and universities fundamentally and economically from for-profit business firms. Important among them are, (1) “Non-distribution constraint” – non-profit firms can make profits, but they can’t distribute those profits to their owners and, indeed, they don’t have any owners. (2) Asymmetric information - customers don’t really know what they’re buying. These are “trust markets.” For any investment in higher education, the outcome can’t be known for twenty to thirty years. It’s once-in-a-lifetime decision that can’t be corrected next time around. (3) There’s reduced pressure on management to operate efficiently as they are being motivated by different and typically more idealistic goals than the managers of normal business firms. (4) Revenue sources - “Donative nonprofits” rely for revenues on charitable donations, endowment income and gifts, and government appropriations in addition to tuition fees. Thus they cannot charge a price that fully covers their production costs. To the extent that they’ve got donative revenues, they can give their customers a subsidy. (5) The way it’s produced: higher education is often made by a very strange technology, a “customer-input technology” – students help educate students i.e., “peer effects”. (6) “Heterogeneity,” - schools differ very much in quantity, quality (both in input and output), type and period of

course, etc. And they differ very much in the price they charge for a dollar's worth of their product.”

1.8.3 Labour – Education Market Links

Over the years economists have formulated a number of theories or models of employment determination. The majority of these models have focused on or been derived from the social, economic and institutional structure of the developed countries. They have often been uncritically and inappropriately applied to the unique and diametrically opposed socio-economic and institutional characteristics of under developed / developing countries to those of the developed nations.

Similarly, existing literature shows that India and a tiny State like Kerala is Labour Surplus¹⁴ or labour abundant (Nurkse 1953; Lewis 1954; Sen 1984 & 1966; Stiglitz 1976; Raj 1979; Rakshit 1982; etc.), and hence many remain without jobs. Of course, India is a country 2nd in the world in terms of population size and Kerala ranks 3rd from the top in terms of density of population per square km among the states in India. But, is it scientific to consider this large size of population as labour surplus? Labour, which embodies inventive, technical and entrepreneurial skills and knowledge, etc., is different from population although it is a basic pre-requisite. These skills and knowledge can be inculcated in people through education and training. At present all job avenues are open to all¹⁵ provided one possesses the required skill and knowledge to perform the activity effectively and efficiently. Thus employers place education and training as proxy for labour productivity and prefer higher qualified persons to low qualified ones.

A little understanding is also needed on the **conceptual framework¹⁶ of Employment (unemployment)**. According to Sen, “employment is an important means of generating and distributing income, but a person can be rich yet unemployed if he has other sources of income and also a person can work very hard and still be very poor”. Against this backdrop Sen (1984) have distinguished three different aspects of employment:

- (1) The income aspect: employment gives some income to the employed;
- (2) The production aspect: employment yields some output;
- (3) The recognition aspect: employment gives a person the recognition of being engaged in something worthwhile.

The income aspect of employment is concerned with that part of one’s income, which is received on condition that one works. The focus of the income aspect of employment should be on this question of conditionality, and not just on whether the income level is high or low. An adequate level of employment must be defined in terms of its capacity to provide minimum living to the population. The ILO Mission to Kenya took an approach to unemployment similar to this (Sen 1984). Sen further remarks, “to identify unemployment with poverty seems to impoverish both notions since they relate to two quite different categories of thought. Further, it can also suggest erroneous policy measures in seeking extra work for a person who is already working very hard but is poor. In contrast, the income approach used here is concerned not with checking whether a person’s income is high or low, but with the extent to which it is conditional on the work he performs” (Sen pp 246).

The assessment of the size of educated labour is done by using the taxonomy of Labour Force Status (Bosworth, et al 1996, pp 393- 400), Labour Force Utilization Framework developed by Phillip Hauser (1974) with a slight modification (Joseph 1994) and job competition theory (Thurow 1972) which holds that competition in the labour market is for jobs, not for wages, and education is a positional good (Hirsch 1977).

1.9 Scope of the Study

In fact, higher education is a mammoth area with the direct involvement of too many people, students, experts and institutions both in the private and public sector in Kerala like the rest of India and the world. The subject matter of study is economics of higher education inter-alia, the human resource planning with reference to Arts and Science Colleges for general education in Kerala, viz: the relationship between education on the one side and income and employment on the other; demand and supply; costs and benefits, employment-education mismatch, etc. To link theoretical framework with empirical underpinnings, the study requires vast amount of data. Since boundaries of higher education is inestimable, the study focuses mainly on 186 Arts and Science Colleges (Degree and Post Graduate Course only) under Govt. and Aided streams in the State¹⁷, on the justification that these are the chunk of higher education scenario of the State in terms of number of institutions, student enrollment, employment, public expenditure and people participation. Besides, institutions of which are spread out in all fourteen districts of the state. Again, these are directly linked to Central govt. (through UGC and their constituents), State govt. (through Higher Education Department, Directorate and Deputy Directorates of Collegiate Education) and

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Universities. However, the study will look into other branches or institutions of higher education in the State whenever and wherever the discussion demands.

1.10 The Research Methodology

The present study is both analytical and descriptive, and is based on primary as well as secondary data.

1.10.1 Secondary Data

The important sources of secondary data are Economic Review of State Planning Board, Govt. of Kerala; Statistics for Planning, Department of Economics and Statistics, Govt. of Kerala; World Development Report; World Education Report; UNDP Report; Reports on Economic Surveys, NSSO and DES Surveys; Census of India 1991 & 2001; Plan Documents of Govt. of India 1994–95; Indian Public Finance Statistics 2000–01; Higher Education Directory of Malayala Manorama; Report of the Directorate of Public Instruction, Govt. of Kerala; Books, Journals, etc.

1.10.2 Primary Data – Sample Surveys

To integrate the micro and macro aspect of the issues, the present study resorted to primary data and that are collected through sample surveys from: (1) Students in aided/govt. Arts and Science Colleges; (2) Students in Self-financing Arts and Science Colleges; and (3) Work seeker registrants in Employment Exchange.

1.10.3 Sample Design

(a) Survey Among Aided/Govt. College Students

To study the “Education – Income – Employment” background of about 1.59 lakh students in 186 aided/govt. Arts and Science Colleges, which are spread in all the 14 districts of the State, is a difficult task. So, stratified random sampling method is adopted. First, colleges were stratified into management-wise and district-wise as shown in Table 1.1. Then, selected one Govt. college each from four districts, namely Kasaragod, Wyanad, Kozhikkode and Trivandrum where there is proportionately higher number of govt. to aided colleges compared to other districts, and one aided college each from other 10 districts at random, where there is more number of aided colleges to that of govt. colleges, as shown below.

Table 1.1: District-wise and Management-wise Distribution of Arts and Science Colleges in Kerala 2003-04

Name of Districts	Number of colleges			No. of Selected Colleges		
	Govt.	Aided	Total	Govt.	Aided	Total
Kasaragod	3	2	5	1	0	1
Kannur	2	9	11	0	1	1
Wyanad	2	4	6	1	0	1
Kozhikkode	6	8	14	1	0	1
Malappuram	3	9	12	0	1	1
Palakkad	3	7	10	0	1	1
Thrissur	3	17	20	0	1	1
Ernakulam	4	21	25	0	1	1
Idukki	2	6	8	0	1	1
Kottayam	1	20	21	0	1	1
Allapuzha	0	12	12	0	1	1
Pathanamthitta	0	9	9	0	1	1
Kollam	1	12	13	0	1	1
Trivandrum	8	12	20	1	0	1
Total	38	148	186	4	10	14

Source: T. 1.11, Appendix PP 195

After choosing colleges, a pilot Survey was conducted in Bharat Matha College, Ernakulam with a structured questionnaire, which is selected at random out of 21 Aided colleges in the district. The total intake capacity of the College is 1002 under 10 Graduate Courses and 70 under 3 Post Graduate Courses. Thus, to fix an appropriate sample size from the 13 categories of students, the following formula is used.

$$n = \left(\frac{z\sigma}{d} \right)^2$$

Where, n = Sample size, z = 2.576 at 99 % Confidence interval,

σ = Standard deviation of Sample distribution, d= Standard Error.

By estimating σ and d, for the distribution of students (1072 in 30 batches) in 2003-04, the sample size was fixed as,

$$n = \left(\frac{2.756 \times 38.41}{10.64} \right)^2 = 86.5 \equiv 87$$

Then, questionnaires were distributed to 87 (70 DC- 80.5% & 17 PG- 19.5% or 8 % of the total enrollment) students at random, and all responded promptly.

Later, the sample survey was extended to selected colleges in other districts, after making some modifications to the questionnaire. The respondents were selected at random as shown in Table 1.2. On the whole the survey covered 348 student respondents (2 per cent) out of 17828 students in these colleges. There were 1467 members in the respondents' families. Detailed distribution of respondents, total student intake in respective colleges, number of members in the respondent's families and average family size are given in Table 1.3.

Table 1.2: Proportion of Respondents Selected (Govt./Aided Students)

If Student Intake in College	Per cent of Respondents
Below 250	10
250- 500	5
500-1000	3
Above 1000	1
Ernakulam where Pilot Survey is conducted (exception)	8

Table 1.3: Distribution of Respondents Selected for Sample Survey among Students in Govt. and Aided Sector

College/ District	Total Intake	No. of Resp- ondents	Per Cent	No. of Family Members	Mean Family size
G.C, TVM	676	20	3	87	4.35
G. C, KZH	584	20	3	85	4.25
G. C,WYD	144	15	10	69	4.60
G. C, KSR	350	18	5	90	5.00
Total G.C	1754	73	4	331	4.53
A. C, KLM	2470	24	1	94	3.92
A. C, PTA	2200	22	1	86	3.91
A. C, ALP	3124	29	1	88	3.03
A. C, ERN	1072	87	8	379	4.36
A. C, KTM	1615	20	1	84	4.20
A. C, IDK	187	18	10	77	4.28
A. C, THR	1263	17	1	76	4.47
A. C, PLK	1423	20	1	81	4.05
A. C, MLP	1281	17	1	83	4.88
A. C, KNR	1439	21	1	88	4.19
Total A.C	16074	275	2	1136	4.13
Grand Total	17828	348	2	1467	4.22

Source: College Offices & Handbooks, and Field Survey. GC- Government College and AC- Aided College

(b) Primary information from selected 14 Arts and Science Colleges

To have some idea about the institutional profiles of selected Arts and Science College in the State, information was collected from their offices with the help of interview schedule. In addition to these, information is also collected from their “college calendars and handbooks for 2003-04”.

(c) Survey Among Self – Financing Students in General Education

This survey was conducted to compare the “education–employment –income” background of students in self-financing stream with their counterparts in general education. Similar questionnaire (issued to aided/govt. students) was distributed to students at random in colleges of Ernakulam and Kottayam districts, which are the only two colleges offering unaided degree courses among the selected sample colleges. Only 86 students studying in degree level courses in the Self-financing stream responded promptly. Distribution of respondent’s family members (size) is presented in T. 1.12, Appendix PP 195.

(d) Survey Among Work Seeker Registrants

Since a discussion on labour market is included, the present study will be incomplete without making a primary survey among work seeker registrants. But, the universe of the sample is the total number of registrants, which is nearly 46 lakhs. Due to time and other physical constraints, it is rather difficult to survey an adequate number of registrants from the State. But to fill the gap, Ernakulam Employment Exchange at Kakkanad (out of 81 exchanges spread out in the State) is selected as a special case. The selection can be justified on the ground that, (1) the district holds 3rd position in terms of

registered work seekers and population size; (2) 2nd place with regard to total number of employed persons in the organized sector; (3) top in terms of registered factories, medium and small scale industries, registered small scale industrial units and their employment (Economic Review 2002); (4) it has the highest concentration of informal activities and the percentage of employment in this reached even 73.76 in Kochi city alone (Mitra 1994; Martin 1996). Above all, there are numerous unregistered units working in the city and there is no system of recording of their number, size and employment.

Out of the total registrants in the year 2002, two per cent of them were selected as sample size and to give maximum representation to registrants with different levels of education, respondents were selected at random. The size of respondents from each category is selected proportionately as shown in Table 1.4. The survey is conducted in May - September 2003, contacting each respondent at his or her residence with a structured interview schedule.

Table 1.4: Distribution of Respondents from Work-Seeker Registrants

Below SSLC	With SSLC	HSS/ Equivalent	Degree	P G	Total
28	80	42	32	28	210
13.3 %	38.1 %	20.0 %	15.3 %	13.3 %	100 %

Source: Table T. 1.13, Appendix PP 196

In short, for the fulfillment of the present study the total number persons covered under the three Sample Surveys through 644 respondents were 2020, as shown in table 1.5.

Table 1.5: Total Number of Respondents and Population Coverage

Sl. No.	Source	Number of Respondents/Sample	Total Persons
1	Survey Among A/G Students	348	1467
2	Self-financing Students	86	343
3	Work Seeker Registrants	210	210
Grand Total		644	2020

1.10.4. Tools of analysis

The study employed a series of statistical and econometric tools for data analysis including average, percentage, ratios, index numbers, correlation coefficient and multiple regression analysis, and so on. The study also employed OLS method to compute trend values, and χ^2 , F- test, etc. for hypothesis testing. In addition, it employed an array of charts, graphs and tables for presentation and analysis of data.

1.11. Limitations of the Study

The major challenge of the study is generation of data due to inadequacy or weak secondary data. For instance,

1. Annual population data is absent (which is very important for making a manpower study of this kind) other than the decadal figure.
2. Do not have data on the size of labour force with (or without) different age group (whether employed or unemployed) corresponding to their education qualifications and monthly earnings.

3. Data relating to the number of higher education institutions unrecognized or unaided working in the state, their structure, organization, ownership, source of finance, operation, course content etc. is totally weak.
4. The wide coverage of the issue, *ipso facto* limits the generation of primary data and thus generalization at macro level.
5. Conceptualization is another problem, especially with respect to education costs, benefits, employment, unemployment, educated unemployment, and so on.

1.12. The Scheme of Study

The study is arranged in *Nine Chapters*.

The introductory chapter briefly outlines the significance of human resource planning and education, especially higher education. It also presents the research problem, objectives, hypotheses, theoretical framework and scope of the study, the methodology including sample design, tools of analysis, and the major limitations of the study.

The Second chapter is devoted to give a brief review of literature, which the researcher have immensely utilized in shaping the research problem, the objectives and to develop the thesis in its true spirit.

The Third Chapter gives an account of the investment and institutional or structural framework of higher education in the State with special emphasis on general education.

The Fourth Chapter analyses the strengths of higher education market viz; the demand and the supply and gives a note on quality deterioration.

The Fifth Chapter discusses the conceptual hang-up in educational costs and benefits, and attempts to make an analysis of the costs and benefits of higher education.

The Sixth Chapter analyses the recent policy change in the higher education sector in Kerala in view of the cost or the price, equity and accessibility.

The Seventh Chapter analyses “employment–higher education mismatch; explores the linkages between education market and labour market; examines the extent of unemployment among degree holders; and then tries to evolve a systematic manpower categorization on the basis of education-employment status.

The Eighth Chapter is a discussion on higher education and its association with Income and Employment.

The Final Chapter summarizes the important findings of the Study with a few major suggestions to revamp the higher education sector of the State so as to garner the best out of human resource planning.

CHAPTER 2

A BRIEF REVIEW OF LITERATURE

The literature, on Economics of Education that is central to Economics of Human Resource Development, is vast. Mark Blaug has initially published a bibliography on the subject in 1966 with nearly 800 items. The third edition of the same published in 1978 contained over 2000 entries. The economics of education is a branch of economics and has a much longer history. Several of the classical and neoclassical economists' writings in the 18th and 19th centuries including Adam Smith, John Stuart Mill and Alfred Marshall drew attention to the importance of education as a form of investment and considered the question of how education should be financed. But specialized studies in this area started only after the 1960s.

According to Smith, “a man educated at the expense of much labour and time, which require extraordinary dexterity, and skill may be compared to one of those expensive machines. The work, which he learns will replace to him the whole expense of education.... The difference in the wages of skilled and common labour is founded upon this principle.... The acquisition of such talents through education always costs a real expense which is a capital fixed...”(Smith 1776).

According to Marshall, “the most valuable of all capital that is invested in human beings is education and therefore it must be considered as national investment. The wisdom of expanding public and private funds on education is not to be measured by its direct fruits alone....” (Marshall 1890).

Schultz (1961a; 1961b; 1971) has developed and analyzed the concept of human capital, treating education and training as a form of investment producing future benefits via higher incomes, both for the educated and the

society. He has analyzed the relationship between educational expenditure, income growth and physical capital formation in USA for period 1900–1956 and shown that, "... the resources allocated to education rose about 3.5 times and that the income elasticity of the demand for education was 3.5 times higher relative to consumer income and gross formation of physical capital ..."

Impact of education on occupational choice, employment, earnings, saving and consumption behaviour has been studied in various country contexts for different time periods (Denison 1962; Grillichez and Mason 1972; Blaug 1974; Psacharopoulos 1980, 85, 87, 94; Tilak 1981, 87, 89; Ramesh 1990; Clara 1998). Minor deviations apart, all these studies agree that education influences income of the private individual and the public, quite significantly.

The concept of human capital refers to the fact that human beings invest in them by means of education and training, which raises income throughout their lifetime. In this context Becker (1964; 1975) have developed the theory of human capital formation and analyzed the rate of return on investment in education and training. According to this, education results in differences in productivity ... Other things being equal, the more educated and those who do not suffer from ill health will be able to produce more than their counterparts. Firms pay higher wages to them. Thus education is no longer seen as a consumption good but as a form of investment. Occupations that offer high wages will, other things being equal, encourage people to invest more in educational programmes. ... Homogeneity of labour is no longer assumed and labour demand has come to be interpreted in a set of markets each with a demand for specific productivity determining worker characteristics with education and training being the most important. In response to these, individuals are assumed to compare the cost of acquiring education with expected increase in earnings.

The Economics of Education (Robinson and Vaizey ed. 1966), in seven parts touches upon almost every aspect of economics of education. Part 1, is a discussion on general problems of education viz; consequences of investment in human capital, demand and supply of education, distribution of educational expenditure (Papi); growth of educational expenditure in relation to national aggregates (Edding); education and research in economic growth (Svennilson). Part 2, is devoted for the discussion on education and economic progress, measurement of its contribution in economic growth (Kaser, Eide, Denison, Sarc, Strumilin, Jamin and Nozko). The crux of the discussion in part 3 is the demand and supply of education with a description on quantitative indicators of human resource development (Harbison) and issues related to the absorption of the educated (Rashid). Part 4 gives an exposure to the costing and financing of education (Bowman; Mushkin) and certain criteria for public expenditure on education (Vaizey; Okigbo). Issues related to the need for balancing different forms of education are dealt in part 5 (Andre Page; Suchodolski; Debeauvais; Karl Abraham and Fedorenko). While part 6, reviews the international aid in education and its significance (Phillips; Ripman). And, part 7 is the summary of discussion (Williams). In fact, the book is really worth for further discussion, research and policy formulation.

Blaug (1967; 1968; 1970) has assessed the contribution of education to economic growth and analyzed the efficiency of education system. The central theme was educational planning for which the technique of cost-benefit analysis; cost effectiveness analysis; production function measurements and manpower forecasting are explored in detail. He examined the cost of financing of educational system and summarized the controversy between advocates of 'manpower forecasting approach and cost-benefit approach', stating that the disagreement is fundamentally one about the degree of flexibility in the

economy and the labour market. Similarly, he also argued that, “social demand projections, manpower forecasting and rate of return analysis are reconcilable and in fact complementary techniques of educational planning.”

Coombs and Hallack (1972) after analyzing the educational costs recommended cost analysis as a powerful and necessary tool for modern educational planning and management.

Hans and Martin (1972) has worked out a Cost-Benefit Analysis in Education as a Case Study of Kenya. It concentrates on income effect of education and does provide a framework for an economic evaluation of private and social rates of return to investment in education, future wage/ employment and rates of return per pupil. The study on the whole tries to meet the usual objection in applying a cost–benefit technique to a social product such as education. The study is arranged in six chapters. Following introduction, the 2nd chapter presents the background information on Kenya and its educational system, 3rd and 4th chapters give an in-depth analysis of the data on age-income profile, rates of return, etc. using regression analysis. Chapter 5 indicates the possible uses of rates of return for planning purposes, and sixth gives conclusion on major findings.

Pickford (1975) focusing on universities in UK reviewed the economic aspect of University administration. The main objective was to investigate the potential economies of university. The study, in two parts, contained a detailed analysis of the cost of educational activities: teaching, research and economies of scale. To improve the efficiency in utilization of university resources, the study proposed changes in the existing system of finance.

Many studies have shown that education, occupational status and earnings are positively correlated (Jencks et al, 1979). Studies on the

relationship between these have resulted in two major findings: (1) the main criteria used by employers to recruit new entrants into the occupational structure are level and type of education. And (2) there is a very close correlation between an individual's educational attainments and level of lifetime earnings.

Higher Education, the very top step of the learning ladder sometimes finds itself at the bottom of the hierarchy when considering the priorities in educational spending. Given this setting, the study looks into the socio-economic rationale of higher education provision in developing countries (Psacharopoulos 1980). The document contains eight sections in addition to introduction. Section 2 contains trends in the educational allocation in 1970's around the world; Section 3 spells out the criteria of social choice in education; Sections 4 and 5 analyses the educational cost and document on the cost differences in University faculties; Section 6 deals with quantitative side of higher education benefits; Section 7 brings together the cost and benefits; and Section 8 argues to include certain non-quantitative aspects in the choice between liberal and vocational education.

"Economics of Education" (Psacharopoulos 1987) discusses various aspects. Part 1 deals with the supply side of human capital: how it is formed and its links to population quality. Part 2 is devoted to topics on human capital creation, analytical work on educational production function, school quality and the determinants of cognitive achievements. Part 3 focus on the costs and benefits of education. Part 4 contains the relationship between education and employment holding that economics of education has strong links with labour economics. The value of education is reflected in the earnings of labour with different educational qualifications is the crux of the discussion in Part 5. Part 6 includes the distributional aspects of education. If education affects the level of earnings of its recipients, then it must also affect the distribution of income

in a given society. Part 7 deals with certain controversies in economics of education – screening. Parts 8 and 9 are devoted to discussions pertaining to manpower planning with emphasis on the variety of analytical models.

How “affordable” education in US is the concern in “Projections of College Costs, Affordability and Tuition Dependency” (McPherson and Shapiro 1993). It also examined the possible effects on families and institutions in regard to costs and sources of revenue. The forecasts indicated that if recent trends and current policies remain unchanged: (1) costs of attendance will increase most substantially at privates, and least at public. (2) The net price for aided students will fall in real terms at public schools, but will remain stable among private. (3) The income burden for families of non-aided students will remain stable at public, but will increase considerably at private. The final conclusions arrived at are (1) economy plays a dominant role in determining the future affordability of higher education. (2) Rate of growth in costs has a much larger effect on future affordability than does the growth rate of institution-based aid; therefore, institutions need to stop the current trend of high growth rates of costs. (3) Continued strong economy seems unlikely that institutions need to concentrate on controlling costs.

From 1972 to 1987, among American colleges and universities, business enrollments soared (Easterlin 1993). The main point of the analysis is that, while prices have influenced the switch to business careers, the dominant force behind are plausible economic causes coupled with abilities and interests of students. For most college students, choices of major is geared to a career objective and most already have a career in mind on entering college. In addition a progressive worsening of inflation and unemployment created increased concern about their financial situation and choice.

By reviewing available studies, the authors (Dennis, et.al, 1994), assess the state of the art in model-based enrollment prediction for U.S. higher education. To them, existing studies have tended to concentrate more on determining variables that are statistically significantly related to college enrollment than in constructing models that forecast enrollment well. Initial section discusses structural econometric models of enrollment while sections 2 deals with econometric forecasting models, 3 considers the basic methodological differences between these approaches, 4 compares the forecasting performance of several different enrollment models and 5 conclusions. The study shows that though there are serious measurement problems, family income (positive), parents' educational attainment (positive), tuition levels (negative), student aid levels (positive), and student's academic aptitude (positive), rate of return (positive) consistently turn up as having statistically significant effects on enrollment, across a wide range of studies.

McPherson (1994) using data from the American Freshman Survey addresses "choice" and "access" issues in higher education and tries to determine how family income has affected the choice of institution. They find that students from middle-income backgrounds have been most affected by increases in tuition fees. Students from lower income backgrounds qualify for need-based financial aid, lessening the chance of affordability problem. Those from upper income backgrounds receive a different but analogous form of financial aid – parental contributions. When tuitions rise faster than other economic indicators, students from middle-income – too rich for financial aid but too poor to afford tuitions – backgrounds force to switch over to less costly educational alternatives. They also found that only 18.3 per cent of L-I-S attended private colleges and universities, a figure that rises to 23.4 per cent

for M-I-S, and to 42.5 per cent for H-I-S and concluded that the probability of student enrollment depends critically on parent's income.

Linking the labour market with appropriate demand and supply factors can smooth and in harmony only if the nature, type, quality and quantity of demand are matched with the supply of that kind of labour. (Warrender 1996) In most of the developing countries, a wide range of disparity exists between the demand for and supply of labour due to the fact that (1) the training providers (educators) do not deliver the skills required by the industry / economy (employment) and (2) the industry / economy is not aware of how should it effectively use its available labour supply. Unemployment and underemployment in a country is wastage of its human resources. The book examined the former factor as responsible for the disparity in the labour market. It attempts to find out how the labour market signals and indicators can be used to identify the needs via the Technical and Vocational Education and Training. In other words, it attempts to analyze; (a) are labour market signals and indicators now being used in the place of traditional manpower planning techniques? (b) Is there infrastructure to collect and make use of such signals and indicators? And (c) how might developing countries make more effective uses of such indicators in planning and refining TVET? Further, it attempts to identify the multiple uses and users and to extend its analysis to the informal sector as well. The book stands to be a real addition to labour market literature.

“Subsidies, Costs, Tuition, and Aid in US Higher Education” (Lewis and Winston 1997) addressed the following. The ability to give subsidies is recognized as a central determinant of an educational institution’s economic circumstances and strategy. Subsidy resources allow a school to sell its educational services at a net price below the costs of production, making prices always less than cost. The study observed (a) the prices that students

paid changed between institutions, and in turn influenced enrollment choices. (b) Subsidies are big, both in dollar terms and as a share of the typical student's total educational costs. (c) Private colleges and universities, on average, give subsidies that are virtually the same size as those of public colleges and universities. But an important difference is that, public sector pays for relatively inexpensive education – the average public institutions sold \$ 8760 worth education at \$ 921 while private sector sold \$ 12669 worth education at \$ 5424. (d) Subsidies are much skewed in their distribution among institutions. (e) Subsidies affect the economic structure of higher education – poor school cannot offer high quality education at low price. (e) The sticker price serves only to divide given amount of subsidy – higher sticker price means more of the subsidy is distributed as individual financial aid and less as general aid. (The general subsidy is what given to all students at a school, regardless of their individual characteristics. It is the subsidy the “full-pay student” gets) (f) Most schools in the public sector reducing subsidy resources by cutting educational spending and raising net tuition. In contrast, average subsidies at private sector shown rising. Finally, the study concluded by stating that, “Sticker prices are rising, States have been cutting support to public higher education”.

Gordon (1997) opines that, although Colleges and universities sell goods and services (education) for a price (tuition fee), make those goods and services with purchased inputs and hired workers (professors, staff), use a lot of plant and equipment (classrooms and labs and parks and computers) and they compete hard for customers and for faculty inputs, it isn't like a firm. According to him, there are half a dozen economic characteristics that differentiate colleges and universities fundamentally and economically from for-profit business firms: (1) “Non-distribution constraint.” Non-profit firms can make profits, but they

can't distribute it to their owners, and, indeed, they don't have any owners. (2) Asymmetric information – where customers don't really know what they're buying and these are “trust markets.” - the outcome from educational investment can't be known for 20 – 30 years, besides, it is a once-in-a-lifetime decision that can't be corrected next time around. (3) There is reduced pressure on management to operate efficiently – since they are motivated by different and typically more idealistic goals than that of normal business firms. (4) Revenue sources – Donative non-profits rely for revenues on charitable donations while Commercial nonprofits (hospitals, medical insurance and nursing homes) sell product for a price. Colleges and universities are a mix – “Donative Commercial Non-profits”. Part of their income comes from sales revenues - tuition and fees - and part of it from charitable contributions, endowment income, gifts and government appropriations (grant). Thus donative-commercial non-profits don't have to charge a price that covers their production costs. To the extent they've got donative revenues, they can give their customers a subsidy. (5) The way it's produced - often made by a strange technology, say “customer-input technology.” Colleges and universities can buy one important input from their own customers – students help educate students, known as “peer effects”. (6) “Heterogeneity.” Colleges differ very much – quality, ambience, price, subsidy, etc.

“Financing Undergraduate Education” (McPherson & Schapiro 1997) deals with pricing, aid, access and choice in American higher education. They found (1) Governments, both federal and state, have been decreasing the share since mid-1980. These have put pressure on families of moderate means. (2) Higher net costs of college are restricting the college options of lower income students - the only financially viable option for many students from lower-income families is to live at home and attend the local community college.

Thus the study concludes that, the real increases in net tuition have impaired access and choice principally for students from low-income families and argue that the nation needs a higher education program that provides more assistance to the students for whom the issue of college affordability is the most pressing.

In the context of thinking about the difficult issue of pricing and the way students think about the amount they pay, and what students get for their money, a similar study (Goethals 1997) suggests that students tend to think that colleges charge too much. However, students revise those initial judgments when they've thought a little more about what they're getting for what they're paying. The study however shows that students clearly think about the reasonableness of what they pay in terms of what they get. But that is not the only consideration. Even if they feel that they get a great deal, and what they get is fairly priced, they also feel that they or their families simply cannot afford their education, then they believe that the price is too much.

Elcharen's (1997) Market Approach to Education is in three parts. Part I deals with the theory and practice of choice in education; in Part II, are private schools superior to public schools? And Part III contains empirical studies of schools choice and vouchers. In a competitive market there is freedom to choose – Parents should have the freedom to choose schools for their children. And that, govt. controls result in monopoly and inefficiency; on the contrary private schools make their own decisions, and since private sector is subjected to market forces, strong leadership is built. Thus market approach to education is expected to raise the productivity and relevance of schools. However, the author concludes that, still purely on theoretical ground it is not possible to say which is correct, market approach or regulated one.

A Guide to Measuring College Costs (Gordon 1998) reviews the major conceptual and practical problems in estimating the cost of education. The three major areas discussed are: cost of physical capital (the cost of using land, buildings, and equipment); student financial aid (price discount); and how to separating out costs in a “multi-product” (UG, PG and other courses) university. According to him, “It’s surprisingly complicated conceptually, to compute these costs. Part A deals with a discussion on Current operating costs and suggest three modifications – (1) some entries need to be subtracted off either because they’re irrelevant (Life income payments) or are to be replaced by other variables (Depreciation, Interest, etc), (2) Scholarships and fellowships: If a school uses financial aid grants to increase student demand and fill seats, they’re clearly a price discount and should be eliminated from costs. (3) Costs of operation and maintenance of plant - renovation and repair, should be subtracted. Part B deals on the issues of tackling the estimation of capital service costs (The Cost of Using Physical Capital). Part C discusses cost allocation in a multi-product university. Parts D and E touches on calculation of student aid.

A similar study (Gordon, Carbone and Lewis 1998) identifies the major trends that in US higher education from 1986-7 to 1994-5. It deals with the issues like sticker prices, enrollment, financial aid, subsidies, production costs, etc. The study observed that: (1) Privatization swept the public sector though enrollments grew sharply. (2) The private sector was characterized by increasing competition. (3) New enrollments, subsidies, and educational spending were very unevenly distributed over schools in the private sector. (4) The price of a dollar’s education at private university rose by 18 per cent. Finally, different schools lived in different worlds. Those in the public sector were, starved by a tax revolt and inundated by increased enrollments that forced

increased privatization – i.e., the shift of financial responsibility from society to student. While Schools in the private sector suffered less from withdrawal of donor support and were better able to increase educational expenditures using proportionately smaller tuition increases, permitting price competition. The crucial facts that come from these are: (a) For a business firm, price is always greater than production costs and any difference is profits. So $\text{Price} = \text{Costs} + \text{Profits}$ (b) For a college, price is always less than production costs and any difference is student subsidy. So $\text{Price} + \text{Subsidy} = \text{Cost}$. (c) Colleges are non-profit firms. And that leads relentlessly to questions about increased waste, abuse, and corruption – rising administrative bloat, more indulged and less productive faculty, excessively elaborate buildings and equipment, etc.

“For-Profit Higher Education” (Gordon 1998) deals on the issue of “privatization” and “the market.” Who’s vulnerable to this competition and why? New information technologies and the organizational efficiencies of privatization can lower the cost of producing higher education - offering students a better deal and still make profit, Or produce an education that students deem more appropriate. So, costs and prices will be lower or the education will be better, or both. Economically, it looks like a classic case of market entry – $\text{Price} - \text{average cost} = \text{unit profit}$. But in higher education, there’s a serious hitch in that familiar scenario: (1) Price is always less than cost. (2) The difference is made up of “donative resources”. (3) So each student -customer - gets a subsidy ($\text{subsidy} = \text{cost} - \text{net price}$). (4) Higher education is a sharply hierarchical industry in which cost, price, and subsidies vary dramatically among schools. Whether a school is vulnerable depends crucially on what kind of education it impart and how efficiently it does so.

The relevance of knowledge and learning in the process of economic development has been analyzed from two perspectives. On the one side,

human competence and the other, the production, distribution and use of knowledge (Aldo 1999). Discussing on economics of knowledge production, the book is arranged in four parts, allows one to evaluate the consequences of the new approach to university behaviour and funding.

In India, as in the rest of the world, considerable amount of research has done on the economic problems of education including higher education, since 1960. A brief review of some of them is presented below.

Panchamukhi (1965) computed resource costs as well as opportunity costs of education while estimating the total cost of education in India for the period 1950-51 to 1959-60. According to him, the total cost of education constituted 6.2 per cent of the GNP in 1959-60.

Kothari (1966) has done a similar study for periods 1950-51, 1955-56 and 1959-60. He estimated private costs and institutional cost of education and then calculated opportunity cost for male, female, urban and rural people, separately. In his estimate, the foregone earnings constituted the huge part of the total cost of education. The study finally has shown that the total cost of education was 5 to 6.5 per cent of National Income in 1960-61.

Pandit (1972) has computed the social and private cost of education and has shown that the share of direct cost (tuition and non-tuition) in the total private cost had declined while the share of opportunity cost (income foregone) had risen over the period. Regarding the institutional cost, the study observed that the current cost per student had risen while the capital cost remained constant during the period.

Based on the cost at the degree and postgraduate levels in the University of Pune for the year 1964-65, Kamat found that the unit cost for

degree course in commerce, arts and science were about Rs. 1200, 1500, and 1800, respectively (Kamat 1973)/ Annual unit cost of post graduation in the University department was 4 to 5 times higher than that of graduation in the colleges. In fact, the study is worth as it gives a detailed analysis of the unit recurring cost of higher education by levels and types of education.

Mathur (1974) analyzed the cost of education in India for period 1951-61. The important objectives of the study were (a) to analyze the growth and variation in expenditure with respect to objects, institutions, states, sources and management, (b) to analyze the pattern of expenditure, and (c) to account the relative performance of different States in education. The study has shown that the total expenditure increased by 201 per cent while per pupil expenditure rose by 162 per cent during the period. It also revealed that the relative contributions of fees to total expenditure on education were declining. Wide inter-state variations in respect of the rate of growth of expenditure were also noticed.

Later, Panchamukhi (1975) examined whether (a) the expenditure budget for higher education in India including its allocation was optimal and (b) whether it met adequate democratization and equity. It is observed that, the contributions from fees and private charities are on the decline while that of the State agencies is on the increase. To him, the role of government in financing of higher education should be limited to the minimum, i.e., to the extent of helping the under privileged class by scholarships and other facilities and that the fee rates should be fairly high to cover the full cost of higher education.

In spite of the phenomenal growth in the number of Universities from only 3 in 1857 to more than 230 with 8500 affiliated colleges, certain important aspects of Indian Higher Education like the micro economics of higher education, nature of cost curves, etc. have not received due attention (Swamiraj

1977). Consisting of 12 essays in four parts, author touches the topics relating to 3rd world higher education, higher education in India, Christian educational endeavor in India and the future scenario. It also takes us to the consideration of the methodology for analyzing comparative education, developmental education and international education. While comparative education concentrates on more of the static part, development education is concerned with the dynamics of change. International education has the perspective of promoting international understanding and co- operation, as the author rightly claimed.

The important objectives of the study (Hommedi 1984) were: (1) To give a better picture of educational administration in the 3rd world countries; (2) To study and analyze the nature of university administration; (3) To study the role of administration, professors, government, students, society and community in educational administration; (4) To frame effective rules for better administration of universities; and (5) To set novel educational practices in universities. Study pointed out many drawbacks of University administration in developing countries, especially in Indian Universities.

‘Economics of Education’ (Heggade 1992) covers almost all aspects of the Indian education system. It is an in-depth study and analysis and deals with inter-relations between education and economic development; different approaches to educational planning like social demand, rate of return and manpower balancing; and brings out its relevance to India. The study also attempts an international comparison about planning and financing of education and examines the trend and pattern of growth of Indian education during 1951-1990. Further, it also gives a detailed account of the weaknesses of Indian education system and examines the objectives and features of New Education Policy 1986.

Essays on Economics of Human Resources (Shah 1996) is a collection of papers discussing the relationship between human capital and economic growth; the problem of finance to that of education earnings; linkages and employment opportunities; etc. While examining the basic propositions made by Schultz in the light of Indian experience, the author suggests that the State's role in financing higher educational access of the weaker sections is important. And draws attention to the need for more public resource allocation to education, the inclusion of work culture, the equity considerations and educational developments, especially in countries like India.

In economics of education, education is considered as 'merit good' which needs to be subsidized by the public sector as it provides both private and social returns. But, to what extent this should be done? This is still a moot point. The author (Akhilesh 1997) picks up this thread of debate; provides historical background of education from the standpoint of availability with special reference to finance, policy issues of recognition, affiliation, policy of funding, commercialization, constitutional provisions under articles 21, 19 10(a) and 41, 45 etc. According to him, once education becomes a commodity of sale and purchase, the values, ideals and culture of a nation gradually degenerate. The author has taken the riddles from policy to law and finally ends with justice in the field of education. Although the theme of the work is contemporary, it leaves behind many questions, problems and areas, which require serious research in the years to come.

Tilak (2004) reviews some of the well-known argument for and against public subsidies in education sector. It accounts the recent trends in public expenditure on education in India and the available estimates on the rates of subsidy and cost recovery. It has been shown that the level of subsidies in education in India is not particularly high, nor is the rate of cost recovery

particularly low, in comparison with other developed and developing countries. It has also shown that, some of the specific subsidies like the free education, mid-day meal, etc. are fairly progressively distributed.

Studies on economics of higher education and human resource planning are quite scanty in Kerala, except a few to count on fingertips. Some of the available studies in Kerala context pertaining to the topic of the present research are briefly reviewed below.

Pillai and Nair (1962) studied the history and problems of educational finance in Kerala and pointed out that (a) cost of education was excessive in relation to the total revenue of the State, (b) the share of the State finance in the private schools is rising, (c) per student cost to the government is burgeoning. Finally, it has suggested some ways for reducing expenditure on education and finding additional resources to meet rising demand for education. Although it is an earlier attempt in this core area, the study focused only on primary and secondary education in the State.

Nair's (1981) study on the inter-relationships of school education, demographic variables, employment and emigration with special reference to Kerala, aimed to (a) identify the socio-economic compulsions underlying the progress of education in Kerala; (b) compare the structural aspects of educational systems with that of other states; (c) investigate the influence of educational development on demographic and socio-economic changes; and (d) develop a method for estimating the effective cost of education at the elementary stage. The study is based on the observation that, (a) favorable socio-economic environment is responsible for large scale education development in the state; (b) although educational opportunities are not evenly

distributed, inequalities is lower compared to other states; and (c) the extent of wastage and stagnation are lower than other States.

Ramachandran (1987) analyzed the problems of higher education in India with special reference to Kerala, for the period 1957-75. The objectives of the study were to (a) identify the vital problems in enrollment, expenditure, financing and planning; (b) assess the total cost of higher education; and (c) Compare the total cost of higher education by component and sources. The study revealed that (a) there is sporadic growth in enrollment, number of institutions, expenditure, etc. over the period; (b) expenditure growth was higher than the enrollment and institutions; (c) the bulk of the government expenditure was spent on the development and maintenance of Arts and Science Colleges in the State; and (d) salary constitute the largest share in the total cost of education.

On investigating into the problems of higher education such as (1) unplanned and rapid growth, (2) financing, and (3) cost and returns, (1988; Bhaskaran Nair 1989) laid down the following objectives. (a) Examine the financial resource position of Calicut University; (b) to analyze the growth and changing pattern of expenditure; (c) to estimate the unit cost of university education; and (d) to compute the rate of return (private and social) on investment in university education. The important findings are, (1) grants from the State govt. occupy the major share in university revenue (94.41 per cent in 1968-69; 48.8 per cent in 1984-85); (2) next to it, UGC grant formed important source with 3.51 and 5.17 per cent during the period; (3) receipts from internal source was only 0.67 and 10.88 per cent; (4) whereas the receipts from internal source indicated a steady growth, external contribution exhibited wide fluctuations; (5) whereas the receipts increased annually at a compound growth rate of 15.99 per cent, the growth rate of expenditure was 17.18 per

cent during the period; and (6) internal rate of return of university education is positive. On the whole the study gives a useful insight into the analysis of the specific problems confronting higher education sector viz, cost, return, subsidy, grant, etc.

Prakash (1988, 1989) has done detailed analysis on problems, causes and consequences of educated unemployment in Kerala. According to him, nearly 65 per cent of the total unemployed persons belonged to the age group of 15 and 25 and concluded that, “unemployment among youth is chronic compared to older people”. One major drawback of the study is that the author simply reproduced the data provided by the NSSO, DES Survey, Census and Employment Exchange, without considering the definitional problems pertaining to the concept of educated unemployment. These definitions require reasonable modification in view of the changed labour and employment scenario in the State, as in the rest of the world. Using the NSSO, DES and Census definitions Alphonsa (1994) have shown that the highest proportion of educated unemployment is among professionally and technically educated persons.

Similar studies have shown that (Eapen 1992; Mukherjee & Isaac 1991) 40 to 60 per cent of SSLC Pass outs every year register their names immediately in the Employment Exchanges to improve their seniority. But they will be invariably pursuing higher studies. Thus the study has opened up the discussion on whether all those registered in the employment exchanges are real work seekers? And if not, there is need for systematic modification of the concept of educated unemployment.

Mathew (1991) has done a detailed examination of the sources and uses of funds for private colleges in Kerala for the period 1972-86. The analysis was based on a sample survey among 25 (now it is 186) Arts and

Science colleges. The study observed that (a) among the institutional finance, grants from the government constituted 90 per cent and of which major share was for payment of salary; (b) of the non-intuitional finance, donations are the most important; and (c) the practice of accepting or not accepting donations for appointment and admissions does not lower or raise the quality of education. Finally the study calls for strengthening of the finances in the private sector in the face of mounting resource crunch of the government.

Thomas (1994) has presented his book in 7 chapters. The first three chapters give detailed outlines of the economic structure, pattern of employment growth and educational development in Kerala. Fourth chapter discuss the magnitude/ nature of educated unemployment in the State. An analysis of the vicious circle of educated unemployment and private demand for education within the framework of job competition hypothesis is dealt in chapter five. The sixth chapter is devoted to divulge the determinants of earnings – family background and education. Last chapter summarizes the study. The study observed the following: (1) Regarding the pattern of development there is (a) high incidence of unemployment among the educated and (b) large scale migration from all categories of labour force. (2) Distribution of educational opportunities shows a tilt in favour of forward caste/ high income groups; (3) trends in higher education has shown that the system is in a drift in terms of quantity and quality; (4) retarded growth in employment opportunities coupled with high rate of turnover of the educated had resulted in massive increase in educated unemployment in the state; (5) incidence of unemployment and job search period varies inversely with levels of education implying that job accessibility is positively related to levels of education; (6) when recruitment are based on credentials, education becomes a positional good and acquisition of which serves as an insurance against the

risk of bumping down; (7) the observed positive relationship between education and earnings, 'a derivative of job accessibility paradigm' is perhaps the most convincing explanation for private demand for education; (8) white collar aspirations shaped educational aspirations as well; (9) years of education and performance in education or both exerted significant influence in achieving intra-generational mobility and equality. In fact, the study analyses the socio-economic and educational interrelationships in Kerala for period prior to 1980. Now the scenario has almost changed especially after 80's in connection with globalization and liberalization.

Mathew (1995, 1997) after analyzing the causes and consequences of educated unemployment in Kerala observed that, (1) opening of too many Arts and Science colleges is the most important cause of educated unemployment in the State; (2) the three decades from 1960- 61 to 1990- 91, while enrollment at primary stage increase by 49.8 per cent only, enrollment at secondary stage rose by 352.9 per cent and at University stage by a hefty increase of 836.8 per cent; (3) positive correlation between increase in enrollment in higher education with low fees and heavy subsidization exist; etc. In fact, the study has over estimated the enrollment in higher education with that of elementary and secondary stage, and ascertaining positive correlation between enrollment and subsidization seems quite hypothetical.

The introductory chapter followed by a brief review of literature on educational cost analysis by Salim (1997) is focusing only on the cost side of higher education in Kerala. Third chapter narrates the concepts and methods of education cost, while fourth and fifth chapters analyse the institutional cost of higher education. Sixth chapter gives a discussion on private cost of higher education where the demand function is constructed taking cost as proxy for demand variable. Chapter 7 deals with ever-debatable issue, i.e., social cost

and role of subsidies, and the last chapter gives the summary. The study observed that, (1) there is an unprecedented growth of higher education in the state and that has led to ever-increasing resource drain from the public and private funds; (2) it is hard for the resource crunch Kerala to allocate more to higher education, (3) capital cost per student in Engineering education was more than two and a half times to that of general education; (4) despite rapid rise in enrollment during 1976–90, the annual unit recurring cost in both streams of education had declined only marginally; (5) salary remained the major component in pushing up the recurring cost; (6) the burden of govt. for educating a degree student is less than that of a PG student; (7) total private cost of engineering education was higher than the general education, of which an average 55 per cent were on ‘incidental cost’; (8) higher education facilities are mostly appropriated by high income group; (9) major factor influencing higher education is household income; (10) government spent more to educate an engineering student ($4/5^{\text{th}}$ share) than general category student ($1/2$ share); (11) under the present system of subsidy all students are treated equally, regardless of his/her capacity to pay. Though the study is an earlier attempt in this direction in Kerala, most of the conclusions might have been drawn without taking care of the benefits of higher education (both social and private). Many of the observations themselves will explain the reasons for that. Hence, the conclusions seem hypothetical or peril. Any recommendation to cost reduction must be done after investigating into the benefit side and demand side, even if one gives up the ideology or ethics or philanthropy or social responsibility, etc.

Kannan (1998) examined the role of labour unions, State, and capital, and observed that distributive issues have been so central to economic development in Kerala. The State has less degree of freedom, as it is critically dependent on Central Government for finance. Organized labour, because of

its political clout seen to exercise a hegemonic role and much of the energy of the state was directed at mediating disputes. Thus the three dilemmas in linking social development with economic growth in the 1960's and 70's are (1) "Halting technological changes due to the excessive pressure of labour unions; technological halt opted by State Govt.; and option of employers to migrate outside Kerala. (2) Demographic transition has resulted in a mismatch between labour supply and demand. (3) Despite the emergence of Kerala as an investment friendly place and decline in labour problems, the State has failed to attract new investment. Finally he opined that, without resolving these dilemmas, the problem of low per capita income and persistent high unemployment would continue. Though the study came up in 1998, the data and the economic context was of the 60's and the 70's. The term capital was used as a corollary of Marxian ideology. This is too narrow to explain the term capital for development. Volume of labour was identified taking into account only the population growth without making any scientific calculation of educated, professional, skilled, unskilled, able to and willing to work, etc. Despite these, the study is remarkable as it provides an understanding on socio- economic relations of the State.

The Ashok Mitra Committee Report (1999) reads, "the higher education system in Kerala has extensive reach with around 10 per cent of those who enter primary school enrolling for degree course of various kinds. Besides, a number of students appear as private candidates. On a rough estimate, the total number of students entering the higher education every year is around 100000, which accounts for about 15 per cent of the relevant age group". Contradicting this, Tilak has shown that in Kerala the enrollments hardly form 3.7 per cent of the relevant age group of population. Apart from the controversy, the real question is whether higher education is at higher scale with less than 15 per cent enrollment in the state.

Tilak (2001) has attempted to find out the relationship between higher education and development in Kerala using three variables viz; (a) percentage of population with higher education; (b) poverty; and (c) SDP/P for different years, and concludes that higher education is positively correlated to economic growth and inversely to poverty. Based on the data supplied by Employment Exchanges the study argues that educated unemployment is a serious problem in Kerala and higher education is viewed as the main source. The study also observed that, “over supply of arts and science graduates, heavy subsidization of education, preference for white-collar jobs, preference for public sector jobs, etc. are the most important factors for growth in educated unemployment”.

In fact, studies on several aspects of economics of education in Kerala and to that extent economics of HRD in the State are quite scanty. For instance, despite there being high literacy rate Kerala has the highest rate of unemployment in the Country and it is too much among educated persons. Since education market and labour market has a close link, imbalance in one will affect the other. How to ensure maximum benefit in a resource crunch State where most of its educational provision is on subsidized basis? It is criticized that the cost of education in Self-financing colleges for poor will be unaffordable. In short, certain issues coming up in this context are: Is there any mismatch between the demand for and the supply of higher education? What is the position of them in terms of costs and benefits? Is the cost of education incurred is unaffordable to Govt? Does the Govt. take any positive step for solving this or does aggravate by reducing social costs involved in it? The studies conducted in this area so far have not looked into these problems rigorously. The present study is an attempt to look into these important areas for suggesting the need for improving the higher education sector.

CHAPTER 3

INVESTMENT AND INSTITUTIONAL STRUCTURE OF HIGHER EDUCATION

Higher Education in the State is financed mainly through three sources viz: Central and State Governments, Private Sector (donations or direct investment) and student's fees. Of which the major source of fund is Central and State governments. As such there is much controversy in the media viz., whether government finance is high or low, Govt. should withdraw or continue funding? How to mobilize adequate funds to meet growing demand for higher education? And, so on. The present chapter looks on public financing and the institutional structure of higher education, especially general education in the State to see whether the supply conditions are adequate to meet the growing demand.

3.1 Investment or Financing in Higher Education

Some argues that, "among the institutional source, State govt. grants constituted 90 per cent, and amidst mounting resource crunch of the State govt., private sector needs to be strengthened in financing higher education. According to them, the unprecedented growth of educational institutions and enrollment in Kerala has resulted in steep rise of expenditure. And consequently, an ever-increasing resource drain from the public exchequer on education particularly higher education has already become a problem to the govt (*Ramachandran 1987; Mathew 1991; Salim 1997*).

On the opposite, some others show that, "while higher education in India has grown multifold in size, investment by the government has remained

stagnant on per capita, per student and institution. Even in the State of Kerala the situation is similar. Kerala is spending only 4.6 per cent of its SDP on education. The share for higher education is stagnant and this sector is in the grip of financial crisis. The government expenditure on higher education was only 18.68 per cent of total expenditure on education in 1993-94, which came down to 14.6 in 1997-98. As the benefits of education touch the life of everyone in the society either directly or indirectly, the State cannot and should not keep itself away from the responsibility of financing (*Raman Pillai 2000*). In the case of per pupil expenditure at higher education level too, it was only Rs. 255 in 1970-71 in Kerala against Rs. 290 at national level. Only Bihar had the lowest in the Country than Kerala with Rs. 249. Similar study has shown that, lack of capital investments is one of the major reasons for the quality deterioration in the higher education (*George 1999*). Obviously, the plan and non-plan expenditure on education in Kerala together accounted merely Rs. 1791 crores during 1997-98, which as a proportion to SDP stood at 4.71 per cent. In order to achieve 6 per cent of SDP (as Kothari Commission recommended), the expenditure on education would have to be Rs. 2280 crores, assuming the rate of growth of SDP around Rs.83315 crores in 2002-03 (*Harichandran 2000*).

Whatever the arguments for and against govt. financing in education, the figures in unmistakable language expose that in 1996-97 the total expenditure on education was only Rs. 1617 crores. Of which the primary education and Secondary education had received 47 per cent and 31.5 per cent, respectively. While, University and higher education got only 16 per cent and technical education, a mere 5 per cent. The situation has not changed even in the decade beginning 2000. For instance, the corresponding figures in 2002-03 was Rs. 2550 crores. Of which, the share of primary, secondary, higher

secondary, university and higher education, and technical education was 40.8 per cent, 25 per cent, 12 per cent, 15 per cent and 5.7 per cent, respectively. In other words, expenditure on education was only 3.9 per cent of SDP in 1997-98 and slightly increased to 4.1 per cent in 2000-01. But declined to 3.3 per cent in 2001-02 and again to 3.04 per cent in 2002-03, of which university and higher education got only 14.94 per cent, as shown in table 3.1.

Table 3.1: Distribution of Public Expenditure on Education 1993-2003

(Amount in Percent)

Period	Primary	Secondary	HSS/ VHS	U & H. E	T. Ed.	Others	Total
1993-94	46.12	29.48	Nil	18.68	5.15	0.56	100
1994-95	8.86	53.87	Nil	28.18	8.24	0.86	100
1995-96	47.27	31.61	Nil	15.90	4.80	0.42	100
1996-97	46.59	31.58	Nil	16.49	4.83	0.51	100
1997-98	46.83	31.04	Nil	16.41	5.20	0.56	100
1998-99	46.89	31.31	Nil	16.09	4.91	0.29	100
1999-00	48.47	33.44	Nil	13.24	4.29	0.56	100
2000-01	46.11	30.21	2.99	14.97	4.64	1.09	100
2001-02	42.85	27.79	3.27	20.08	5.19	0.82	100
2002-03	40.79	24.92	11.80	14.98	5.69	1.61	100

Source: Economic Review (2003), SPB, TVM, PP 281. Also, See T.1.7, Appx. PP 193

It should be noted that the amount allocated for university and higher education have declined over the period as shown in the graph 3.1 below.

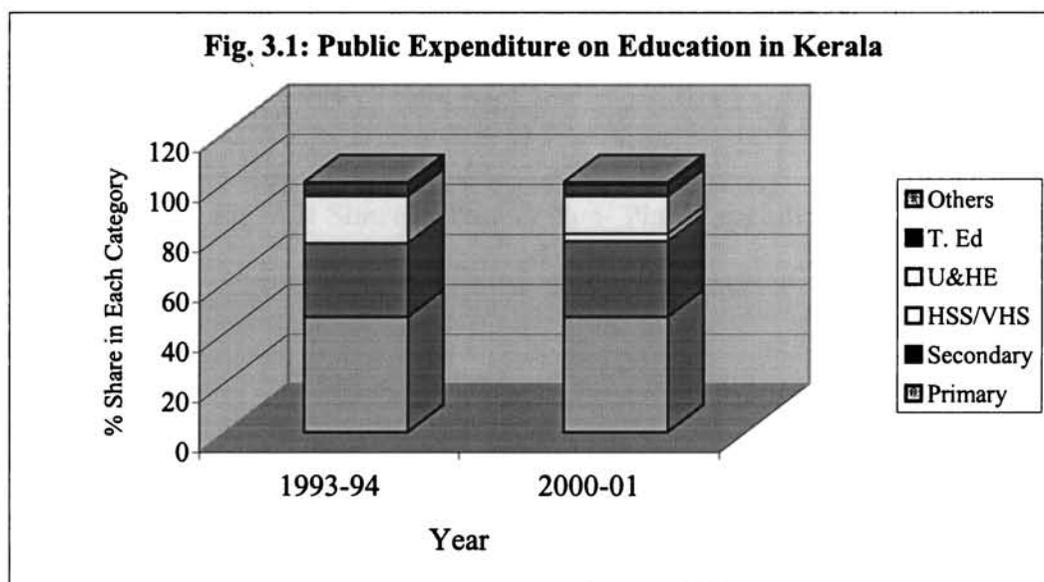


Table 3.2: Distribution of Plan & Non-Plan Expenditure in Education

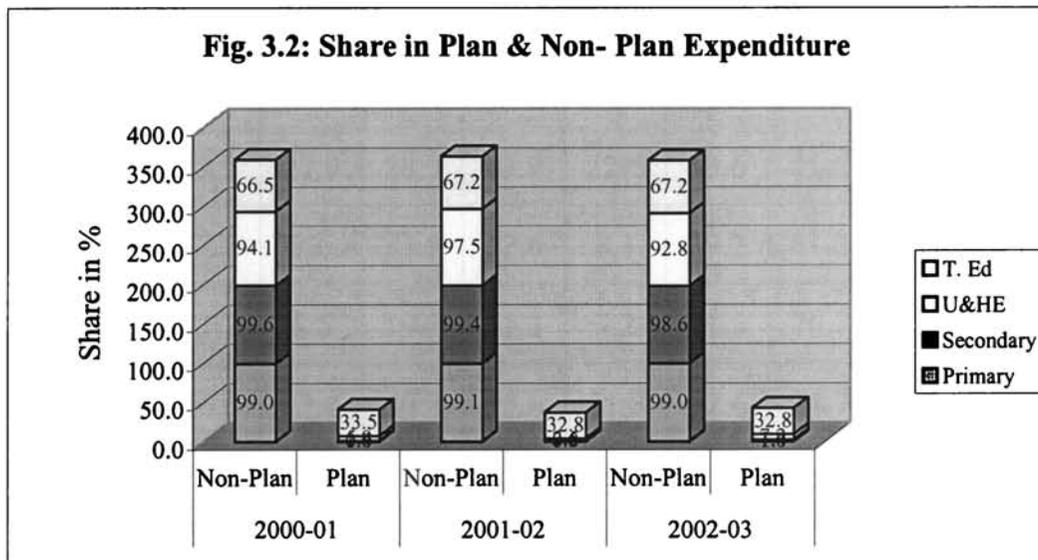
(Amount in Percent)

Education Stage	2000-01		2001-02		2002-03	
	Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan
Primary	0.93	99.07	0.87	99.13	0.98	99.02
Secondary	0.45	99.55	0.63	99.37	1.42	98.58
Uty. & H.E.	5.90	94.10	2.48	97.52	7.21	92.79
Tech. Edn.	33.50	66.50	32.83	67.17	32.80	67.20
H. Secondary	NA	NA	NA	NA	3.00	97.00

Source: Compiled from Economic Review, (2003), SPB, TVM, PP 281

Again, of the total public expenditure, non-plan expenditure used to receive largest share amounting to 94 per cent in 2000–01 and that has even gone up to 98 per cent in 2001–02 and slightly declined to 93 per cent in university and higher education, like other stages of education in the State as shown in table 3.2 and fig. 3.2, which act as serious impediments for further

expansion of higher education both in terms of quality and quantity of infrastructure and student intake.



Similarly, an analysis of the expenditure components of the Universities in the State reveals that, staff salary and expenses for the conduct of examination are the major source of drain of funds. For instance, these items together constituted 72 per cent during 2000-01, 68 per cent in 2001-02 and 66 per cent in 2002-03, as shown in table 3.3.

Often, it is alleged¹⁸ that, increasing gap between receipts and expenditure of the universities is mainly due to fall in internal receipts. But it could be seen from the records that internal receipts of the universities was, though marginally, on the increase, say 116.8 per cent point between 2000 and 2003. But, the provision for non-plan expenditure increased by 117.2 per cent point in the corresponding period, as shown in table 3.4.

Table 3.3: University-wise Details of Expenditure 2000-03

(Amount in PerCent)

Name of University	2000-01			2001-02			2002-03		
	Staff	Exam	Others	Staff	Exam	Others	Staff	Exam	Others
Kerala Uty.	43.2	27.9	28.9	43.9	22.6	33.6	41.8	22.7	35.5
Calicut Uty.	57.5	8.6	33.9	52.6	8.1	39.2	51.2	10.0	38.9
M G Uty.	71.7	8.5	19.7	71.3	7.2	21.5	76.7	8.9	14.4
Kannur Uty.	56.6	12.6	30.8	55.6	11.8	32.6	34.7	6.3	59.0
Total	55.9	16.0	28.2	54.6	13.3	32.1	52.0	14.1	33.9

Source: Economic Review, (2003), SPB, TVM, PP 276

Table 3.4: Growth of Receipts (University-wise) 2000-03

(Base* 2000=100)

Name of University	Internal Receipt			Non-Plan Receipt		
	2000-01	2001-02	2002-03	2000-01	2001-02	2002-03
Kerala Uty.	100	110.4	109.1	100	110.2	116.8
Calicut Uty.	100	110.0	115.5	100	110.0	116.6
M G Uty.	100	101.2	107.0	100	112.6	119.4
Kannur Uty.	100	199.7	298.3	NA	NA	NA
Total	100	111.0	116.7	100	110.6	117.2

Source: Economic Review, (2003), SPB, TVM, PP 276. *Prior to 2000 Pre-degree was included in University stage.

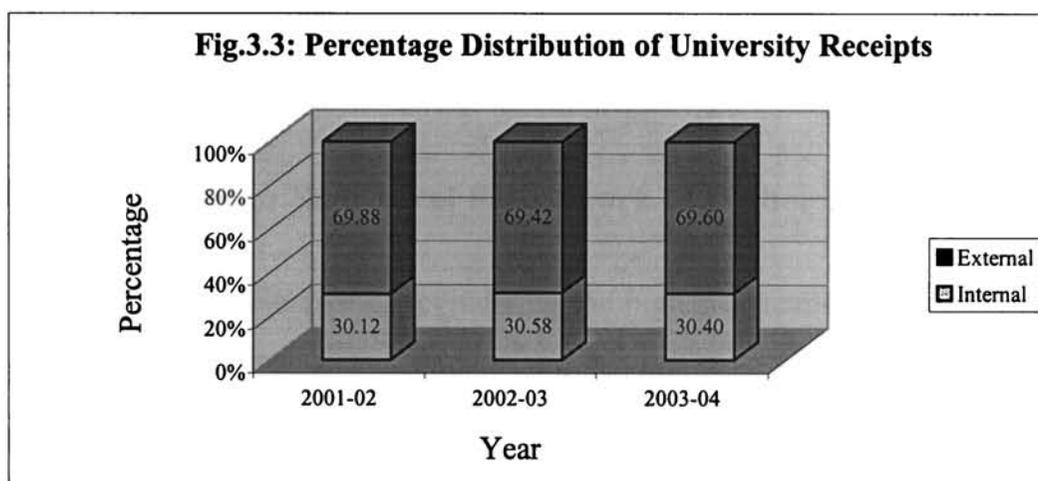
In other words, the growing financial gap is mainly due to rising non-plan expenditure of the universities as could be seen from table 3.3 and 3.4. The

percentage distribution of source of receipt of the Universities also shows that, internal receipt of all affiliating universities have increased nearly to 30 per cent for all universities, as shown in table 3.5 and fig. 3.3 as against the belief that 90 per cent¹⁹ of the university funds are from external (govt.) sources.

Table 3.5: Percentage Distribution of Receipts of Universities 2000-03

Name of University	2001-02		2002-03		2003-04	
	Internal	External	Internal	External	Internal	External
Kerala University	27.39	72.61	27.84	72.16	26.24	73.76
Calicut University	36.97	63.03	36.86	63.14	38.53	61.47
M G University	24.90	75.10	23.65	76.35	25.94	74.06
Kannur University	22.15	77.85	35.80	64.20	25.84	74.16
Total	30.12	69.88	30.58	69.42	30.40	69.60

Source: Computed from Economic Review (2003), Table 11.10 (A), PP 276



In short, the foregoing analysis reveals the following important facts:

- 1) State's public expenditure on Education was only 3.04 per cent of GDP in the last fiscal against 6 per cent of it (for the Country) as target

recommended by Kothari Commission, i.e., 50 per cent short of the required rate.

- 2) Of the total expenditure on education, University and higher education receive only less than 15 per cent.
- 3) Out of the total expenditure on University and higher education, nearly 98 per cent is spend on non-plan expenditure as in the case of other stages of education in the State.
- 4) In the case of four affiliating universities in the State, salary of the staff and expenditure for the conduct of examinations constituted more than 66 per cent of the expenditure.
- 5) The internal receipts of the universities have increased over the period 2000-01 to 2002-03, leaving only 70 per cent to external (public) funding.
- 6) Although internal receipts have increased, the expenditure–receipt gap of universities are moving to alarming rate due to mounting non-plan expenses.

3.2 Institutional or Structural Framework of Higher Education

With the objective of revitalizing the higher education, Govt. of India and the State Govt. have constituted various commissions and committees to study the specific problems pertaining to the sector. In fact, these commissions recommended various valuable measures and ended it with the suggestion either for the expansion of existing constituent bodies²⁰ or formation of new ones while retaining all. Consequent upon this, various institutions (necessary or not) are involved at present, in the operational structure of higher education in Kerala²¹ as in the case of other States in the Country, viz: Central Govt. at

the top, Ministry of HRD, the UGC/ CSIR and its Constituents like NAAC, AICTE, NCTE, IMA, State Govt., Ministry of Education, Ministry of Health, Higher Education Department and its various constituents, Directorates, Deputy Directorates, Universities, Colleges, College Managements, etc. Though this looks hierarchical and each has distinct roles, in most cases they are not like that. It may often create unnecessary duplication and clash for consequential delay or wastes²² while tightening the rope.²³ Moreover it escalates the financial burden of the Govt. It is in the light of which the *Dakar and Tokyo* declarations urge the institutions to adopt forward-looking management practice, which respond to the needs of the environment, since govt. is finding hard to meet resource.

An examination of the number of staff (teaching, no-teaching, administrative and university) and student enrollment higher education within the State, disclose the inadequacy of efficient management practice in the State. Unfortunately, studies existing in this connection takes care only the number of students and teachers and in very occasionally the number of non-teaching staff within colleges. It excludes (deliberately or else) the number of persons working in Universities and its governing bodies, Higher Education Department, Collegiate Education Directorates, UGC and its Constituents, etc to make a comparison with student enrollment.

In fact, estimation of Teacher-Student Ratio in higher education sector is a difficult task since it vary upon the nature of discipline, course, year of course, methods of teaching and evaluation, and so on. Hence, UGC and Govt. norms specify that, the workload in each department or discipline should be the criteria for Teaching Staff fixation in Colleges²⁴ rather than student

strength. So, given this conditionality, the present study tries to estimate only the over all Teacher-Student ratio. In the case of other categories, the present study could not find²⁵ such a norm. But, it could see that there are frequent amendments in the UGC, Govt. and University norms regarding the fixation of staff strength. So, the study is constrained to proceed with the estimation of Staff-Student Ratio (S-S R) on the basis of total student enrollment year-wise. For instance, table 3.6 shows that, Teacher-Student ratios in govt., aided and combined for govt. and aided colleges are 1:14; 1:13 and 1:13, respectively. While, Non-teacher-Student ratios in the corresponding categories are, 1: 27; 1: 18 and 1:19 in 2001 in the higher education (general) sector of the State. Consequently, over all staff-student ratio is brought down to 1:8.

Table 3.6: Staff Proportion and Student Enrollment 2001

Sector	No. of Students	No. of Teachers	No. of Non-Teachers	T- S Ratio	NT –S Ratio	S- S Ratio
Govt.	28189	2065	1048	1:14	1:27	1:9
Aided	136905	10381	7463	1:13	1:18	1:8
Total	165094	12446	8511	1:13	1:19	1:8

Notes: **Column 5** = C2/C3; **C6**=C2/C4; **C7**=C2/C3+C4

Source: Economic Review (2001), SPB, TVM, PP 130

Information collected to integrate the micro and macro perspective of the issue from 14 sample colleges selected for field survey²⁶ also shows that, the T-S and NT-S Ratio, Staff-Student ratio on an average is 1: 15, 1:18 and 1:8 respectively, in Govt. colleges, between 2001-02 and 2003-04, as shown in table 3.7.

In the case of affiliated colleges, the corresponding ratios during the period on an average are, 1:16, 1:25 and 1:9. It is also evident that, the number

of non-teaching staff in the Govt. colleges is higher than that of the aided colleges in the State. In fact, the number of non-teaching staff within Govt. and Aided College is not economical, although the salary packet to them is small²⁷ to that of teaching staff after the implementation of UGC Scheme.

Table 3.7: Staff – Student Ratio (S-S R) in Selected Colleges, 2001- 04

Category	2001-02	2002-03	2003-04
T-S Ratio (Govt.)	1:14	1: 15	1: 15
NT-S Ratio (Govt.)	1:17	1: 18	1: 18
S-S R (Combined T&NT in Govt.)	1: 8	1: 8	1: 8
T-S Ratio (Aided)	1: 13	1: 17	1: 17
NT-S Ratio (Aided)	1: 21	1: 26	1: 27
S-S R (Combined T&NT in Aided)	1: 8	1: 10	1: 11
S-S R (Comb T&NT in Govt.&Aided)	1: 8	1: 10	1: 10

Source: T. 3.1, Appendix PP 196

Again, the analysis will be incomplete, without estimating university-wise staff-student ratio. For this purpose, University of Kerala (an affiliating university) is selected at random. The distribution of Staff, Students and S-S Ratio is shown in table 3.8. The Faculty-Student ratio in the University Department is only 1:8 and the T-S Ratio in affiliated colleges is 1: 18.

Table 3.8: Staff-Students Ratio in University of Kerala and its Affiliated (Govt./Aided/Unaided) Colleges, 2002

Sl.	Staff Category	No. of Persons	S- S R
R1	Faculty - University Departments	230	1: 8
R2	Administrative Personnel	2809	1: 23
R3	Syndicate Members	24	1: 2689
R4	Senate Members	124	1: 520
R5	Academic Council	143	1: 451
R6	Sub Total (Uty. Admin. & Governing Staff)	3100	1: 21
R7	Teaching Staff in Govt. Colleges	927	1: 13
R8	Teaching Staff in Aided Colleges	2184	1: 21
R9	Teaching Staff in Unaided Colleges	364	1: 11
R10	Sub Total Teachers in affiliated colleges	3475	1: 18
R11	Non-Teaching Staff in Govt. Colleges	N A	NA
R12	Non-Teaching Staff in Aided Colleges	N A	NA
R13	Non-Teaching Staff in Unaided Colleges	N A	NA
R14	Grand Total of Staff Members	6805	1: 9
R15	Students in University Departments	1844	....
R16	Students in Govt. Colleges	11677	....
R17	Students in Aided College	46897	....
R18	Students in Unaided Colleges	4119	....
R19	Sub Total (Students in affiliated Colleges)	62693	....
R20	Grand Total of Students	64537	....

Notes: **R1C4**=R15C3/R1C3; **R6C3**=(R2C3+R3C3+R4C3+R5C3); **R6C4**=R20C3/R6C3; **R10C3**=(R7C3+ R8C3+ R9C3); **R10C4**=R19C3/R10C3; **R14C3**=(R1C3+R6C3+R10C3); **R14C4**= R20C3/R14C4.

Source: Annual Report University of Kerala, 2002 PP 297-304, and Budget Estimates 2003-04, University of Kerala, PP 195 – 205

However, it is difficult to infer whether the number is economic or not, unless one estimates the same with respect to each course or say workload college-wise and department-wise. Where as, the Administrative Staff-Student ratio with respect to total enrolled students in 2002 is 1: 21, which it seems quite unhealthy and uneconomic. Here the number of members in the Senate, Syndicate, Academic Councils and Boards of Studies also needs special mention. As such there must be a fresh look into sort out a professional management practice. More over, when estimate staff-student ratio University-wise is only 1: 9, without including the number of non-teaching staff in the affiliated colleges of the University due to absence of data. More over, one adds the number of non-teaching staff in the affiliated colleges as well as that proportion of staff working in the Govt.'s higher education departments related to the colleges affiliated to the university itself, surely will get a very low staff-student ratio. In the absence of reliable database and suitable methodology, the present study leaves it here for further research.

But, for Instance, the available secondary data at State level shows that T-S Ratio in higher (general) education is 1: 15, while NT-S ratio is 1:21 making S-S ratio for all Arts and Science Colleges in the entire State to 1:9. With the inclusion of the staff working in the deputy directorates of collegiate education in the State, S-S ratio is again brought down to 1:8 in 2002-03, as shown in table 3.9.

Table 3.9: Staff–Student Ratio in Arts & Science Colleges, 2002-03

Sl	Staff Category	No. of Persons	S-S Ratio
R1	Teaching Staff (Govt. Colleges)	2004	....
R2	Teaching Staff (Aided Colleges)	8745	....
R3	Total T S (R1C3+R2C3)	10749	1: 15
R4	Non- Teaching Staff (Govt. Colleges)	1065	....
R5	Non- Teaching Staff (Aided Colleges)	6515	....
R6	Total N-T S (R4C3+R5C3)	7580	1: 21
R7	Sub Total (T& N-T S) (R3C3+R6C3)	18329	1: 9
R8	Dy. Directorates of Collegiate Education	222	....
R9	Directorate of Collegiate Education	NA	....
R10	Higher Education Department	NA	....
R11	Total Govt. Dept. Staff (R8C3+R9C3+R10C3)	222	....
R12	University Administrative Staff	C. E	....
R13	Staff in the University Governing Bodies	C. E	....
R14	Total University Staff (affiliated colleges)	C. E	....
R15	Grand Total (R7C3+R11C3+R14C3)	18551	1: 8
R16	Student Enrollment (2002)	160754	....

$R3C4=R16C3/R3C3$; $R6C4=R16C3/R6C3$; $R7C4=R16C3/R7C3$; $R15C4=R16C3/R15C3$ Notes: (Still, the estimate is incomplete due to non-availability of some data and complexity in estimating university staff exclusively for general education category)

Source: Economic Review (2003), SPB, TVM, PP 273 and Directorate of Collegiate Education, TVM 2002-03. NA= Data not Available; CE= could not estimate.

In short, the Teacher-Student Ratio in the higher (general) education seems not that high in the present technically poor education environment of the State, but the Non-Teacher-Student Ratio combined with staff in the

Universities and Govt.'s Higher Education Departments, is not so. Hence, a fresh look is needed to sort out how to viably or economically utilize or re-deploy the size or number of university, government and college level (non-teaching/ administrative) staff, so as to avoid unnecessary duplication, delay and drain of scarce financial resources. Accordingly, the above analysis brings forth the following important facts among others.

1. Institutional structure of higher education is so huge comprising so many constituent bodies and officials.
2. Given the UGC/University/Govt. norms for staff fixation in colleges/higher education institutions, the number of non-teaching staff including University level staff and Govt's Higher Education Department staff is so high so as to bring down the Staff-Student Ratio only to 1: 8 or less than that.
3. Obviously, this phenomenon often creates unnecessary duplication, delay and consequently might escalates govt.'s financial burden.

To put in brief, the analysis on public funding and institutional structure of higher (general) education in the State reveals that the supply base of higher (general) education is inadequate in financial terms and uneconomical in terms of number of staff or institutional arrangements. Thus, a forward-looking professional/management practice is needed.

CHAPTER 4

HIGHER EDUCATION MARKET IN KERALA

A study of Indian Human Capital Development shows that during 1996-97, only 3.8 per cent of GNP was spent on education. Consequently, the level of educational development is low in terms of quantity, quality and opportunity (*Padmanabhan 2001*). Similar studies observed that the break-neck speed at which the higher education system has been expanded over the past four decades has led to a fast deterioration in quality. Academic standards have been relaxed to accommodate more and more students. Quality is being traded off against quantity by spreading scarce financial resources thinly over a large number of students/ institutions (*Bharadwaj & Balachander 1988*). It is often alleged that (i) how could quality be assured when a fairly large number of teachers work on daily wages, (ii) when most pressing academic appointments depend up on bureaucratic mercy, (iii) when people with no academic sensitivity or knowledge hold crucial positions in the decision making bodies, (iv) when libraries and laboratories happen to be the last priority? And, (v) when students and teachers hang on bureaucratic tag? (*Panikkar 2003*) Obviously, the analysis on public funding and institutional structure of higher (general) education in the State has shown that the supply condition is inadequate in terms finance and uneconomical in terms of staff strength or institutional arrangements. It is in this context, the present chapter analyses vis-a-vis higher education market: quantity and quality aspects, to account the supply-demand conditions.

4.1 Quantity Vs Quality in/of student enrollment

There exists a controversy over the size of enrollment in higher education stage in the State. Some argues that 10 per cent of those enter

primary school enroll for degree courses of various kinds, which accounts for about 15 per cent of the relevant age group (*Ashok 1999*). While others opine that the enrollments hardly form 3.7 percent of the relevant age group of population (*Tilak 2001*). Still some others hold that Kerala rank 24th among 26 States in the Country in terms of higher education enrollment. (*Ibid PP 12*)

Table 4.1: Comparison of 1st Standard Enrollment (1976-91) and Graduate Level Enrollment (1988-2003) in Kerala ²⁸

Year	1 st STD #	Year	1 st D C Enroll. \$	% Enro. in DC
1976	633551	1988	45344	7.16
1977	657503	1989	45080	6.86
1978	660019	1990	45680	6.92
1979	632527	1991	48938	7.74
1980	635677	1992	49131	7.73
1981	631479	1993	53738	8.51
1982	645879	1994	50094	7.76
1983	626296	1995	51341	8.20
1984	602800	1996	39211	6.50
1985	617681	1997	47610	7.71
1986	630639	1998	55621	8.82
1987	614636	1999	61662	10.03
1988	630053	2000	55348	8.78
1989	608642	2001	60635 (128182)	9.96 (21)
1990	594548	2002	70120 (143534)	11.79 (24)
1991	601030	2003	71978 (136805)	11.98 (23)
Average for 16 years period				8.53

Source: Economic Review 2001, PP S 167-70 and Economic Review 2003 PP S212, State Planning Board, Trivandrum. For more details see Appendix T.3.3, PP 196. Figure in bracket include private Registration, # State Syllabus only, \$ all disciplines.

Fig.4.1: 1st STD Enrollment Vs 1st DC Enrollment

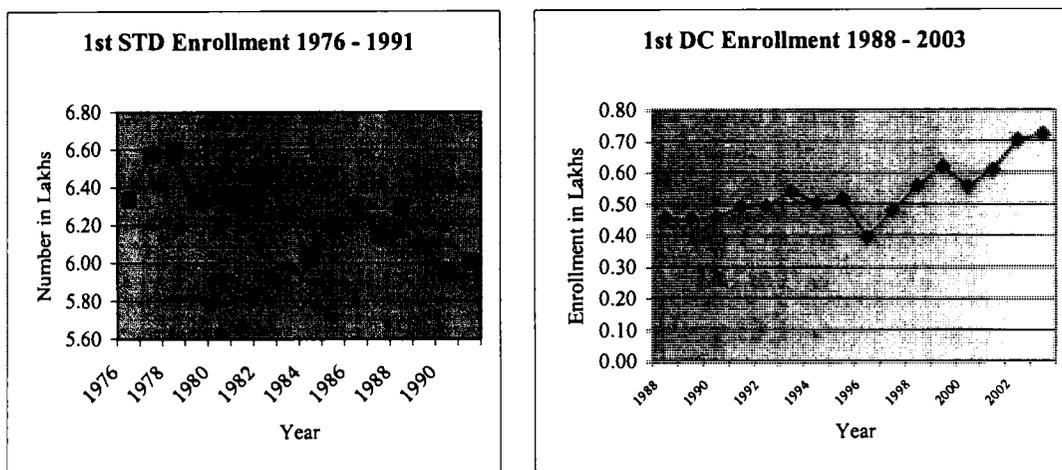


Fig. 4.1 shows that degree enrollments are increasing slowly compared to 1st Standard enrollment in the State. Degree enrollment have gone up from 45 thousand in 1988 to 72 thousand in 2003, while the 1st Standard enrollment has declined from 6.3 lakhs in 1976 to 6 lakhs in 1991. However, comparison of students enrolled at graduate courses of the students enrolled in 1st standard²⁹, expose the bare fact that the enrollment in higher education in the State is abysmally low. It is evident from the table 4.1 that, students enroll for graduate level course of that enrolled in the 1st Standard in the State is only less than 12 per cent. And, if one includes the students under private registration the figure may go little up by 20-24 per cent.³⁰ However, it is very low compared to developed countries,³¹ where the higher education enrollment is more than 70-80 per cent.

Similarly, a comparison between the enrollments of students in postgraduate (general) courses out of students enrolled in degree (general) courses also shows that the higher education enrollment is at the lowest ebb in the State. It is seen from the table 4.2 that the size of students enroll in the Postgraduate course out of those actually enrolled in degree course in the general education category is only less than 15 per cent. Consequently, the

Post Graduate enrollment in this category out of those enrolled in 1st Standard in the corresponding year is only 0.9 to 1.2 per cent, over the last decade.

Table 4.2: Comparison of Graduate (1991-2003) and Postgraduate Enrollments (1994-2003) in General Education

Year (Jun-July)	1 st D C Enrol. (G)	Year (July-Aug)	1 st P G Enrol. (G)	Per Cent of DC to P G	Per Cent of 1 st STD to P G
1991	44731	1994	5872	13.1	0.9
1992	44858	1995	5973	13.3	0.9
1993	49394	1996	6011	12.2	0.9
1994	45888	1997	6027	13.1	1.0
1995	47120	1998	6243	13.2	1.0
1996	35148	1999	6863	19.5	1.1
1997	41276	2000	7722	18.7	1.3
1998	49187	2001	7053	14.3	1.1
1999	54422	2002	7302	13.4	1.2
2000	45363	2003	7466	16.5	1.2
2001	49096	<i>2004</i>	<i>7805</i>	<i>15.9</i>	<i>1.3</i>
2002	51517	<i>2005</i>	<i>8015</i>	<i>15.6</i>	<i>1.3</i>
2003	50895	<i>2006</i>	<i>8224</i>	<i>16.2</i>	<i>1.4</i>

Notes: Figures in ***Bold Italics*** show predicted values estimated using LSM $y = b + mx$, $y=6548.46+209.48x$. Analysis A. 1.1. PP 207 - 08.

Source: As Table 4.1 above, and Economic Review (2003, 2001, 1995) State Planning Board.

.Yet, the vitality of a higher education system is not only measured in terms of the number of students enrolled, or institutions established, but by the quality of the people it brings out. In fact this constitute the essence of human resource enrichment (Bharadwaj & Balachander 1988). India's deliberations to maintain higher education standard is visible in the establishment of UGC

in 1953 as a statutory body to co-ordinate, maintain and control higher education through its power to allocate grants. Since then, it has taken several policy decisions for the purpose (Section 13, 14, 25(g), and 26 of UGC Act, and UGC Regulation Act of 1985) and that has resulted in the establishment of NAAC (1986), ASC, Curriculum Development Centers, National Board of Accreditation (1994), etc (*Desai 1995*). But, in Kerala NAAC accredited Arts and Science Colleges are only countable in fingertips. Also certain studies have shown that the quality standards have been coming down steeply at all level of education in the State (*George 1999*).

Quality has always been the obsession for the human kind in all that they seek to do. It is the function of value addition through intelligent efforts (*Gnanam & Stella 1999*). It is in this context Dakar and Tokyo declarations remark (define), “quality is a multi dimensional concept which depends to a large extent on the contextual setting of a given system, institutional mission or condition and standard within a given discipline. It is not possible to arrive at one set of quality standards applicable to all countries and against which institutions can be assessed. Quality embraces all the main functions and activities of higher education; teaching and academic programmes, research and scholarships, staffing, students, infrastructure and academic environment...” (*Rodrigues 1998*).

There are a number of attempts to arrive at a set of suitable yardstick for measuring quality of education. Some have measured it looking only at the products of the school or college being considered. Others view the process of education itself (*Solmon 1987*). Another study (1994) presents a Meta analysis of the test score and claims strong effects of school resources (*Julian 1999*). While Economic theory takes the approach that institutions or educational programmes are of higher quality when they have greater positive impacts on

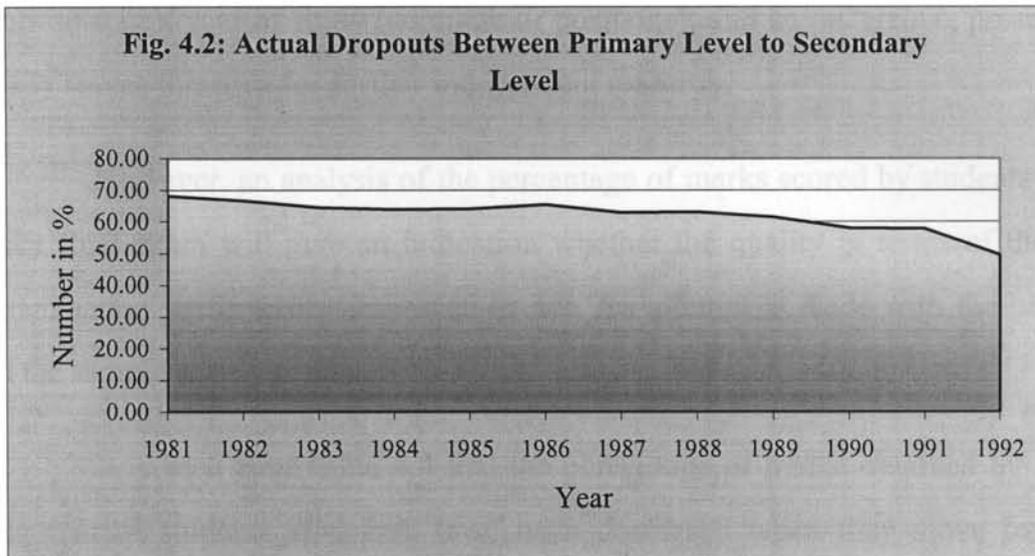
students and the society (*Solmon* 1987). Thus, economists tend to focus on earnings rather than test scores (*Julian* 1999). The present study takes both earnings (for discussion see chapter 8) and student's examination result at aggregative level to assess quality.

Table 4.3: Dropouts[#] of Students at Primary Level 1981-2003

Enro. in STD 1		In STD 10		Dropouts (C2-C4)	% of sslc Pass outs	% Drop outs sslc	Actual Dropouts
Year	No.	Year	No.				
1981	631479	1991	394848	236631	51.02	48.98	(430028) 68.10
1982	645879	1992	416980	228899	51.78	48.22	(429967) 66.57
1983	626296	1993	434011	192285	51.3	48.7	(406348) 64.45
1984	602800	1994	436898	165902	49.87	50.13	(384919) 63.86
1985	617681	1995	439617	178064	50.55	49.45	(395455) 64.02
1986	630639	1996	446466	184173	48.92	51.08	(412228) 65.37
1987	614636	1997	449381	165255	50.86	49.14	(386081) 62.81
1988	630053	1998	446282	183771	52.23	47.77	(396960) 63.00
1989	608642	1999	443417	165225	52.94	47.06	(373897) 61.43
1990	594548	2000	454525	140023	55.03	44.97	(344423) 57.93
1991	601030	2001	461884	139146	54.94	45.06	(347271) 57.78
1992	575909	2002	422483	113426	59.3	40.7	(285377) 49.55
1993	566426	2003	N A	NA	64.85	NA	NA

C8 = C5+C7. Figure in **bold** shows the percentage of real dropouts. #There are difficulties in accounting the repeating students in certain classes and new additions if any from outside, etc. Bearing these constraints the study employs the data as found in secondary sources mentioned above.

Source: Economic Review, SPB, TVM (2001) PP S 167-170: (2003) PP 271, S 202; & Statistics for Planning, Dept. of Economics and Statistics, Govt. of Kerala (2001) PP 378.



From the above analysis it is seen that the persons go for higher education to that of 1st standard enrollment is only less than 15 percentage. This may be accounted to the dropouts from the education stream at primary level and secondary level as, the possession of these levels of education (qualifying) determines an individual's entry in graduate level education, more than any other factor. The real drop out of those entered in 1st Standard during 1981 – 93 before completing 10th Standard is illustrated in figure 4.2. Although declining the drop out rate is 60 per cent. Also it is evident from the Table 4.3 that the actual dropouts at primary levels itself is around 50–70 per cent over the last decade. Of which 40-50 per cent go out of the stream without even reaching to 10th Standard and the rest fails in their attempt to clear the final exam. (Of course the person appeared and failed may re-appear again, but the statistics on this shows that only 10-20 per cent out of a few hundreds, were able to pass out in their second or more attempts)

Similar calculation is very difficult to workout at higher secondary level since the extend of dynamism is so high in higher secondary stage than the primary stage, like choice of Board (State, CBSE, ICSE, etc), course (science, humanities, technical/vocational, fine arts, etc), institution (within or

outside state), year of study (continue or postpone), and so on. Hence, present study leaves this area for further independent research.

However, an analysis of the percentage of marks scored by students in their final exam will give an indication whether the quality in terms of their examination performance improved or not. An attempt is made with the help of the sample survey result.

It is seen from table 4.4 that the percentage of marks obtained by 55 per cent of students at degree level have decreased when they move from SSLC stage to Higher Secondary stage and almost 10 per cent of them could not make any change in the marks obtained in the final examination. While only 29 per cent of them could improve their results. In the case of Postgraduate students, marks have decreased for about 57 and 27 per cent respectively, when they move from SSLC stage to Higher Secondary stage and then from Higher Secondary stage to Degree level. On the whole, it could be seen that students could not maintain their test scores when move to higher levels of education, so to say quality deterioration at higher education level.

Table 4.4: Performance of Students^s in their Final Examinations

Status	D C students		P G Students			
	SSLC-HSS	%	SSLC-HSS	%	HSS-DC*	%
Increasing	70	28.69	19	18.27	50	48.08
Decreasing	135	55.33	59	56.73	27	6.73
No Change	123	9.43	2	1.92	7	25.96
No Response	16	6.56	24	23.08	20	19.23
Total	244	100	104	100	104	100

Source: Filed Survey, \$ respondents. *Of course, since the seats for postgraduate course are few, only those with high marks get admission and that have influenced this data.

4.2 Market Determinants: Strength of Supply and Demand

Like any other commodity or service, education has a market. It is the 'market for training'. The important components of which are the demand (enrollment), supply (infrastructure), price (fee), cost (social and private), investment (private and public), etc. People demand education or training so as improve their knowledge and skills which in turn help them to earn more and lead a good living. They prefer more education as the employers give greater concerns to educational qualifications in their recruitments. Of course variations in ability whether innate or developed in childhood before training allow some people to earn more than others – “scarce talents” – referred to as 'rent to a scarce talent' (Bosworth 1996). But obviously, even these scarce talents can be refined or improved through education and training so as to secure higher earnings. Thus people demand education and training.

4.2.1: The Demand

The demand for higher education is a 'derived demand' and it originates from various sources: individual, family, society, government and employing institution – domestic and foreign. Based on its origin, demand for education may be distinguished mainly into private demand and social demand. Private demand refers to the demand by individuals and their families, while social demand is the aggregation of individual demand (Harnqvist 1987). In the macro sense it originates from the perspective of employer or society or government.

The principal driving force behind the social demand for education is nothing but the benefits emanating from it (for more discussion see chapter 5,

7 and 8). Education brings in a variety of advantages including spill over benefits, which are even difficult to quantify or measure. By educating its people, government and society benefit a lot commonly referred to as 'social benefit.'³² Thus the social demand for higher education is derived from the social benefit of it. Studies have shown that the demand for education tend to increase with (1) increase in population, (2) real income of the country, (3) supply of education (Papi 1986) and (4) the trained manpower requirement (Rashid 1986).

The analysis of social demand for higher education in the State is important as Govt. spends almost 70 per cent or above³³ for the education of people at higher levels. However, the forgoing analysis reveled that only less than 12 per cent actually enroll for degree level course of the students enrolled in 1st Standard in the State. And, of the total students enrolled at graduate level in general education category, only less than 15 per cent find a place at post graduate level in the same stream.

More over, of the student enrolled in 1st Standard 50-60 percent dropout at primary levels itself, either by failure or quit due to various reasons. If the dropouts have been reduced, the demand for higher education might have been larger than the current rate.

Table 4.5: Growth of Student Enrollments at Various Levels in Kerala

Year (June)	1 st STD Enrol.	Year (June)	10 th STD Enroll.	Year (June)	1 st D C Enrol. (G)	Year (Aug)	1 st P G Enrol. (G)
1979	632527	1989	384775	1991	44731	1994	5872
1980	635677	1990	392649	1992	44858	1995	5973
1981	631479	1991	394848	1993	49394	1996	6011
1982	645879	1992	416980	1994	45888	1997	6027
1983	626296	1993	434011	1995	47120	1998	6243
1984	602800	1994	436898	1996	35148	1999	6863
1985	617681	1995	439617	1997	41276	2000	7722
1986	630639	1996	446466	1998	49187	2001	7053
1987	614636	1997	449381	1999	54422	2002	7302
1988	630053	1998	446282	2000	45363	2003	7466
1989	608642	1999	443417	2001	49096	2004	7805
1990	594548	2000	454525	2002	51517	<i>2005</i>	<i>8015</i>
1991	601030	2001	461884	2003	52895	<i>2006</i>	<i>8224</i>
1992	575909	2002	482483	2004	51151	<i>2007</i>	<i>8434</i>
1993	566426	2003	459620	<i>2005</i>	<i>51746</i>	<i>2008</i>	<i>8643</i>
1994	540593	<i>2004</i>	<i>466789</i>	<i>2006</i>	<i>52340</i>	<i>2009</i>	<i>8853</i>
1995	528784	<i>2005</i>	<i>473958</i>	<i>2007</i>	<i>52934</i>	<i>2010</i>	<i>9062</i>
1996	519084	<i>2006</i>	<i>481127</i>	<i>2008</i>	<i>53528</i>	<i>2011</i>	<i>9272</i>
1997	507072	<i>2007</i>	<i>488296</i>	<i>2009</i>	<i>54122</i>	<i>2012</i>	<i>9481</i>
1998	475301	<i>2008</i>	<i>495465</i>	<i>2010</i>	<i>54717</i>	<i>2013</i>	<i>9691</i>
1999	464925	<i>2009</i>	<i>502634</i>	<i>2011</i>	<i>55311</i>	<i>2014</i>	<i>9900</i>
2000	443027	<i>2010</i>	<i>509803</i>	<i>2012</i>	<i>55905</i>	<i>2015</i>	<i>10110</i>
2001	460367	<i>2011</i>	<i>516972</i>	<i>2013</i>	<i>56499</i>	<i>2016</i>	<i>10319</i>
2002	466365	<i>2012</i>	<i>524141</i>	<i>2014</i>	<i>57093</i>	<i>2017</i>	<i>10529</i>
2003	456517	<i>2013</i>	<i>531310</i>	<i>2015</i>	<i>57688</i>	<i>2018</i>	<i>10738</i>
2004	N A	<i>2014</i>	<i>538479</i>	<i>2016</i>	<i>58282</i>	<i>2019</i>	<i>10948</i>

Notes: Figures starting ***Bold Italics*** shows predicted values estimated using LSM $y = b + mx$.

(1) $y=402268.9+7168.93x$; (2) $y=46991.9+594.2x$; (3) $y=6548.46+209.48x$.

Source: As in Table 4.2 § 4.3, Ibid PP 73 -75; and Appx. T. 3.3 PP 196.

Table 4.6: Index Number of Growth Trends in Student Enrollments

(Base 1995 =100)

Year (June)	1st STD Enrol.	Year (June)	10th STD Enroll.	Year (June)	1st D C Enrol. (G)	Year (Aug)	1st P G Enrol. (G)
1979	120	1989	88	1991	95	1994	98
1980	120	1990	89	1992	95	1995	100
1981	119	1991	90	1993	105	1996	101
1982	122	1992	95	1994	97	1997	101
1983	118	1993	99	1995	100	1998	105
1984	114	1994	99	1996	75	1999	115
1985	117	1995	100	1997	88	2000	129
1986	119	1996	102	1998	104	2001	118
1987	116	1997	102	1999	115	2002	122
1988	119	1998	102	2000	96	2003	125
1989	115	1999	101	2001	104	2004	131
1990	112	2000	103	2002	109	2005	134
1991	114	2001	105	2003	112	2006	138
1992	109	2002	110	2004	109	2007	141
1993	107	2003	105	2005	110	2008	145
1994	102	2004	106	2006	111	2009	148
1995	100	2005	108	2007	112	2010	152
1996	98	2006	109	2008	114	2011	155
1997	96	2007	111	2009	115	2012	159
1998	90	2008	113	2010	116	2013	162
1999	88	2009	114	2011	117	2014	166
2000	84	2010	116	2012	119	2015	169
2001	87	2011	118	2013	120	2016	173
2002	88	2012	119	2014	121	2017	176
2003	86	2013	121	2015	122	2018	180

Source: As Table 4.5

The growth of population by enrollment in the 1st Standard and the enrollment rate in the degree level and postgraduate level is shown in tables

4.5 and 4.6. Although, the 1st Standard enrollment have shown a declining trend, growth rate of persons reaching to 10th Standard and those enroll in graduate and postgraduate courses, etc. are on a rising trend.

This means that the decline in the dropout at primary level exert greater influence upon the students aspiration for higher levels of education. For instance, given 1st Standard enrollment size, at least a 10 per cent reduction in dropout rate will raise an equivalent rate of growth in the demand for higher education in the State. Table 4.6 shows that, given rate of enrolment and dropouts, the enrollment in postgraduate courses have gone to a net 27 per cent (98 to 125) over the decade 1994-2003. In the case of degree enrollment too, it increased from 97 to 112, a net increase of 15 per cent during the period.

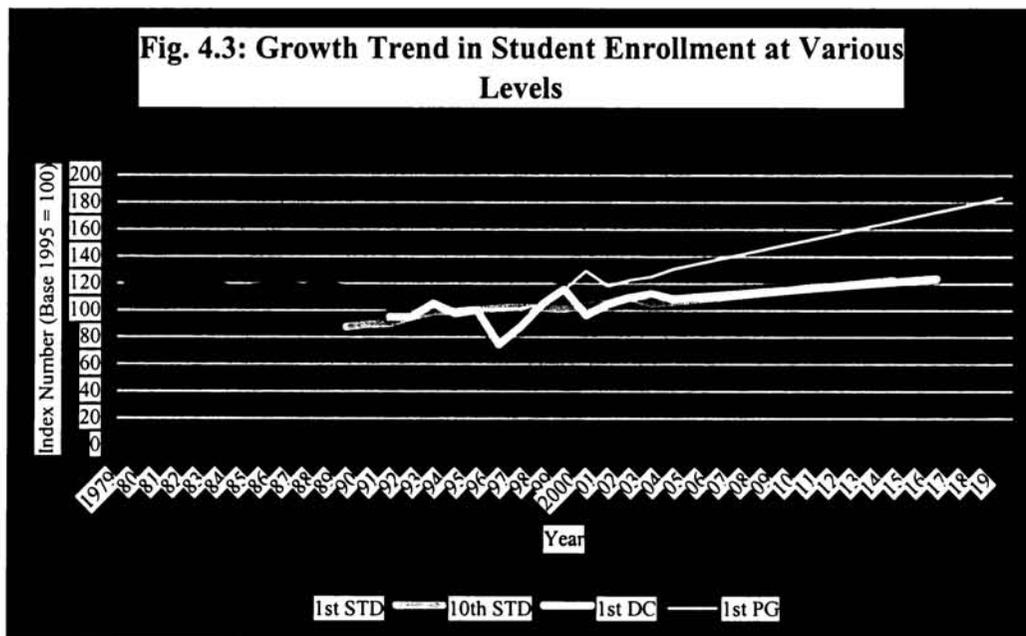


Fig. 4.3 shows that enrollment in degree and postgraduate courses are increasing recently. The rising trend of degree and postgraduate enrollments corresponding to decline in dropout in the primary stage shows that, a further

reduction in dropouts will, definitely increase the demand for higher education in future.

Again, the discussion will be incomplete if the study leaves the case of private demand for higher education in the State. A wide range of studies within and outside the State have shown that, family income (positive), parents' educational attainment (positive), tuition levels (negative), student aid levels (positive), and student's academic aptitude (positive) are having statistically significant effects on enrollment (sign of effect is shown in parentheses). Various attempts have also been made to include rate of return (though there are serious measurement problems) and the effect is found to be positive. Finally, there have been investigations on the influence of variation in unemployment rates on enrollment behaviour (Ahlburg 1994). According to Todaro (1982), two principal influencing factors on the private demand are (1) future earnings through employment, (2) cost of education (direct and opportunity). Similar study have distinguished certain variables influencing the demand for higher education in Kerala, such as (1) family income, (2) family size, (3) number of dependents in the family, (4) size of earning members in the family (Salim 1997) and earning of the educated (Thomas Joseph 1994, pp 96-98).

Despite these, sample survey among students have revealed that, 95 per cent of the persons (in their families) in the age group below 15 years and 93 per cent in the age group 15-25 are students, making the total size of student population equal to 93 per cent of the age group below 25 at different stages of education, as shown in table 4.7, which in turn are expected to demand higher education in future.

Table 4.7: Distribution of Students Course-wise and Age-wise

Education Level	Below age 15	Between 15 -25	Total Below 25
Below SSLC	58	0	58
SSLC	54	0	54
HSS	0	73	73
DC	0	270	270
PG	0	125	125
Number of Students	112	468	580
Total Number of Persons	118	506	624
Per Cent of Students	94.9	92.5	92.9

Source: Filed Survey.

Table 4.8: Student's Preference on Their Future Plans

Preference	Degree		P G		Total	
	No.	%	No.	%	No	%
Continue Study	67	27.5	9	8.7	76	21.8
Get a Job	37	15.2	39	37.5	76	21.8
Study then a job	116	47.5	41	39.4	157	45.1
No opinion	24	9.8	15	14.4	39	11.2
Total	244	100.0	104	100.0	348	100.0
Total Preferred for study	183	75.0	50	48.1	233	67.0

Source: Field Survey

Similarly, out of the total student respondents, 67 per cent of them have shown interest or preference to continue their studies, given all other conditions. The table 4.8 also shows that, 75 per cent of the degree students have expressed their willingness to continue studies further, but this figure is

somewhat low by 48 per cent in the case of postgraduate students, and they (38 per cent) also give almost equal preference for securing a job.

Table 4.9: Source of Private Finance in Higher Education

Sector	Bank	Personal	Parent/ Guardian	Total Respondents
Govt.	0	4*	69 (94.5)	73
Aided	0	0	275 (100)	275
Total	0	4	344 (98.9)	348

Source: Field Survey. *Studying in degree classes.

As regards to the cost of education, fee structure in Arts and Science colleges in the State is very low, also in the opinion of students. Besides, a good number of them enjoy fee concession and 99 per cent of the students depend on their parents or guardians (table 4.9) to meet the educational expenses, over and above what is paid out from public exchequer for it. In other words, under the protection of their parents or guardians, most of the students can expect to continue their studies.

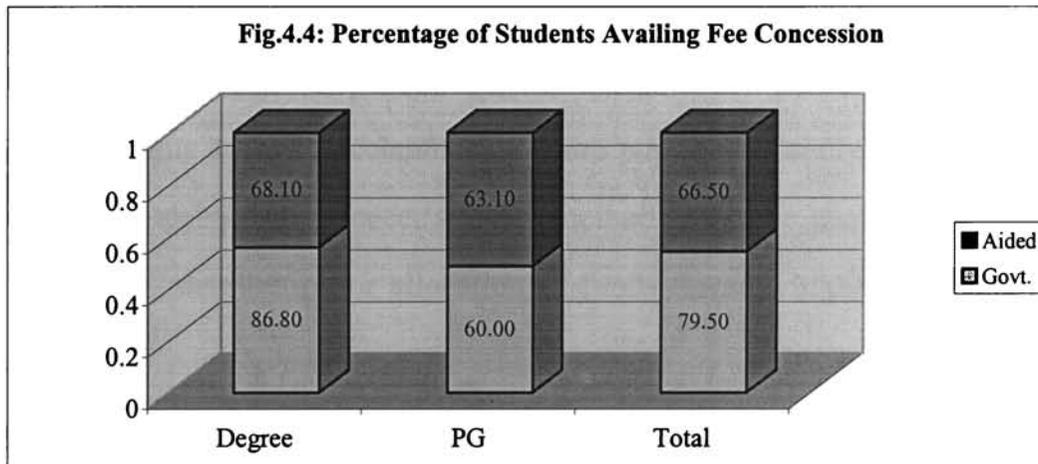
Table 4.10: Distribution of Students Availing Fee Concession

Sector	Degree			PG			Total		
	Total	No.	%	Total	No.	%	Total	No.	%
Govt.	53	46	86.8	20	12	60.0	73	58	79.5
Aided	191	130	68.1	84	53	63.1	275	183	66.5
Total	244	176	72.1	104	65	62.5	348	241	69.3

Source: Field Survey

Obviously, 72 per cent of degree students and 63 per cent of the PG students are enjoying fee concession, making the total persons availing fee

concession equal to 69 per cent, as shown in table 4.10. It also shows that, 80 per cent of the students in Government colleges enjoy fee concession, while 67 per cent of the aided college students too avail this facility. Definitely, these have influenced them (positively) very much to seek more education.



In short, the forgoing analysis helps to draw the conclusion that demand (both social and private) for higher education is on the increase continuously in Kerala. But, of the total aspirants only less than 15 per cent could get accommodation in higher education of different sort in the State.

4.2.2: The Supply

Supply of higher education depends on the available infrastructure including investment both public and private, for higher education. It depend on the number of Universities, Colleges, Schools, Faculties, number and variety of course, student intake capacity, teachers and other staff, capital (plan) investment, non-plan investment, etc. In the previous chapter, it is pointed out that, public expenditure on education in the State is hardly 3 per cent of GDP, as against the recommended 6 per cent. Moreover, among the distribution of educational expenditure too, higher education received the least

priority of less than 15-20 per cent among other stages of education, till this date. Moreover, of the total expenditure in higher education, non-plan expenditure constituted the largest share, preventing the capital expansion to accommodate more students. One argument for this low level of allocation may be the low rate of student enrollment in higher education. In contrast, the facilitation of higher education and expansion of it require comparatively higher amounts so as to accommodate more pupils, especially in the present competitive techno-age. Hence, suitable method has to be chalked out, say a “need-based” distribution or allocation of funds towards higher education in the State.

Regarding the number of institutions for higher education,³⁴ there are only 4 affiliating Universities, 2 non-affiliating universities and an agricultural university. There are now 2 deemed universities in the State, as per recent records. The number of Arts and Science Colleges in the State is 286, of which 100 colleges are in the unaided sector in 2003-04. In the professional education scenario, there are 76 engineering colleges (Excluding NIT, Kozhikkod and CUSAT) with annual intake of 18673 and six IHRD Engineering colleges with annual intake of only 865 in 2003-04, at degree level. In the field of medical education, there are six medical colleges, two dental colleges and three Nursing Schools with 1570 annual intake for degree education in all disciplines. In addition to this, there are five Ayurveda medical colleges and four Homeo medical colleges in Kerala with total annual intake of 660 at degree level during 2003-04. The number of Nursing Schools offering Diploma courses and paramedical institutions in the State are 174 (11 Govt. and 163 Pvt.) and 56, respectively. In case of Teacher education at

higher levels there are only 4 Govt. Teacher Training Colleges and 15 Aided Teacher Training Colleges and few Self-financing B.Ed Colleges in the State.

In spite of all these, the total persons get accommodated in the higher education stage in the formal sector is less than 15 per cent only. Reports have shown that, “around 5000 students are reaching to Karnataka every year for various courses from Kerala. Assuming at least an average one lakh rupee together for admission, boarding and food per student, nearly Rs. 50 crores are flowing to Karnataka alone from Kerala every year. (Andrews, 1999) An equal number or more than that is moving to Tamil Nadu and to other States in the Country only due to the inadequacy of variety of courses or facilities in the State.

Table 4.11: Student’s Remarks on Continuing in the Current Course

Opinion	Degree	Per Cent	PG	Per Cent	Total	Per Cent
Easy to learn	26	10.7	7	6.7	33	9.5
Interest to subject	17	7.0	6	5.8	23	6.6
Affordable & Near	78	32.0	32	30.8	110	31.6
Easy to get job	7	2.9	3	2.9	10	2.9
No alternative	105	43.0	49	47.1	154	44.3
No opinion	11	4.5	7	6.7	18	5.2
Total	244	100.0	104	100.0	348	100.0

Source: Field Survey

It is also seen that, most students in the arts and science colleges are continuing their education in this stream due to the non-availability of alternative institutions offering vocational oriented or non-conventional courses feasible to their financial and physical capabilities. The response of

the student in the sample survey also reveals that the facilities existing in their colleges are also very poor, in their opinion.

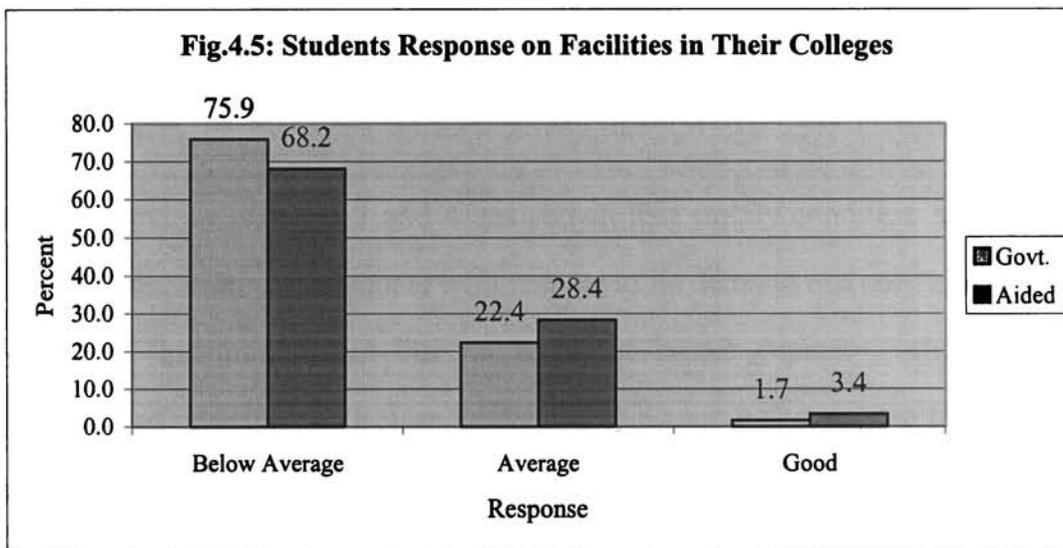
As evident in table 4.11 that, 44 per cent opine that they are continuing in the present course stream due to non-availability of alternative courses, while 32 per cent remark that it is because affordable and near to their house. On easiness to get job, only 2.9 per cent of them feel that the course will help them to get a job, 9.5 per cent have chosen the subject or course due to self interest and only 7 per cent feel that it is easy to learn.

Table 4.12: Student's Response on Facilities in the Colleges (Figure in %)

Facilities in Colleges	Below Average		Average		Good		Above Average	
	Govt.	Aided	Govt.	Aided	Govt.	Aided	Govt.	Aided
No. of Teachers	82.8	33.5	12.1	47.5	5.2	12.3	0.0	6.8
No. of Non-Teachers	53.4	22.0	19.0	32.6	13.8	39.0	13.8	6.4
Library	82.8	16.9	17.2	48.3	0.0	34.3	0.0	0.4
Laboratory	87.9	30.1	12.1	59.3	0.0	10.6	0.0	0.0
Computer facility	87.9	50.8	12.1	47.5	0.0	1.7	0.0	0.0
Class room	65.5	28.0	15.5	66.9	19.0	5.1	0.0	0.0
Co-curricular Activity	79.3	13.6	15.5	36.9	5.2	46.2	0.0	3.4
Over all facilities	75.9	68.2	22.4	28.4	1.7	3.4	0.0	0.0

Source: Field Survey

Table 4.12 shows that, in the case of number or availability of teachers 6.8 per cent of the students from aided colleges remark that, it is above average, while regarding the number of non-teachers in the colleges, 14 per cent of the Govt. college students and 6 per cent of the aided college students agree that, their numbers are above average or more than the required. Similarly, the library, laboratory and classroom facilities etc. majority in both streams of education remark that they are below average.



In fact, 76 per cent of govt. college students and 68 per cent of the aided college students are of the opinion that the facilities in their colleges are below average. Only 22 per cent of govt. college students and 28 per cent of aided students remark that it is average.

According to a document, out of 3388 institutions in 57 subjects from 'A to Z', only 8 per cent of the institutions are in Kerala.³⁵ Similarly, for 15 subjects, there are no institutes in the State. For instance, Kerala is often renowned as the India's number one State in consumption of Jewellery products. But, there are no institutes to train people in gems and jewellery design, and similar other emerging areas. Obviously, Kerala's position in having top ranking higher educational institutions³⁶ in the Country is totally dismal.

To put in brief, the facilities in the Arts and Science colleges are very poor in the State both in the govt. and aided sector, so as to further weaken the supply side of higher education in this category. In other words, supply condition is inadequate with respect to its demand not only in terms of number of institutions, but also in terms of intake capacity, infrastructure facilities and investments. Thus it is amply clear that the supply base of higher education in Kerala is lopsided or inadequate to meet its ever-growing demand.

CHAPTER 5

COSTS AND BENEFITS OF HIGHER EDUCATION

Previous chapters 3 and 4 has shown that supply condition in General (Higher) education is inadequate with respect to its demand not only in terms of number of institutions, but also in terms of intake capacity, infrastructure facilities and investments. Before advising to enhance investment in this sector, a suitable cost-benefit analysis important. Cost – Benefit (rate of return) analysis is a procedure ordinarily followed in estimating the profitability of investment projects. But the question is, whether this technique can be applied in evaluating educational investments? “Although Colleges and Universities sell goods and services (education) for a price (tuition fee), make those goods and services with purchased inputs and hired workers (professors, staff), use a lot of plant and equipments (classrooms, labs, computers and parks) and they compete hard for customers and faculty inputs,³⁷ it isn’t like a firm.” Obviously, when considers this technique to analyze investment in education, one realizes the complexity of its application due to the following facts:

Time span of costs and benefits: Customers don’t really know what they’re buying. The outcome can’t be known for 20-30 years. It’s once-in-a-lifetime decision that can’t be corrected next time around (*Gordon 1997*). Normally, the direct benefits of formal education arise only on the completion of it, except the social benefit through large-scale employment to those people who are engaged in imparting education. While on completion the cost of formal education reaches to zero.³⁸ Besides, it is not feasible to fix the life span of an educated person (as in the case of a machine) to fix the benefit that he/she derives himself/herself and thereby to the economy. It is highly extreme

to assume that the benefits remain constant throughout his/her life span or even after his/her death.³⁹

- (1) Nature of costs and benefits, whether private or social or both.
- (2) Individual differences in costs and benefits. Since individuals differ in their traits and capacity, both the costs and benefits of education differ between two persons even with same level of education.
- (3) Level and type of education i.e., whether courses like technical, medical, commerce, arts or skill development and if so, whether pupil has undergone education or training for few months or years.
- (4) Heterogeneity of institutions i.e., from where individual attains education.
- (5) Motives of both educationalist and learners.

5.1 Concepts and Methods of Educational Cost & Benefit Analysis

Due to the presence of such imbroglios, it is important to illustrate the concepts and methods used in the present study pertaining to the costs and benefits of higher education in Kerala.

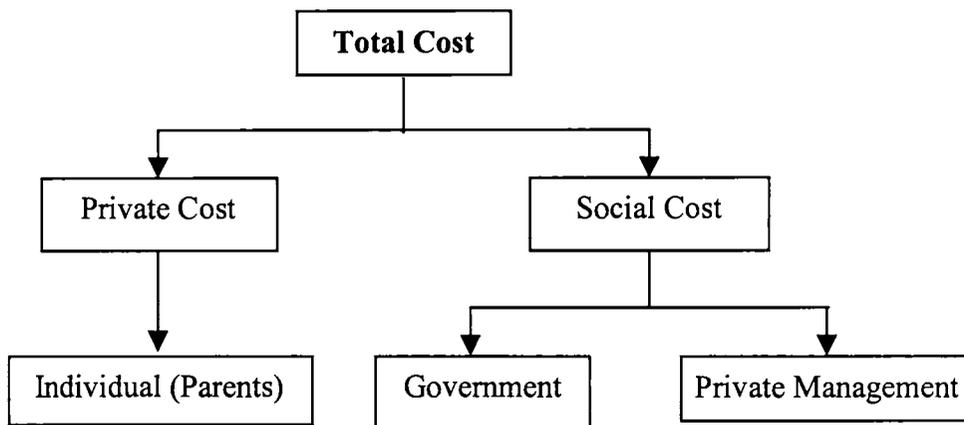
5.1.1 Cost of Higher Education

The cost of education is of crucial importance to educational planners and policy makers, but there are a number of ways of defining and measuring costs (*Woodhall* 1987). Since every government in the world operates under budget constraints, cost scrutinization and analysis are of primordial importance in educational planning (*Coombs and Hallak* 1972). But one should be extremely careful in discriminating the cost and purpose (*Psachoropoulos* 1980). The present study distinguishes the concept of

educational cost against this standpoint and the theoretical framework laid down in the introductory chapter.

The total cost of education⁴⁰ is divided into Private Cost and Social Cost on the simple logic or backdrop of ‘giver and taker’⁴¹ consideration of higher education process in Kerala. The ‘taker’ is the student and the ‘giver’ is government and private management.⁴² See Chart 5.1.

Chart 5. 1: Cost of Higher Education



The private costs are those amounts, which an individual or his/her family (parents⁴³) spends for his/her education in the form of tuition fee, special fee, capitation or donation if any, expenses on study equipments, food, clothing, accommodation and travel, forgone earnings while undergoing studies, forgone benefits if invested those money in alternative purposes, and mental or physical stress and strains of his/her family and himself/herself.

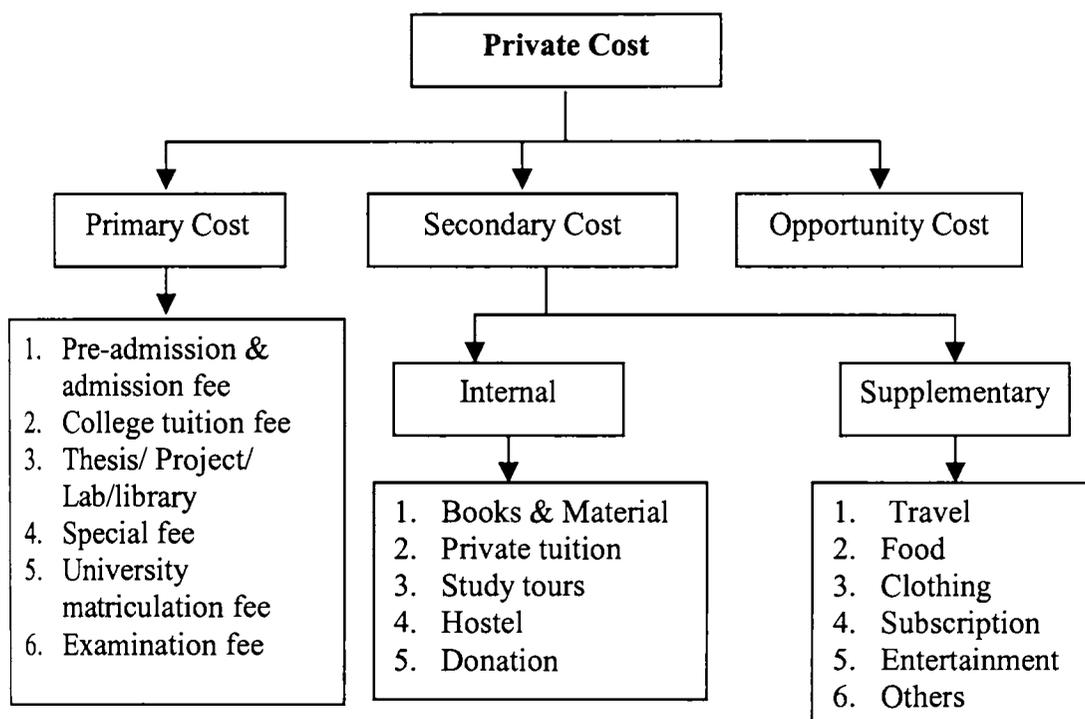
Whereas, social costs are those costs incurred by the public exchequer (commonly by government and private management⁴⁴) in imparting a certain level of education. This includes, expenditure for providing educational facilities (all sorts of infrastructure, say staff, land, building, equipments,

materials, etc), payments for fund procured to invest in education (interest), the foregone benefits to State (economy) while prolonging individuals' education, forgone benefits if invested those funds in alternative projects and the stress and strains suffered by people who are engaged in imparting education.

5.1.2 Components of Private Cost

The components of private costs are illustrated in Chart 5.2.

Chart 5. 2:Components of Private Cost



At first they are grouped into three, (a) primary cost, (b) secondary cost, and (c) opportunity cost. “Whatever the bearer of the cost gives up, including for example, other things that the student cannot buy when he/she spends his/her money on tuition or college books, is referred to as Opportunity Costs” (*Bowman* 1966). Obviously, opportunity private costs are those

forgone earnings while undergoing studies and forgone benefits if invested those money in alternative purposes. There were arguments for (*Schultz 1972; Blaug 1972*) and against (*Vaizey 1962*) the inclusion of opportunity cost in the total cost of education. The present study however, does not include this item due to the inherent measurement problem. (*Kothari and Panchamuki 1980*)

Secondary costs,⁴⁵ though essential, are highly interpersonal and subjective to the individual's preferences and vary from individual to individual. They are further categorized into two on the basis of priority of these items in attaining a given level of education, such as supplementary cost and internal cost. Inclusion of items in the supplementary cost list, in the total educational cost estimation is a hectic issue due to measurement problem. One may also note some kind of unreasonableness with the inclusion of it. For example, if an individual goes to market and buys a Television, then the cost is what the individual pays for it, and not the travel expense, expense of food, cloth, and the expense if one takes his friends along with, etc. In other words, if one goes on adding all these, he may not be able to stop?

Items in the internal costs list are though inevitable to a greater extent also vary from individual to individual. Only a few may buy books if available in library, some may prefer Xerox, some prepare notes. Regarding study tour, only in certain disciplines it is compulsory, and even if so, varies to group-to-group. Field survey among students has shown that only 6 per cent opt (give details) for tour, as shown in table 5.1. Similarly, at higher (general) education stage, students very rarely go (12.4 per cent) for private tuition. As regards to using hostel facility, hardly 5.2 per cent in general education utilize this. One argument on accounting the hostel expenses in the private cost of education is

that, hostels are treated as a business enterprise and income and expenditure on this account has been deducted from both sides. Hence, they may be excluded from the calculation of the costs” (Dutt 1969). Where as the alternative view supports its inclusion in the recurring cost, since hostel facilities are either essential or eminently desirable for running an educational institution (Kamat 1973). But, suitable methodology to account such expenses of non-hostellers is absent. Similarly, only 4.9 per cent of the respondents give details on donation and it is only in the 1st year of the course at degree level and postgraduate level, and is not compulsory too. Thus, the present study excludes these items due to the measurement problem to arrive at a common denominator for these costs to all students, except the expenses on books and materials, which students revealed during survey.

Table 5.1: Course-wise Distribution of Number of Students Opted for Secondary Type Costs

Course	Total Respondents	Tuition		Hostel		Study Tour		Donation	
		No. of Stude.	Per Cent						
I DC	27	5	18.5	3	11.1	0	0.0	9	33.3
II DC	74	12	16.2	5	6.8	0	0.0	0	0.0
III DC	143	20	14.0	4	2.8	15	10.5	0	0.0
I PG	42	4	9.5	2	4.8	0	0.0	8	19.0
II PG	62	2	3.2	4	6.5	6	9.7	0	0.0
Total	348	43	12.4	18	5.2	21	6.0	17	4.9

Source: Filed Survey.

Finally, the primary costs are those payments made by the students (family) to the concerned educational institution for acquiring a certain level (type) of education. All the items in these are self-explanatory, and need to understand in common man's language. Without the payment of this a student cannot complete the education and come out with the certificate. This is fixed and will not vary, except to subsidized groups⁴⁶ and repeating students. Accordingly, to estimate the private cost of higher education, the present study considers only those items in the primary cost components based on college handbooks, and the per capita private expenses on books and materials, as responded by students during field survey.

5.1.3 Empirical Estimation

In order to estimate the cost of (private and social) higher education, vast amounts of data are necessary. The available secondary data are not adequate for the purpose. And even the available data vary among themselves because of the disparities in the methodologies used in the definition of concepts and collection of data. Besides, no full-fledged study is available which discusses the cost and benefits of higher education in Kerala.⁴⁷ Here is an attempt to take care of this research gap.

Table 5.2 shows that, the private costs of students who are undergoing degree and postgraduate courses either in the Govt. or Aided stream, at current price rate, for the three-years in the case of degree and two years (4 semesters) in the case of P G, are on an average Rs. 5706/- and Rs. 8689/-, respectively. Of which both degree and PG students spend, on an average Rs. 1663/- and Rs. 2446/- for books and materials, while the remaining Rs. 4043/- and Rs. 6243/- are the payment to the college or university by these categories of

students for the completion of the course. In fact, Rs. 4043/- and Rs. 6243/- respectively, are the per student internal receipt of the educational institution for imparting degree and postgraduate courses.

Table 5.2: Course-wise Distribution of Per Capita Private Cost

Course	(Average) Payment to College*	Average on Books & Materials#	Total
B A	3813	1618	5431
B Sc	4448	1847	6295
B Com	3868	1523	5391
Average for DC	4043	1663	5706
M A	5901	2113	8014
M Sc	6839	3128	9967
M Com	5988	2097	8085
Average for PG	6243	2446	8689

Source: Compiled from College Calendar and Handbooks 2003-04 of Sample Colleges and Field Survey. # For each categories of respondents. *Average expenses of students under four affiliating Universities, relating to all the items specified in primary cost components of chart 5.1, PP 93. Regarding expenses on examination & the like, see Appendix T 5.1 PP 199.

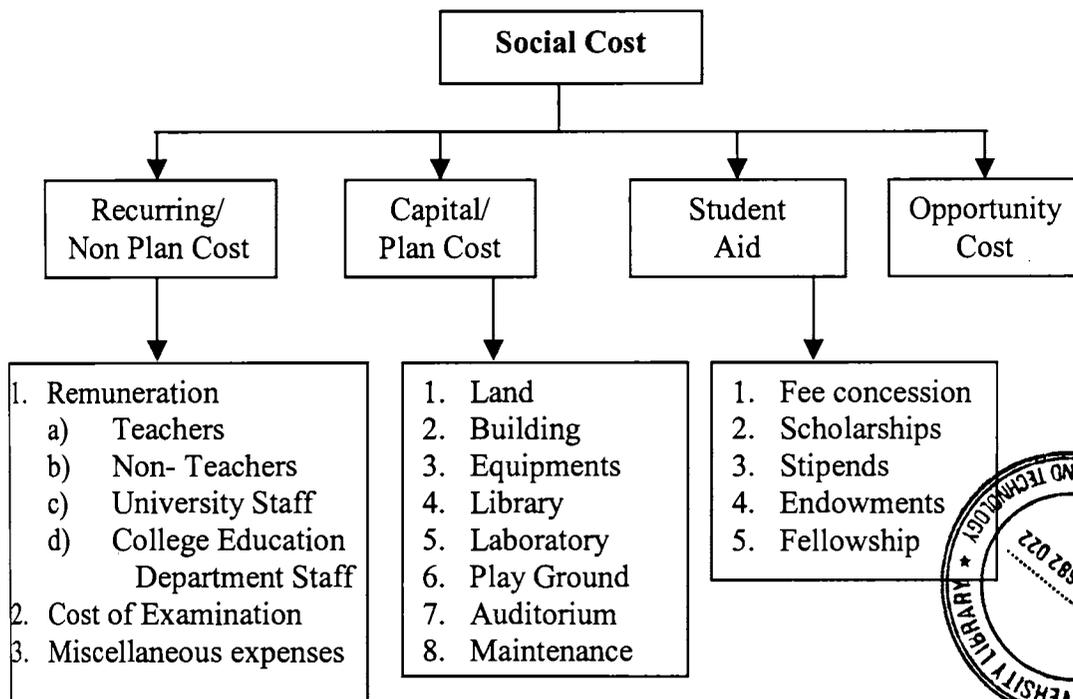
5.1.4. Components of Social Cost

The components of Social Costs are illustrated in Chart 5.3. At first they are grouped into four: (a) recurring cost, (b) capital (non-recurring) cost, (c) student aid, and (c) opportunity cost.

As stated above, opportunity social costs are those foregone benefits to State (economy) while prolonging individuals' education and forgone

benefits if invested the funds in alternative projects instead of imparting education. In fact, a systematic methodology has to be evolved to measure these, and in the absence of which the present study excludes this item in the present analysis.

Chart 5. 3: Components of Social Cost



Information collected through sample survey has shown that 80 per cent of the govt. college students and 67 per cent of aided college students are enjoying fee concession.⁴⁸ While, only 7 per cent receive some form of scholarships out of both streams of students, as evident in table 5.3. Since, both these items constitute the major part of 'student aid' in Arts and Science Colleges in Kerala, the present study mention only these items in the list. And, in fact, student aid is the additional benefit enjoyed by the selected group of students⁴⁹ due to one or other reasons, over full pay students. Besides, there is some kind of unreasonableness in including this item to estimate the total cost

with respect whole students. Thus, the study proceeds to examine the cost components with respect to full pay students excluding this item.

Table 5.3: Course-wise and Sector-wise Distribution of Students Enjoying Financial Aid

Course/ Sector	No. of Respondents	Fee Concession*	Scholarships*
Degree (G)	53	86.8	7.5
Degree (A)	191	68.1	3.7
Degree Total	244	72.1	4.5
P G (G)	20	60.0	5.0
P G (A)	84	63.1	13.1
P G Total	104	62.5	11.5
Grand Total	348	69.3	6.6

Source: Filed Survey. * Figures in Per Cent. Ibid, PP 86-7. G- Govt., A- Aided

Similarly, there are lot of controversies in the bifurcation and inclusion of certain other items also in the estimation of social costs. Initially, it is opined that, “one cannot rigidly distinguish between recurring and non-recurring cost” (*Saxena 1979*). Another area of controversy is on the measurement and inclusion of capital cost. “Present methods of calculating capital requirements in education are inadequate. In no country does an annual review of the stock of capital in education or a systematic depreciation of school building takes place” (*Edding 1966*). “It is surprisingly complicated conceptually to compute these costs in non-profit firms. Those who have tried to generate reliable figures have found an audience whose conceptual hang-ups create serious barriers to accept these figures, especially on the cost of building, equipment and land. Besides, costs of using building, equipment and

land are large and badly reported in college accounts. Similarly, the maintenance cost, often spends yearly, is a durable investment” (Gordon 1998) and hence come under capital cost. Books and Journals should also be incorporated under non-recurring cost since these are used by future generations and need replacement only after several years (Chalam 1986). Above all in Kerala, most (71.43 per cent) of the colleges have started functioning prior to 1970. Since then the facilities are being utilized by generations and it will continue to be utilized by future generations. Besides, 90 to 99 per cent are public contribution in the case of Govt. and Aided colleges in the State. Thus, to include capital cost is a tedious task. More over, there is value depreciation and at the same time appreciation⁵⁰ too, and these cannot be reflected in price due to the presence of externality. (Koutsoyiannis 1979) Above all education is a “public good” and there is “no owners” of educational institutions, but only managers or operators.⁵¹ Thus, to estimate the social cost of higher education, the present study considers only those items under recurring costs as shown in Chart 5.3.

Table 5.4: Year of Starting of Selected Arts and Science Colleges

Year of Starting	Number of Colleges	Per Cent to total
Before 1960	4	28.57
1961-1970	6	42.86
1971-1990	3	21.43
After 1991	1	7.14
Total	14	100.00

Source: College Calendar 2003-04 and Field Survey.

Although the number of teachers and their salaries are included in earlier studies of this kind, the number and remuneration of non-teaching staff, university staff and departmental staff are totally neglected section (in fact data on this is unavailable) in the educational cost analysis in the State. Since these are also the major and indispensable part of the higher education scenario of the State, that must also be looked up with utmost importance. The miscellaneous costs (or expense for the 'routine' smooth running) include all those expenses for operating the educational institution, annually, for which the researcher could not be fished out data. The cost of examination is those expense incurred over and above what is collected from the student for conducting the exams and publication or award of result.

5.1.5 Empirical Estimation

In the absence of sound data, systematic accounts or method, and conceptual complexities due to varying number of courses, students, teachers, non-teachers, university administrative staff, govt.'s higher dept. staff, time period and nature of each course, etc, it is rather difficult to estimate the per capita social cost incurred by govt. Thus the study is constrained to use the per pupil expenditure at higher education level as proxy for recurring cost, which is estimated out of total non-plan expenditure and total student enrollment at higher education level⁵² in the State per annum, as shown in Table 5.5.

Then, to obtain per pupil expenditure, the study resorted to aggregate the per pupil expenditure for three years in the case of Degree and two years for Postgraduate student, as shown in table 5.6.

Table 5.5: Per Pupil Expenditure in Higher Education (General)

Period	Total Non-Plan Expenditure (Rs in Crores)	Total Enrolment	Per Pupil Expenditure (in Rs)
2000-01	364.18	159167	22880
2001-02	478.58	160754	29771
2002 -03	354.44	158967	22296

Source: Economic Review, State Planning Board, 2001 PP131-34; 2002 PP 247 & S 215; and 2003 PP 273 & 281. C4=C2/C3.

Table 5.6: Per Capita Social Cost (Course-wise)

Period	Per Capita Social Cost (in Rs)	
	Degree	P G
2000-01	22880	.....
2001-02	29771	29771
2002 -03	22296	22296
Total	74947	52651

Source: Compiled from Table 5.5

In fact Rs. 74947/- for degree and Rs. 52651/- for PG excludes capital cost (plan expenditure). Also note that, this look very inflated when one compares with the per capita public expenditure before de-linking pre-degree i.e., during 1996-97 the total enrollment including Pre-degree course was around 3.43 lakhs making the per pupil expenditure equal to Rs.7683/- only. After de-linking pre-degree there was no attempt⁵³ to make use of the excess infrastructures in the higher education sector and led to increased per pupil expenditure. Inference draw out based on this data may make some confusion. Thus, the study proceed to estimate the per capita recurring (social) cost at college level based on information collected through field survey, regarding

the remuneration paid to both teaching and non-teaching staff working in respective colleges for the last three years, as shown in table 5.7 and 5.8.

Table 5.7: Per Capita Recurring Social Cost at College Level

Period	Gross Salary (Rs in Lakhs)	Number of Enrollments#	Per Capita Social Cost (in Rs)
2001-02	1275.12	8401	15178
2002-03	1739.16	11015	15789
2003-04	2628.00	17152	15322

Source: Field Survey. See for details, T. 5.2, Appx. PP 201. $C4=C2/C3$.

Here the study have considered only the amount of salary paid to both teaching and non-teaching staff in the college for period 2001-02 to 2003-04, with respect to corresponding student enrollment together at degree and postgraduate level in each college

Table 5.8: Per Capita Social Cost Course-wise, at College Level

Period	Per Capita Social Cost (in Rs)	
	Degree	P G
2001-02	15178	....
2002-03	15789	15789
2003-04	15322	15322
Total	46289	31111

Source: Compiled from table 5.7.

Obviously, the table 5.8 shows that the per capita social cost in the higher (general) education category for a degree student to complete three years course (2001-04) is Rs. 46289/-. While, that for a postgraduate⁵⁴ student to complete two years (4 semesters) course is Rs. 31111/-.

5.1.6 Private Vs Social Costs

Therefore, the total direct cost of an individual's formal higher education is the sum of social cost and private cost. Symbolically,

$$TC_E = \alpha_{Td} + \beta_{Ts} \dots\dots\dots (5.1)$$

Where, α_{Td} = Private Cost, and β_{Ts} = Social Cost.

Table 5.9: Total Cost of Higher Education (Amount in Rs.)

Course	Private Cost	Social Cost	Total Cost	Per Cent of S C
Degree	5706	46289	51995	89.02
P G	8689	31111	39800	78.17

$C4 = C2+C3$; $C5 = (C3/C4) \times 100$.

Source: As in table 5.2, PP 98 & table 5.8, PP 104.

In short, the total per student cost of degree education is Rs.51995/- and that for PG is Rs.39800/- in the general education category. Out of which the public contribution for degree and PG Course are, respectively 89 per cent and 78 per cent. Now the "general subsidy per full pay student" in higher (general) education from the public exchequer can be obtained by deducting the internal receipt of the educational institution, i.e., the amount contributed by student community to educational institutions, as shown in table 5.10. In other words, the general subsidy for a full pay student is the difference between the amount that govt. spends and the amount that actually paid out by student to govt. (through college or university).

Table. 5.10: Per Capita General Subsidy Course-wise

Course	Social Cost	Internal Receipts	Subsidy
Degree	46289	4043	42246
P G	31111	6243	24868

$C4 = C2 - C3$.

Source: Compiled from Table 5.2 pp 98, and 5.9, pp 105.

Thus, a full pay student in degree course gets on an average Rs. 42246/- and a postgraduate course gets Rs. 24868/- as subsidy. And those enjoying any sort of fee concession, the subsidy will be higher than this depending on the extent of fee concession. Obviously, from the foregoing analysis, it is evident that the social costs of higher (general) education exceed private costs.

5.1.7 Benefits of Higher Education

The hardest part of the cost-benefit analysis in education is the calculation of benefits both economic and non-economic. Bearing this task in mind, here is an attempt to consider only the economic benefits. Since the investment in education is long term and the decision is taken on the basis of highly imperfect information, and besides the benefits of education is life-long and that in turn depends on the market for the educated, the estimation of ex ante⁵⁵ rate of return is difficult. The difficulties of calculating the ex ante rate of return (private and social) have led some economists to question the whole concept of human capital theory (*Boswoth* 1996). However, many studies since 1960's conducted all over the World have attempted to do so. The benefits of education are measured in terms of the extra lifetime incomes or earnings enjoyed by educated manpower (or the State) compared to those with lower level of education.

Studies have shown that, in US a college graduate can expect to double their income compared to a high school graduate. The annual gain for a college graduate is \$26000, \$33000, \$22000, per year in US, Tennessee, Virginia and North Carolina, respectively. Similarly, higher income lead to increased spending and tax collections. Over a lifetime a student will pay more in tax than the cost to the State for the bachelor degree. In Tennessee tax receipts from persons with higher education has increased to \$1.65 billion for the year 1997 where the annual Tennessee spending on higher education was only \$0.97 billion. The cost-benefit ratio for Tennessee was 1:1.7. Thus, from the perspective of individual student, it is a very good investment of time and money. And from the perspective of the State, it is a very good investment of public resources (*Hipple 2001*). A study on internal rate of return of University education in Kerala also revealed that by and large public investment on university level education and research is justifiable (*Bhaskaran Nair 1989*).

Apart from many of such quantitative improvements, education makes positive contributions to numerous types of non-market activities involving significant cognitive or affective attributes, externalities and spillovers.⁵⁶ Satisfaction enjoyed when schooling itself is enjoyable - on consumption (*Lazear 1977; Gustafson 1978*), positive effect on man's health and living (*Grossman 1976; Lando 1975*), mother's education significantly raise the child's IQ (*Leibowitz 1974; Benson 1982*), more educated women are more likely to use contraception and to have fewer unplanned babies (*Michael 1982*), wife's schooling raises her husband's annual earnings by about 3.5 per cent (*Benham 1974; Welch 1974; Mc Mahon 1987*), etc. On externalities, education is necessary for effective democracy and democratic institutions (*Thomas Jefferson*), for efficient market and technical change (*Schultz 1975*),

lower crimes and reduced penal system expense (*Spiegleman* 1968; *Webb* 1977; *Ehrlich* 1975; *Phillips et. al*, 1972), lower welfare Medicaid, unemployment compensation and public health costs (*Garfinkle and Haveman* 1977) driver's education lowers accident rate (*Weisbrod* 1962), neighbourhood and employment-related benefits including leadership (*Weisbrod* 1962)etc, to mention a few. All these suggest that there are now many good studies offering evidences of positive educational benefits.

Educational benefits are mainly divided into Private (individual) and Social Benefits. One such classification is shown in Chart 5.4.

Chart 5. 4: Individual and Social Returns

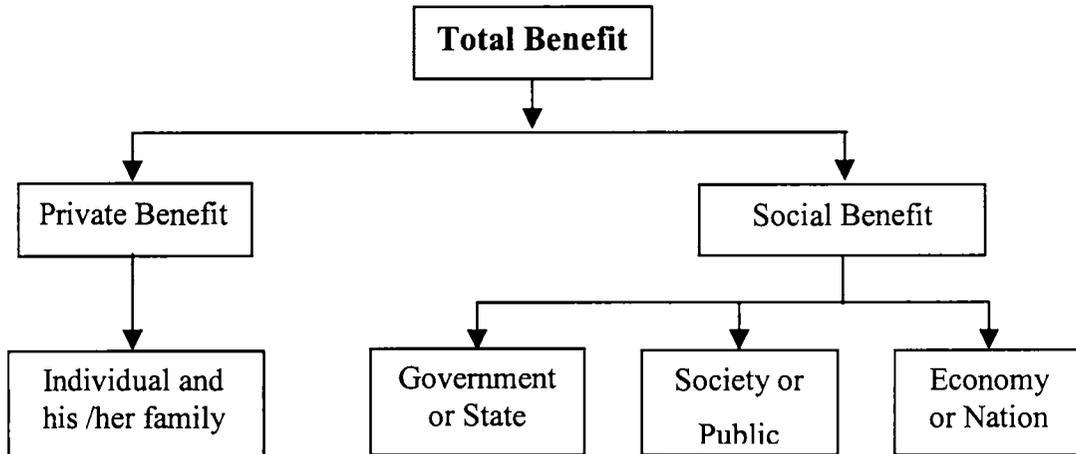
	Society	Individual
Benefit	Direct (i.e., pre-tax) gains in production + Psychic benefits + externalities and spillovers	Take home (i.e., post tax) earnings + psychic benefits
Cost	Production forgone during the education period + total cost of tuition	Loss of earnings (i.e., post-tax grants to students) + cost of tuition borne by individuals

(Bosworth, 1996)

The private returns are those factors that raise the individuals' present and future welfare, while the social benefits are those that society benefits in total. In other words, Net Social benefits are those advantages that the public (society, State/ government, nation/ economy, and even the world) achieves upon imparting a certain level and type of education over and above the cost of education of individuals. While, the Net Private Benefits are those gains, which an individual or his/her family earns consequent upon obtaining a

certain level and type of education or training, over and above the private cost borne during the process of education. Private and social benefits categorization is given in Chart 5.5.

Chart 5. 5: Benefits of Higher Education



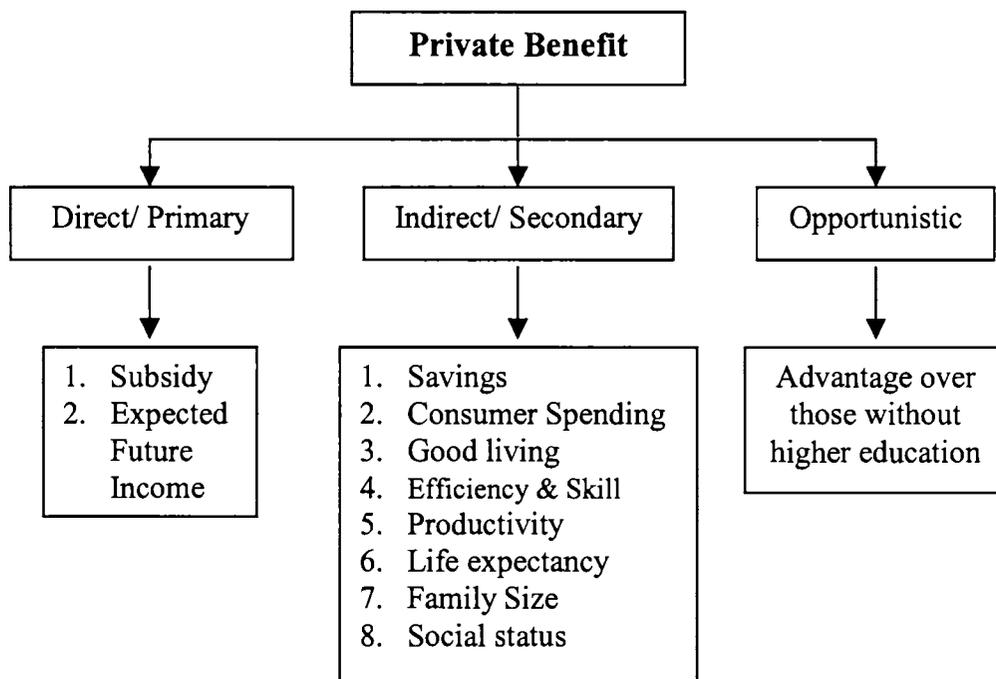
An empirical study, among others, which calculated social return has shown that social rate of return to higher education, is lower than private rates of return (*Wilson 1983; Psacharopoulos 1987*). The returns to investment in education in developing countries are higher relative to advanced industrial countries (*Psacharopoulos 1987*). While according to Finniston (1980), the simple rate of return methodology does not encompass the dynamic consequences of a social shortage of manpower, which will give rise to externalities by raising the employment and earning prospects of other groups.” As such there are enough controversies exists on the inclusion and exclusion of variables in the estimation of both private and social benefit. Finally, in the absence of a full-fledged methodology appropriate to comprehend all the items, the present study laid down the following conceptual framework for the estimation of private and social benefit with respect to higher education in Kerala.

5.1.8 Components of Private Benefit

Chart 5.6 illustrates the components of private benefits. Private benefits are broadly classified into three: (a) Direct or Primary Benefit, (b) Indirect or Secondary Benefit and (c) Opportunistic Benefits.

Opportunistic benefits are those advantages enjoyed (income, employment, social status and the like) by the higher educated individual against his/her counterpart who is without that education. All the concepts in the indirect or secondary benefits category require no further clarification. To estimate higher educations-own contributions under these heads needs appropriate methodologies that are beyond the scope of the present study. Hence, the study leaves this important area for further independent research in this field, and similar others.

Chart 5. 6: Components of Private Benefits



The direct or primary private benefits of higher education accrue mainly from (a) Subsidies and (b) Expected Future Income or earnings. Where, subsidies are those gains in the form of public (govt.) contribution that an individual receives while undergoing education.⁵⁷ In other words, it is the amount that the government spends over and above what student actually pays.

5.1.9 Empirical Estimation

To estimate private and social benefits of education, vast amount of data are necessary. But in the absence of a reliable database, the present study attempts to compute the subsidy per individual and expected future income out of a certain level of education in the following way. Subsidy is the difference between what an individual student actually pays and what the State or public exchequer spends for his/her education, as in table 5.10.

Having estimated one part of the private benefits, next major problem is to estimate the future expected income or earnings from a given level of education. One method is to take the present annual earnings of an appropriate sample of persons with corresponding levels of education (*Bhaskaran Nair* 1989). But still the questions that arises are, how many years' of income has to be accounted, how to account the waiting period, how to account the individual 'earning differences' with same educational qualification, etc. Given these limitations, the study gathers information on annual income revealed employed persons in the sample survey corresponding to their education background. The regression analysis done in chapter 8 of the study shows that there is a significant difference in the income earned by people with different levels of education placing the higher educated at top and vice versa. Thus, the study here try to estimate the future expected personal income

of a graduate and a postgraduate with general education, based on sample survey. For this purpose a reasonable time period of 10 years is chosen. In other words, to estimate the average annual expected income, the income actually earned by person in the age group 20 – 30 years with the corresponding level of education is taken.

Table 5.11: Expected Future Income and Total Private Benefit (in Rs)

Course	EFI Per Year	Subsidy	Total P B
Degree	71000	42246	113246
P G	101429	24868	126297

$C4 = C2 + C3$.

Source: Field Survey.

Thus it is evident from the table 5.11 that, the total private benefit of a graduate in general education is Rs.113246/- and that of a postgraduate is Rs. 126297/-. Of which, degree and postgraduate students receive Rs. 42246/- and Rs. 24868/- correspondingly, in the form of general subsidies during the course period, and the rest they normally get per year immediately on securing a job with the corresponding educational qualification, *ceteris paribus* the probable waiting period and other things.

In short, the private benefit of higher (general) education exceeds its costs by almost 20 to 15 times to degree and postgraduate student respectively, as per the present estimation. In other words, the private investment on higher education is a profitable business from the point of view of an individual and his/her family.

Table. 5.12: Net Private Benefits (Amount in Rs.)

Course	Total P C	Total P B	Net Private Benefit
Degree	5706	113246	107540
P G	8689	126297	117608

$C4 = C3 - C2.$

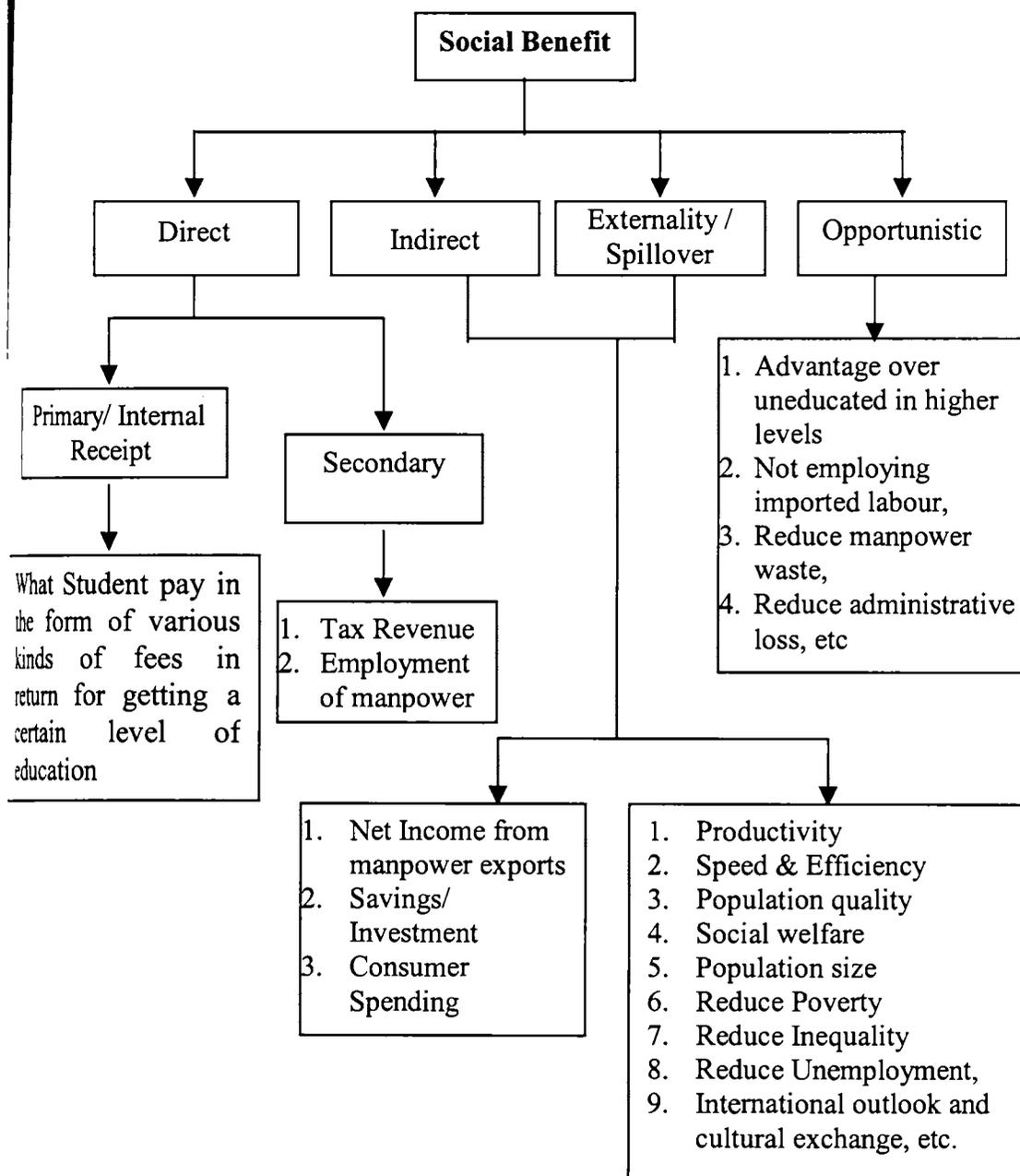
Source: As in tables 5.2 pp 98, and 5.11 pp 512.

5.1.10 Components of Social Benefit

Another area of controversy in the analysis is to distinguish the components of social benefits of education, as it is so complex, interdependent and seem infinite. However, Chart 5.7 tries to illustrate the components of Social benefit, although a strict compartmentalization is difficult. Initially, it is classified into four: (a) Direct, (b) Indirect, (c) Externality / spillover, and (d) Opportunistic. All the items in these are self-explanatory and thus need no further clarification.

The direct social benefit is further divided into two categories: (1) Primary or internal receipts and (2) Secondary. Primary benefits (internal receipts) are those contributions made by the students to the public exchequer for obtaining a certain level of education. While secondary benefits are those amounts that public exchequer receives (a) in the form of tax revenue say direct, indirect and profession tax, and (b) by providing employment to large number of people in the process of education (*Hipple 2001*).

Chart 5. 7: Components of Social Benefits



5.1.11 Empirical Estimation of Social Benefit

To estimate the tax revenue, the present study consider only the direct tax contribution made by the teaching and non-teaching staff in the respondents college, and then divided it with total student intake in the college

in corresponding years to get the per capita tax contribution with respect to student. The column 4 of table 5.13, shows the per head tax contribution per year, during period 2001-02 to 2003-04.

Table. 5.13: Average Tax Revenue Per Student (Amount in Rs.)

Period	Gross Tax Revenue (Rs. in lakhs)	Student Intake	Average Tax Per Student (in Rs)
2001-02	14.87	7966	187
2002-03	23.16	11289	205
2003-04	28.98	16074	180

$$C4 = C2/C3$$

Source: For more details, see T. 5.3, Appendix PP 201

Similarly, the volume of employment in the respondents' college and their salary is shown in T. 5.2 and T. 5.4 in Appendix pp 200-01. In other words, 1722 staffs are directly employed in the education of 17828 students in 14 colleges during 2003-04. To quantify the size of employment in monetary terms, the gross salary paid to these staff per year is chosen, and then divided the sum with total student intake in corresponding years, and obtained the per capita social contribution out of employment in imparting education to a student, as shown in table 5.14. It is seen that the per capita salary to staff estimated with respect to student enrollment is Rs. 15529/-; Rs. 16858/-; and Rs. 15322/- for the years 2002; 2003 and 2004, respectively.

Table. 5.14: Per Capita Salary Contribution with respect to Student

Period	Gross Salary (p/y Rs in lakhs)	Total Student Enrollment	Per Capita Salary (Amount in Rs.)
2001-02	1304.60	8401	15529
2002-03	1856.88	11015	16858
2003-04	2628.00	17152	15322

$C4 = C2/C3$

Source: See T. 5.5, Appendix PP 202.

Sum of the per capita tax revenue and employment income will give the total income contribution of each student, which is aggregated for three years in the case of a degree student and for two years in the case of postgraduate student, as shown in table 5.15.

Table. 5.15: Per Capita Social (Income) Contribution (Amount in Rs.)

Period	Degree			PG		
	Tax Revenue	Emt. Income	Total Benefit	Tax Revenue	Emt. Income	Total Benefit
2001-02	187	15529	15716	....	....	....
2002-03	205	16858	17063	205	16858	17063
2003-04	180	15322	15502	180	15322	15502
Total	572	47709	48281	385	32180	32565
Internal Receipt for 3 years			4043	I R for 2 years		6243
Grand Total (Social Benefit)			52324	G.T. of S B		38808

$C4 = C2 + C3$; $C7 = C5 + C6$.

Source: As in table 5.10, pp 106; 5.13 pp115 & 5.14.

With this the internal receipts of the govt. (through college or university) also may be aggregated to get the gross social benefit from a given level of education of student. Hence, the total social benefits due to the

education of a degree student will be at least Rs. 52324/-, while that of a post graduate student is Rs.38808/-, at current rate. Obviously, the net social benefits can be estimated by taking the difference between total social benefits and total social costs. Thus, table 5.16 shows that the total social benefits exceed the total social costs as in the case of private benefit, hence reject the hypothesis that social cost exceeds the social benefit. But, the volume of social benefits is comparatively less to that of individual (private) benefits.

Table. 5.16: Net Social Benefits (Amount in Rs.)

Course	Total Social Cost	Total Social Benefit	Net Social Benefit
Degree	46289	52324	6035
P G	31111	38808	7697

$$C4 = C3 - C2$$

Source: As in table 5.9, PP 105 & 5.15, PP 116

To put in brief, the foregoing costs and benefits comparison of higher (general) education reveals that,

- (1) The private cost of higher education is smaller than social cost.
- (2) The private benefit is larger than social benefit
- (3) Both social and private benefits exceed its corresponding costs.

Hence, the analysis suggests to rejects the hypothesis that (a) private costs exceed the private benefits of higher education, and (b) social costs exceed social benefit (*Bosworth et. al*, 1996 pp 223-51; *Williams and Gordon* 1981; *Wilson* 1983).

CHAPTER 6

HOW TO PRICE HIGHER EDUCATION?

CHANGING FACE OF HIGHER EDUCATION POLICY

Ongoing changes in Global economic structures along with information revolution have produced an environment where knowledge and skills, or to be more specific, education and training are considered increasingly as valued commodities. But, how to price education especially at its higher levels in a state of society in which majority are so poor to afford the educational expenditure of their wards. Thus the issue of pricing is more pressing to (1) a resource-crunch Govt. (*Mathew 1991; Joseph 1994; Salim 1997*), (2) lower income groups whose access is restricted by higher net cost of colleges (*McPherson & Schapiro 1997*) and (3) colleges that are not like firms although they sell education for price (tuition fee) using lot of inputs like professors, staff, classrooms, labs, libraries, computers (*Gordon 1997*).

Kothari Commission even in 1966 had suggested that at least 6 per cent of GNP would need to be earmarked for education in India, which remains elusive even after 38 years. Studies have shown that, higher education in India is mostly availed by the top 30 per cent of the income groups. They receive full elementary education and occupy about 70 per cent of the seats in secondary education and 80 per cent of higher education (*Balachander 1989*). Similar study done in Kerala has shown that, high-income groups appropriate majority of engineering seats and economically weak students may not even venture to apply for engineering courses (*Joy 2002*). Thus it is opined that, under such a discriminatory system, high-income groups which at present get higher education almost free of cost, would be priced appropriately based on

their capacity to pay while the low income groups would be totally or partially exempted through a package of free-ships /scholarships or loans (*Salim 1996*). But how would make it practice?

Constitution of India provides for equality of opportunity and equal treatment of students in the distribution of education. Although the concept 'equity or equality' is very broad and is very difficult to define in concrete terms (*John Gafar 2001*), the policies and practices should ensure and promote equality and justice. This can be attained by treating pupil of like circumstances equally (horizontal equity) and of unlike circumstances unequally (vertical equity). Moreover, as in any other endeavor the basis of pricing in higher education shall be the cost. But the incidence of such price shall be shared at par with the benefits derived out of it. Various country studies (*Psachoropoulos 1986*) on costs and benefits of education have shown that both society (social benefit) and private individuals (private benefits) benefit out of education. Whether the private benefit exceed social or otherwise, is one of relative concern and depends on various factors and benefit components chosen for analysis. As for Kerala is concerned however, the preceding chapter have shown that the social benefit of higher education is greater than the private benefit. Thus, it is logical to say that the State/Govt. need to bear a portion of the cost of higher education regardless of in which streams students are studying.

With costs rising, more students enrolling, universities and colleges lagging behind, there is a growing demand that higher education need to look beyond government money. But how much? The 'welfare state' concept holds that taxation will fund all public service including education and higher

education (*Lyall 2003*). This attitude is changing rapidly now. The self-financing and cross border institutions is mushrooming all over the country. It is alleged that, the decline in standard of public education has opened the space for self-financing and cross border institutions and these institutions do not represent the mobilization of private resources for providing quality education but use education as a profitable investment area. The percentage battle whether 50 or 80, is nothing but shadow boxing and is a clear shift towards commercialization (*Panikkar 2003*). Despite these, as an important policy change in the field of higher education, Govt. of Kerala has also picked up this thread, forgetting the simple eviction of poor students however meritorious they may be, and much of its energy and scarce finance has been drained so far on this. In these circumstances it is essential to choose an appropriate method to price higher education instead of replacing it with self-financing institutions. At the same time, can government remain without charging the richer sections as they are in govt. /aided colleges or 50 per cent quota? Thus, it is important to compare the socio-economic and educational profile of students in both streams so as to evolve a rational price policy. The data obtained in field survey from degree level students in both categories is used here for the purpose.

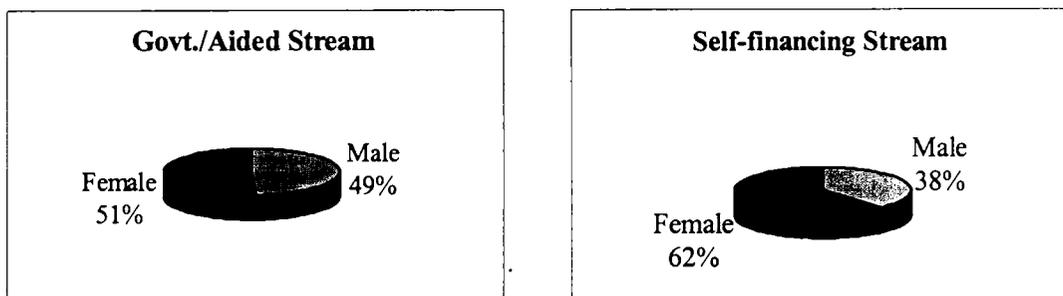
6.1. Students Status : Vertical Versus Horizontal Comparison

6.1.1 Gender Distribution

An examination of the student enrollment shows that majority of them are females in both streams of general education categories. Fig. 6.1 illustrates that 51 per cent of aided/govt. category students and 62 per cent of self-financing category students in general education are females. In other words,

majority of the students are females in both streams and that one cannot say female enrollment is higher in aided/govt than self-financing or otherwise as observed in the χ^2 Test.

Fig. 6.1: Gender-wise Distribution of Students



Source: Field Survey. T. 6.1, Appendix pp 203

Chi-square test statistic =	2.9871	Number of: rows	: columns
p-value =	0.0839	2	2
H ₀	Type of College and Gender are independent		
Table Value at 0.05	3.84		
H ₀ Accepted/ Rejected	Accepted		

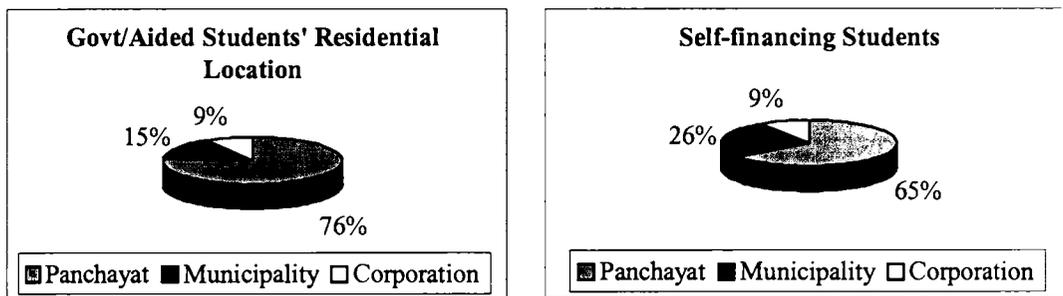
6.1.2 Location of Residence

In Kerala one cannot make a clear distinction on rural-urban representation in student enrollment. However, for comparing enrolled students' regional representation, they are classified under three categories: Panchayat, Municipality and Corporation.

It is observed that majority of the students in both streams are coming from Panchayats (70.5 per cent on an average), followed by Municipality (20.5 per cent) and Corporation (9 per cent). The detailed distribution is given in Fig. 6.2. Besides, the χ^2 Test analysis done with regard to region-wise

enrollment of students shows that type of college and residence location of students are independent. That means, it is impossible to make a distinction between two streams of students with regard to their origin of stay.

Fig.6.2: Residence-wise Distribution of Students



Source: Field Survey. T. 6.2, Appendix pp 203.

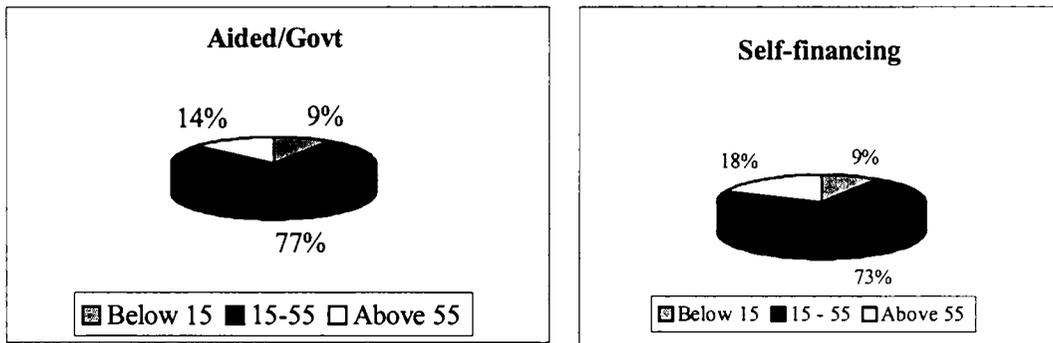
Chi-square test statistic =	4.9657	Number of: rows	: columns
p-value =	0.0835	3	2
H ₀	Type of College and Residence Location of students are independent		
Table Value at 0.05	5.99		
H ₀ Accepted/ Rejected	Accepted		

6.1.3 Age Composition and Family Size

With regard to demographic status, say family size and age composition of respondent's family members, the data shows that both streams of students are in equal status. For instance, the average family size of those in the Aided/govt. College is 4.03, while that of Self-financing is 3.99. That means the average family size is identical to both streams of students. Again, to compare the age-wise distribution of student's family members, the number of persons are classified under three major groups: below 15 years of age, between 15 – 55 ages and above 55 years of age. Fig. 6.3 illustrates the age-wise distribution of family members. It is observed that majority (76 per

cent on an average) of the respondent's family members in both streams fall in 15 – 55 age group. That is, of the total family members 77 per cent of aided or govt. college students and 73 per cent of the self-financing category belongs to 15-55 age groups. Similarly, 15 per cent (on an average) of the family members of both streams belong to ages below 15 years group.

Fig.6.3: Age Composition of Family Members



Source: Field Survey. T 6.3, Appendix, pp 203.

Chi-square test statistic =	4.7535	Number of: rows	: columns
p-value =	0.0929	3	2
H ₀	Type of College and age composition of family members are independent		
Table Value at 0.05	5.99		
H ₀ Accepted/ Rejected	Accepted		

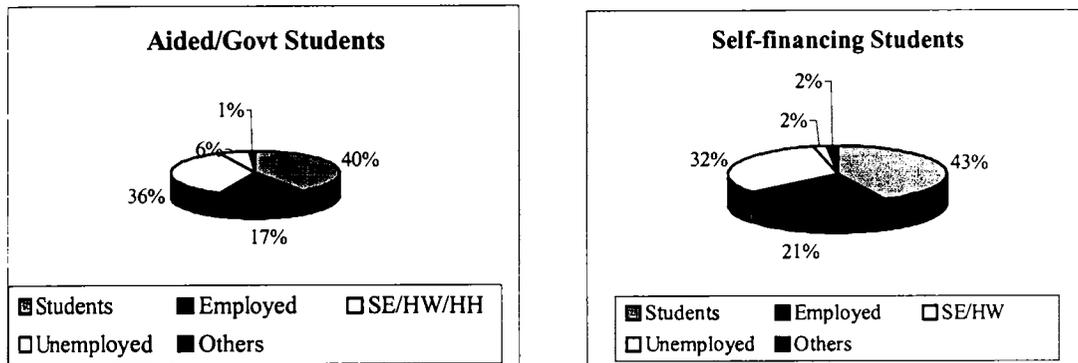
χ^2 Test result against this data also shows that both streams do not make a distinction on the age composition of their family members. In short, in matters of (a) age-wise distribution of family members and (b) average family size, both streams of students are in the same status.

6.1.4 Occupation Status of Family Members of ages 15 – 55

Another important aspect that needs a comparison is the occupation status of family members of both categories of students. The detailed

distribution of persons in the age group of 15 – 55 on the basis of their occupation are shown in fig. 6.4.

Fig.6.4: Occupational Status of Family Members



Source: Filed Survey. T. 6.4, Appendix, pp 203.

Chi-square test statistic =	8.8569	Number of: rows	: columns
p-value =	0.0648	5	2
H ₀	Type of College and occupational status of family members are independent		
Table Value at 0.05	9.49		
H ₀ Accepted/ Rejected	Accepted		

It is seen 40 per cent of the family members of aided/govt. category and 43 per cent self-financing category are students. While 17 per cent in the aided/govt. category and 21 per cent in self-financing are found employed that together makes 18 per cent of the persons in 15-55 ages. In short, occupation-wise distribution of family members in the age group of 15- 55 and χ^2 Test data show that there is no significant difference between both streams of students and that both belong to same class.

6.1.5 Student's Achievements or Test Score in Their Finals

It is essential to make a comparison on the academic performance of students studying in both streams. This is important to find out whether there is any significant difference between them. For this purpose, data pertaining to the percentage of marks obtained by these students in the last two final examinations (SSLC & HSS) were collected and estimated the mean score of students in both streams separately. Here it also examined the regularity of students' scoring when they move from one stage to the other, i.e. from SSLC to HSS under four indexes: Increasing; Decreasing; No change and Not responded. The detailed distribution of persons in each division is illustrated in fig. 6.5.

On examination, it is seen that the mean score of marks obtained in the SSLC Examination is 63.95 per cent and HSS Examination is 63.4 per cent in the case of Aided/Govt. students, and 59.4 per cent and 58 per cent in the case of Self-financing students, respectively for SSLC and HSS Examination as shown in tale 6.1.

Table 6.1: Mean Score (Marks) in Final Examination

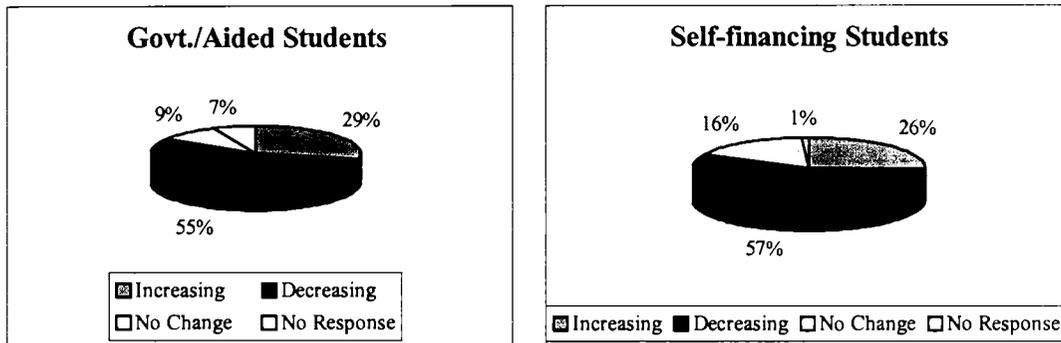
Examination	Aided/Govt.	Self-Financing	Average
SSLC	63.95	59.4	61.7
HSS	63.4	58	60.7

Source: Field survey

Fig. 6.5 shows that marks obtained by majority of students are decreasing as they move to higher levels. For instance, the marks of 55 per cent of aided/govt students and 57 per cent of self-financing students have

shown a declining tendency. Nine per cent of aided/govt and 16 per cent of self-financing students' marks remained unchanged. Only 29 per cent of Govt./aided students and 26 per cent of Self-financing students could make an improvement in their score as they move to higher levels of education.

Fig.6.5: Trend of Score in Final Examination



Source: Filed Survey. T. 6.5, Appendix, pp 204.

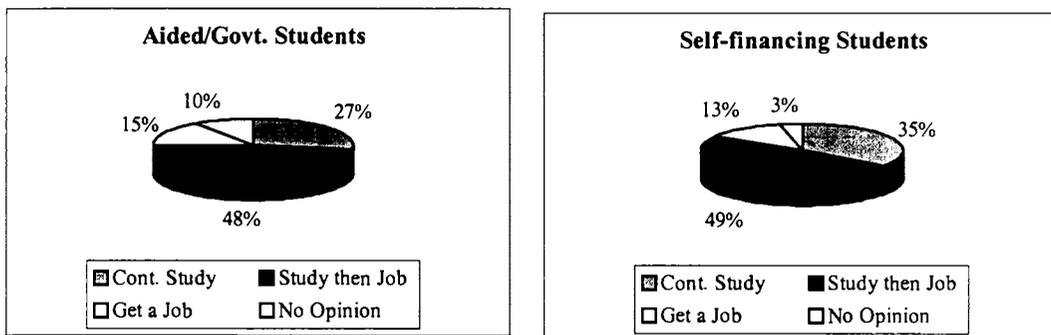
Chi-square test statistic =	6.5067	Number of: rows	: columns
p-value =	0.0894	4	2
H_0	Type of College and Average Test Score Trend are independent		
V	3		
H_0 Accepted/ Rejected	Accepted		

Statistical test done against the data also shows that on academic performance too, both streams of students are in the similar trend. However, the mean score of self-financing students is found less to that of aided/govt. students. It is quite natural that students first prefer to get admitted in aided/govt institutions in the general education. Once the seats are filled they choose the alternative.

6.1.6 Student's Opinion on Future Plans

Opinion was also collected from students as regards to their future plans and then compared their views. Both streams of students are found in the same footing at least on their immediate goals. Almost 75 per cent of the aided/govt. students and 84 per cent of the self-financing students expressed their willingness to study further and of which 27 and 35 per cent of the students in the respective categories strongly prefer to continue their studies. While only 15 per cent of the aided/govt. students and 13 per cent of the self-financing students have revealed their concern for jobs.

Fig. 6.6: Students' Future Aspiration



Source: Filed Survey. T. 6.6, Appendix, pp 204.

Chi-square test statistic =	4.5926	Number of: rows	: columns
p-value =	0.2042	4	2
H ₀	Type of College and Immediate Future Aspirations of students are independent		
Table Value at 0.05	7.81		
H ₀ Accepted/ Rejected	Accepted		

It means that there is no significant difference between two categories of students regarding their immediate future aspirations. Majority of them in both streams prefer to continue their studies and try for jobs later.

6.1.7 Sources of Private Funding in Higher Education

In Kerala parents fund the private costs of education. Even though there is enough campaign and all, banks are not yet been an attraction for higher (general) education in the State.

Table 6.2: Sources of Private Funding in Higher Education

Source	Aided/Govt.		Self-Financing	
	No. of Persons	Percent	No. of Persons	Percent
Bank	0	0	0	0
Personal	4	1.6	0	0
Parent	240	98.4	86	100
Total	244	100	86	100

Source: Field Survey.

It is evident from table 6.2 that, the private cost of all the students whether they are in the aided/govt or self-financing streams, are funded by parents, except for 1 or 2 per cent in the aided/govt. stream who have responded that they themselves meet the expenses. In short, private funding on education is the responsibility or privilege of parents.

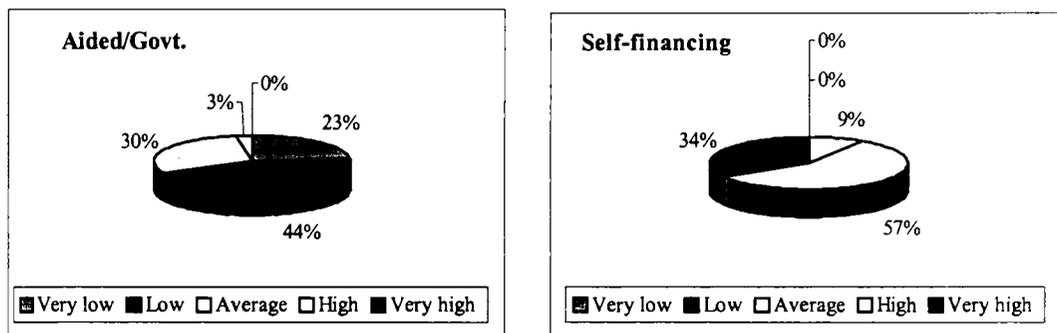
6.1.8 Per capita Private Cost of Education

To analyse the per capita private cost, only two components are considered here leaving out all other types of costs. [For detailed discussion see chapter 5] They are, (1) expenditure on tuition/exam, and (2) on books and materials. Information on these items was collected from each category of students through field survey and average expenditure in each type for respective categories is estimated as shown in table 6.3.

Table 6.3: Per Capita (Unit) Private Cost of Higher Education

Items	Unit Private Cost (in Rs.).	
	Aid/ Govt	Self-fin.
Tuition/Exam	4043	23200
Books/material	1663	2303
Total	5706	25503

Source: Field Survey. Ibid, PP 98.

Fig. 6.7:Opinion on Existing Amount of Fee

Source: Field Survey, T. 6.7, Appendix, PP 204

Table 6.3 illustrates that, there is substantial difference with regard to per unit expenditure incurred by students /parents of both streams of students. Self-financing students in general education pays an amount 5 times higher than what is paid out by govt./aided stream students for the ‘purchase’ of same level of education. That is selling of same product at different prices to persons of same denominations. This is like ‘unequal treatment of equals’ and is not justifiable.

In this context, the present study have also collected information from students of both streams, on how do they feel about the existing fee system. Majority of the Aided/govt College say, 69 per cent students remark that the fee in their institution is either low (44 %) or very low (23 %). Contrarily,

almost 91 per cent of the self-financing students feel that the fee in their colleges is high (57 %) or very high (34 %).

Chi-square test statistic =	260.8477	Number of: rows	: columns
p-value =	0.0000	5	2
H ₀	Type of College and Students' Opinion on Existing Amount of Fee are independent		
Table Value at 0.05	9.49		
H ₀ Accepted/ Rejected	Rejected		

χ^2 Test statistic reveals that students in both streams differ in their opinion on existing fee structure, hence reject the hypothesis. That means students in the self-financing colleges pay higher amount of fee than aided/govt college students. One of the important inferences that can be drawn out from this is that, there are affordable and non-affordable students in both categories. For instance, 3 per cent of the students in aided/govt group remark that the fee is high (unaffordable) in their institutions, while only 9 per cent of self-financing group opines that the fee is average (affordable).

Added to this, on distribution of "student aid", self-financing students are not in the scene, although they pay high. None of them enjoy any kind of fee concession or scholarships, as evident from table 6.4. While, 61 per cent of aided/govt students enjoy fee concession and 20 per cent of them avail some sort of scholarships. In other words, almost 80 per cent of the students in this stream enjoy some relaxation in their fees, despite a low fee structure as against the self-financing categories, where they pay higher amount of fees.

Table 6.4: Distribution of Students on Financial Aid/ Scholarships

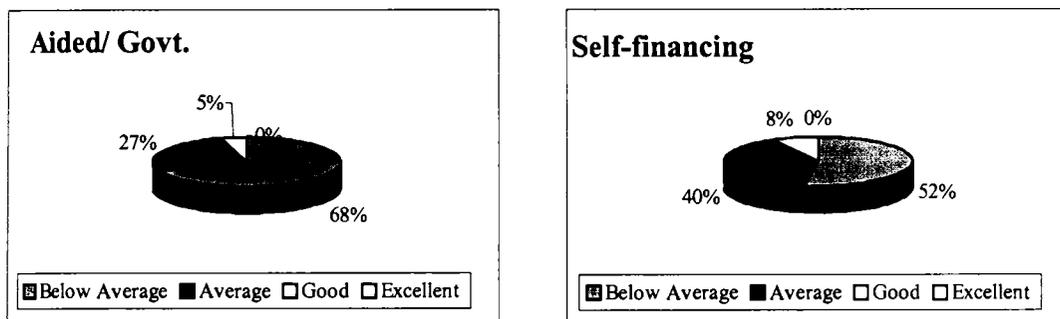
Index	Govt/ aided	Self-financing
Fee concession	149 (61.1)	0
Scholarship	48 (19.7)	0
Total	244 (100)	0

Source: Field Survey

6.1.9 Overall Facilities in the College

Most of the Aided/Govt. colleges in the State have started functioning in 1960's and 70's. However, due to severe financial crisis of the govt, the facilities in these colleges have not improved even after 30 – 40 years. This is often one of the strong arguments for opening up of self-financing colleges in the state. In this context, the study has collected student's opinion on the existing facilities in their colleges under four-point scale: Below average; Average; Good; Excellent.

It is seen in the figure 6.8 that, nearly 68 per cent of aided/govt. college students remark that the facilities are below average in their colleges. And, 27 per cent students opine it as average. The situation is quite similar in self-financing colleges too as against what is expected. That is, although they charge high fees, facilities have not improved. It is evident from the figure that, 52 per cent of the self-financing students remark that the facilities is below average. Only 8 per cent in this group feel that it is good and none hold that it is excellent. One should therefore, note that, the self-financing institutions would provide better facilities as they charge high rate is still in bizarre.

Fig. 6.8:Opinion on Overall Facilities in the Colleges

Source: Filed Survey. T. 6.8, pp 204

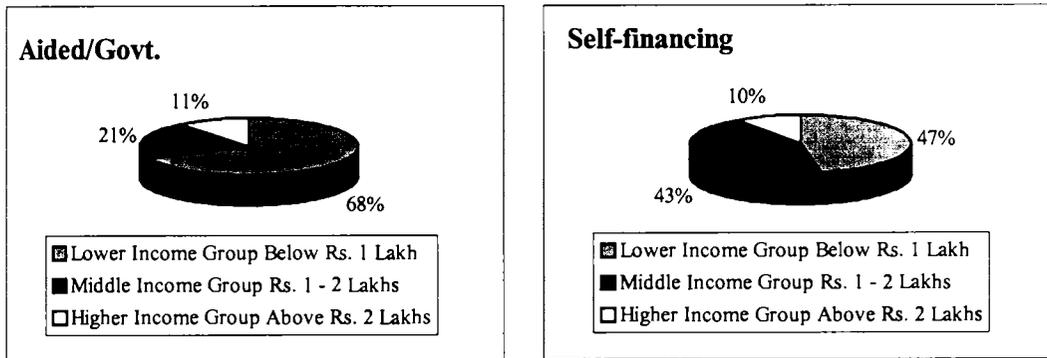
6.1.10 Parental Income of the Students

The foregoing analysis suggests for making a comparison on the financial capabilities of both streams of students on the basis of their parental (guardian) income. For this purpose, the data pertaining to the annual income of parents were collected and classified under five income slabs, and the distribution is given in table 6.5. The table shows that there are students in all income brackets in both streams. Thus for an easy narration, students may be grouped under three major income statuses: Lower Income; Middle Income; and High Income, as in the figure 6.9.

Table 6.5: Income -wise Distribution of Students

Income Slab	Aided/Govt.		Self-financing	
	No. of Persons	Percent	No. of Persons	Percent
Below 50000	82	33.6	11	12.8
50000-100000	75	30.7	28	32.6
100000-150000	30	12.3	21	24.4
150000-200000	18	7.4	15	17.4
Above 200000	25	10.2	8	9.3
Not Responded	14	5.7	3	3.5
Total	244	100.0	86	100.0

Source: Field Survey

Fig. 6.9: Income -wise Distribution of Students

Source: Table 6.5

A vertical as well as a horizontal comparison on income-wise distribution of students in each category shows that majority of persons in aided/govt. (68 %) as well as self-financing stream (47 %) belong to lower income group. Followed by this, 21 per cent and 43 per cent of students in respective category belong to middle income group. At the same time there are students from lower income brackets in both group, i.e., 11 per cent of aided/govt and 10 per cent of self-financing students. That means there are affordable and non-affordable persons in both streams.

Obviously, on all the criteria (socio-economic and educational) discussed and compared between aided/govt and self-financing students above, except (1) in the amount of fees charged and (2) in the distribution of student aid, both streams of students are in equal status. Which warrants an equal treatment of these students in front of pricing of education. Thus, a systematic strategy must be drawn out to implement a differential fee structure (price system) notwithstanding in which stream the student is undergoing studies. The burden must be shared between students, managements and govt.,

at par with costs (private & social), benefits (private & social) and the financial capabilities of students.

In other words, govt./aided colleges cannot improve the facilities, only with the public funding so as to maintain quality. And, since financially better-off students are ready/affordable, govt. should move to a differential fee structure. At the same time management of the self-financing institution must be ready to provide adequate facilities and to follow the differential fee structure as in aided/govt. stream.

6.2 Method of Differential Fee Structure

On the basis of the above analysis few methods for implementing a differential fee structure in self-financing institutions may be suggested here. In doing so, one should clearly remember that (1) the institution is not like firm (2) students will not take away the asset but add value to assets, (3) it emanate a wide range of social benefits, and so on. For instance,

Method 1:

If the cost or expenditure of starting/running education institution is made out purely from the pockets of the private investor and the society in no way benefit out of this process, then the cost incidence must fall upon students after making a discount on value addition to the assets, with an expectation of at least 20-25 years. Thus,

$$\text{Price} = \frac{[\text{Recurring Cost} + (\frac{\text{Non - Recurring Cost}}{T})] - \text{Share of Asset}}{\text{Number of Students Admitted}}$$

where T = Number of years, say 20-25 years or so.

In this price system, difference between the estimated price and the price that a 'financially weaker student can afford to pay' must be paid by the government to the education institution. If all the students admitted could meet the estimated price, then govt. need not pay anything. Thus, the 'differential fee' in this case has to be worked-out taking into account the financial capabilities of the students admitted.

Method 2:

If a part of the cost or expenditure of starting/running education institution is through donation or charitable contribution then that amount has to be deducted, i.e.,

$$\text{Price} = \frac{\left[\text{R. Cost} + \left(\frac{\text{Non-R. Cost}}{T} \right) \right] - [\text{Share of Assets} + \text{Donation}]}{\text{Number of Students Admitted}}$$

In this price system too, difference between the estimated price and the price that a 'financially weaker student can afford to pay' must be paid by the government to the education institution.

However, the entire burden of price thus estimated cannot be shifted to individual student or his/her parent, since the society or govt. also benefits out of his/her education. Thus, at par with the social benefit, govt. or public exchequer has to provide a general subsidy for education, which is applicable to all students. Thus the 'sticker price' (*Gordon 1998; Carbone and Lewis 1998; Lewis and Winston 1997*) or the price that full-pay student has to bear must be estimated after deducting the general subsidy from estimated price through method 1 or 2, whichever the case may be. Thus,

Sticker Price = Price – General Subsidy

After estimating the sticker price, “individual subsidy” may be determined on the basis of individual student’s capacity to pay. For instance, (1) if a student can afford to pay the sticker price, then he gets zero govt. subsidy; (2) if he/she can study only with full concession, then the subsidy will be equal to sticker price (100% subsidy); (3) if he/she can meet the expenses partially, then the subsidy will be less than sticker price and that may be divided into convenient slabs, say 25 or 50 or 75 per cent of sticker price, depending on his/her capability.

Obviously, Scholarship is an incentive for education and the purpose of which is to encourage meritorious students. Thus, it should not be clubbed with student aid or subsidy. This may be a grant/award to all (full-pay or partial-pay or no-pay student) depending on their educational merit.

Looking from this angle, there is no need of bifurcating student admission into 50 – 50 or 25 – 75. All students get admission on merit basis and they may be free to choose the institution (either aided/govt. or self-financing). The difference in sticker price and actual price paid by students shall be met by public exchequer, since the higher education scenario of the State is not yet ripe for free market operation. Otherwise, it may throw out the weaker sections (violation of the social obligation of a democratic govt.) however meritorious they may be (*Lyall 2003*).

CHAPTER 7

HIGHER EDUCATION - EMPLOYMENT MISMATCH

Kerala is often placed on top in literacy rate among other States in the Country, but in the other end it maintains the top position in terms of rate of growth of unemployment, especially educated unemployment. The total size of work seekers in the State as per Live Register went up from 26.43 lakhs in 1985 to 41 lakhs in 2002. Similarly, many studies have shown that, “unemployment among youth (or educated) is chronic” in Kerala (Prakash 1988 & 1989; Pillai 1994; Thomas 1994; Oommen 1996; Mathew 1995 & 1997; Tilak 2001; NSS, DES, Census estimates).

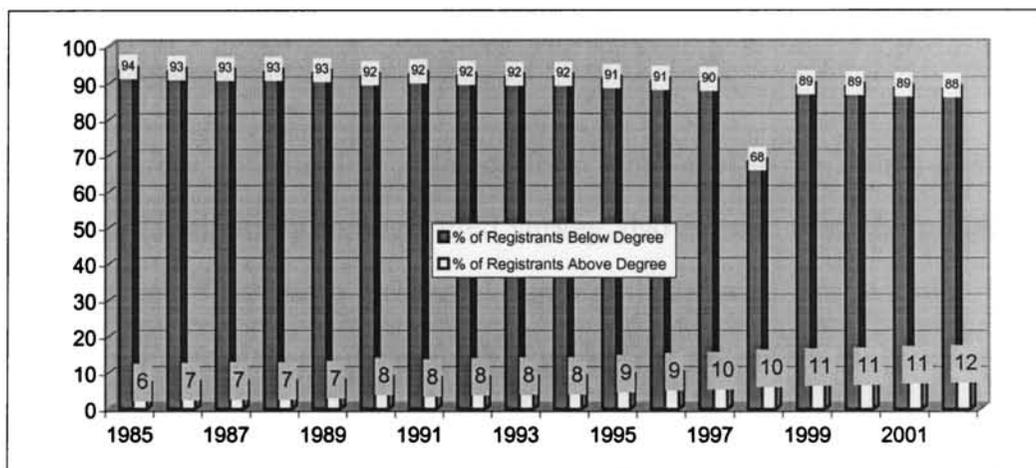
One argument on the causes of increasing educated unemployment in the State is the expansion of higher education. According to this, “opening of too many Arts and Science colleges, heavy subsidization of education, preferences for white-collar jobs are the most important cause of educated unemployment in the State. Besides, higher education system in Kerala has extensive reach with around 10 per cent of those who enter primary school, enrolling for degree course of various kinds, which accounts for about 15 per cent of the relevant age group. Thus, from society’s point of view higher education should not be expanded as it adds to unemployment” (Mathew, 1995 & 1997; Tilak 2001; Ashok, 1999).

The present chapter is an attempt to focus on some of the important imbroglios in the Kerala’s labour market scenario against the backdrop of above arguments: viz; (1) Educated Unemployment paradox, (2) Enrollment paradox; and (3) Labour Market Scenario for higher educated.

7.1 Educated Unemployment Paradox

According to Live Register of Employment Exchanges the total size of work seekers went up from 26.43 in 1985 to 43.52 in 2000 and then to 46 lakhs in 2001, but declined to 41 lakhs in 2002. But it is evident that, the work seekers as per live register with higher education i.e., above bachelor degree including professional degree was only 1.7 lakhs (6.4 per cent of the total) in 1985 and that has increased slightly to 4.8 lakhs making only 11.6 per cent of the total work seekers in 2002. Whereas, of the total work seeker registrants during 1985-2002 on an average 91 per cent were below graduates or without higher education, as in figure 7.1.

Fig.7.1: Percentage of Work Seekers With or Without Higher Education in Kerala (1985 – 2002)



Source: T. 1.9 & 1.10, Appendix PP 194-95

Moreover, of the total registrants almost 30 per cent were without even SSLC qualification. Again, 52 per cent is having only SSLC, followed by 8.1 per cent with only PDC or Equivalent. On the other hand, the percentage of work seekers with degree in general education, professional education and postgraduation in general discipline are only 4.5, 3.4 and 0.9 respectively, over

the period 1985–2002. Obviously, the size of educated (higher) unemployment is very low compared to below graduates or those without higher education.

Secondly, the responses of students in sample survey among Arts and Science Colleges in the State reveal that, 66 per cent of the postgraduate and 71 per cent of degree students (64.4 per cent of the total respondents) hold registration in Employment Exchanges, as shown in table 7.1. (Also see, Mukherjee and Isaac 1991; Joseph Thomas 1994)

Table 7.1: Distribution of Students by Employment Exchange Registration

Category	No. of Respondents	Respondents Registered	Per cent
Degree	330*	236	71.5
P G	104	69	66.3
Total	434	305	70.3

*244 A/g Students+ 86 Self-financing Students.

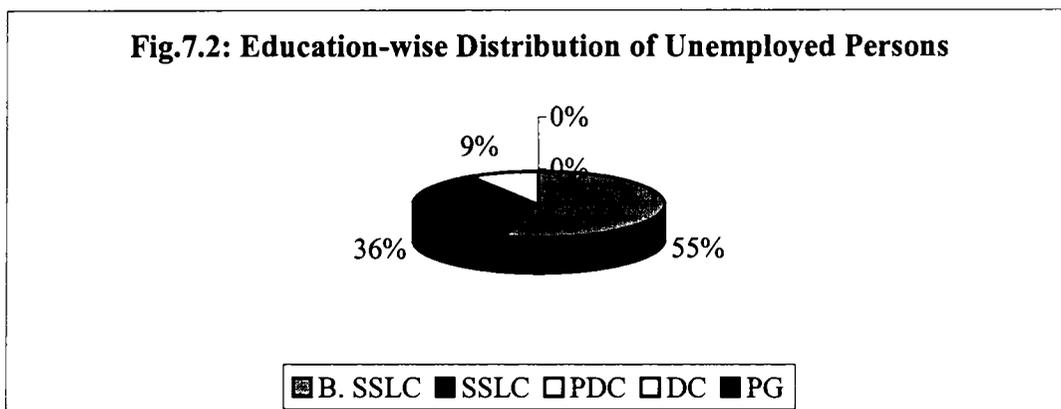
Source: Field Survey

Thirdly, information collected from work-seeker registrants other than the student community through field survey also expose that, the problem of unemployment⁵⁸ is more perennial among those who are without higher education. For instance, of the total work-seeker registrants only 5.2 per cent are the really unemployed persons, as illustrated in table 7.2. While, 43.3 per cent are still continuing in education (student), 21 per cent are employed and 31 per cent of them are engaged in household or self-employment activities. It is also evident from the table that, of the total unemployed persons, almost 55 per cent are below SSLC, 36 per cent with SSLC, and 9 per cent holding PDC.

Table. 7.2: Current Status of Work Seeker Registrants

Status	B. SSLC	SSLC	PDC	DC	PG	Total	Per cent
Students	12	43	26	6	4	91	43.3
Employed	4	11	5	9	15	44	21.0
H W/H H/S E	9	19	11	17	8	64	30.5
Unemployed	6	4	1	0	0	11	5.2
Total	31	77	43	32	27	210	100
Per Cent (vertical)	14.8	36.7	20.5	15.2	12.9	100	

Source: Field Survey. HW- Housewife; HH- Household activities; S.E- Self-employed.



None of the persons with higher education or above graduation is found unemployed in the survey as shown in fig.7.2. A close observation of the table reveals that the problem of unemployment is more severe among very low educated persons as 56 per cent of the total unemployed persons belong to this group, followed by mere SSLC holders on an average 36 per cent.

Fourthly, the earning levels of the employed people also show that, persons with higher education are at a greater advantage *vis-à-vis* those without higher education as shown in table 7.3.

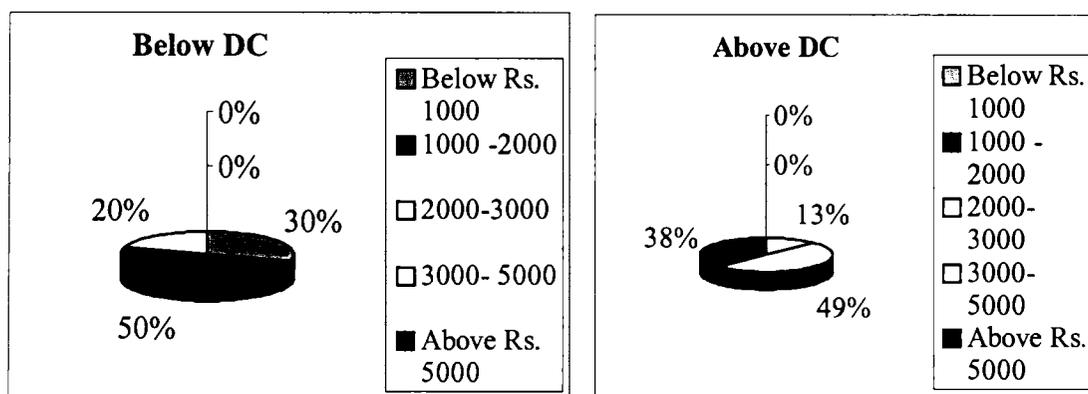
Table 7.3: Education and Earnings of Employed Among Registrants

(*Amount per month in Rs.)

Category	Below 1000*	1000 – 2000	2000- 3000	3000- 5000	Above 5000	Total
Below SSLC	2	2	0	0	0	4 (9.1)
SSLC	4	5	2	0	0	11 (25.0)
PDC	0	3	2	0	0	5 (11.4)
Below DC	6 (30%)	10 (50%)	4 (20%)	0	0	20 (45.5)
DC	0	0	2	7	0	9 (20.5)
PG	0	0	1	5	9	15 (34.1)
Above DC	0	0	3 (12%)	12 (50%)	9 (38%)	24 (54.5)
Total	6 (13.6)	10 (22.7)	7 (15.9)	12 (27.3)	9 (20.5)	44 (100)

Source: Field Survey. Figure in bracket show percent to Grand Total.

In other words, none of the below graduates even if in employment could earn on an average more than Rs. 3000/- per month. Conversely none of the above graduates earn less than Rs. 2000/- per month. Again to be more specific, 80 per cent of the below graduates could earn only less than Rs. 2000 per month. On the other hand 87 per cent of the above graduates earn more than Rs. 3000/- per month. Obviously, higher education helps people to earn higher income.

Fig. 7.3: Income-wise Distribution of Persons

Finally, an analysis of State's official data on work-seekers with respect to education attainment and the number of pass outs/ enrollment in such education categories reveals that there are some kind of duplication or multiple entries in the live register. For instance, the number of SSLC pass outs is below 3 lakhs, those enrolled for final year degree (general) is nearly 50 thousand and that for post graduation (general) is only less than 15000, in the State.⁵⁹ But the corresponding number of work seekers as per live register is 25 lakhs with SSLC, 3 lakhs with Degree (G) and 66000 with PG (G) during 2000-2001.⁶⁰ In fact, there is no systematic way of recording the number of real (educated) unemployed persons in the State in accordance with their up-to-date statuses, which stand as the major causative factor in showing the large volume of unemployment in the State, coupled with conceptual hang-ups⁶¹ with respect to the definition of unemployment (educated unemployment).

In short, the problem of educated unemployment among persons with higher education is not so alarming, as compared with that of persons without higher education. And, there is serious impropriety in the estimation of the real educated unemployment in the State. Thus, the argument that higher education is the cause of 'chronic' educated unemployment in the State is baseless, blemish and unwarranted.

7.2 Enrollment Paradox

Some studies argue that expansion of higher education is the major cause of increasing educated unemployment in the State.⁶² But, the analysis done in chapters 3 and 4 of the present study have shown that, higher education enrollment in the State is hardly 12 per cent of the pupil who enter the 1st standard in the relevant years. More over, the infrastructure to accommodate the growing demand for higher education is quite inadequate.

Thus, it is highly immature to say that higher education in the State is at an extensive reach when barely 12 or 15 per cent actually enter for higher education compared to 60-70 per cent in developed countries.⁶³

7.3 Labour Market Scenario for Higher Educated

From the time of the formation of the State in 1956 till the close of 1980's public sector was the chief provider of employment in the State. However, the initiation of the New Economic Policy and increased privatization, really reduced employment opportunities in the Public Sector. But at the same time, it opened new vistas in private sector of the economy. Some of these avenues even offered fabulous salaries and congenial working conditions *pari pasu* with the public sector or even more than that. Besides, in the current globalized scenario demand for labour comes from all over the world (Todaro 1982; Zacharia 1999 & 2000; Lakshmi & Renuka 2003). Studies have shown that, 'Malayalee' migrants were able to enter into the formal urban labour market due to their better educational status, vocational training...and thus, the share of Kerlалites to total Indian migrants in Middle East Countries is almost 50 per cent and that the remittances to Kerala as per Cent of NDP of Kerala was 10.7 in 1990 increased to 21.5 in 1995 (Prakash 1999).

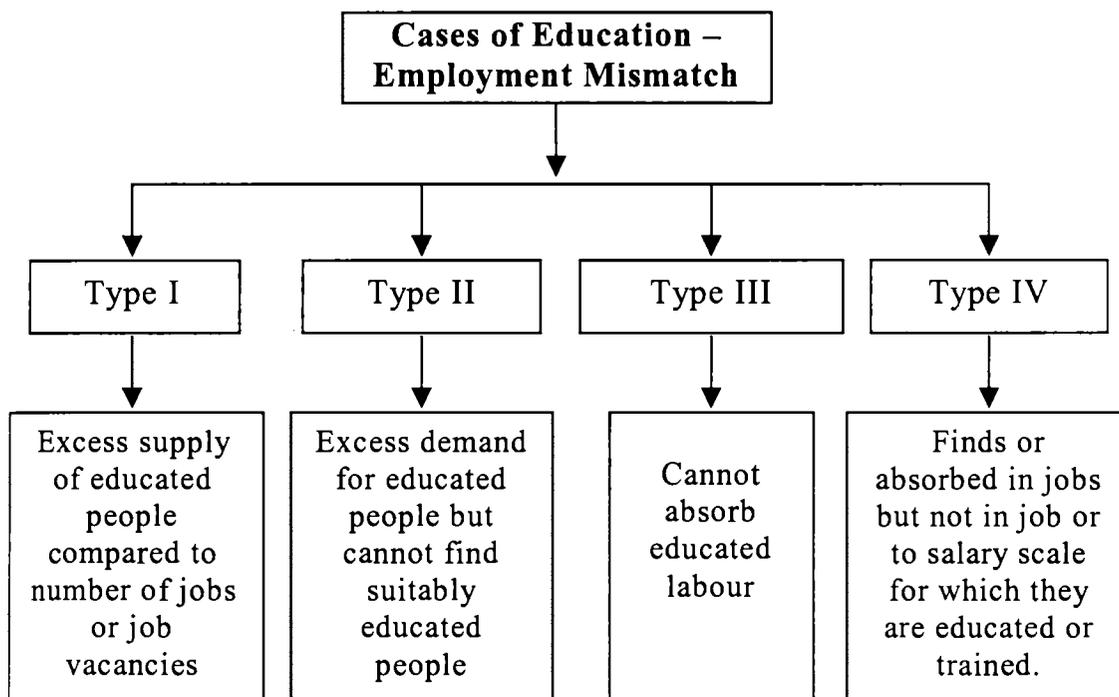
However, if higher levels of education are not guaranteed by employment, there will be dearth of potential labour and the education – employment deviation will be serious. To put it differently, if there is excess of educated labour force compared to number of jobs or job vacancies available, then there will be unemployment – a case of over supply of educated persons. Conversely, if there is excess demand for educated persons against its supply, education-employment mismatch arise. If, the training providers (educators) do not deliver the skills required by the industry (economy) and the industry /

economy is not aware of how should it effectively use its available labour supply (Warrender 1996) then it may be referred to as poor labour quality and lack of manpower planning. Similarly, if people are in employment, but not in jobs or salary scales to which they are educated or trained, may also be termed as education-employment mismatch. Thus, the possible Education – Employment disaccord may be summarized as under.

- i. Low demand for educated labour
- ii. Low supply of educated labour
- iii. Poor quality or lack of required education or training or poor institutional planning
- iv. Poor human resource planning

The case of Education-Employment mismatch is specifically illustrated in chart 7.4.

Chart: 7.4:



The present study tries to make an assessment of the type I aspect, against the backdrop of information collected through sample survey, and tries to make a consensus on second possibility, but leaves the latter two for further independent research for want of time and other constraints.

7.3.1 Supply of Educated Labour

The assessment of the size of educated labour is done by using the taxonomy of Labour Force Status (Boswoth, et al 1996, pp 393- 400), Labour Force Utilization Framework developed by Phillip Hauser (1974) with a slight modification (Joseph 1994) and job competition theory (Thurow 1972) which holds that competition in the labour market is for jobs, not for wages, and education is a positional good (Hirsch 1977). Often, the term labour force is used to denote the people. But, labour is different since it embodies the capability to perform work intellectually, physically and legally. Hence, a classification of the people is done using the above-mentioned theoretical framework and is shown in table 7.4.

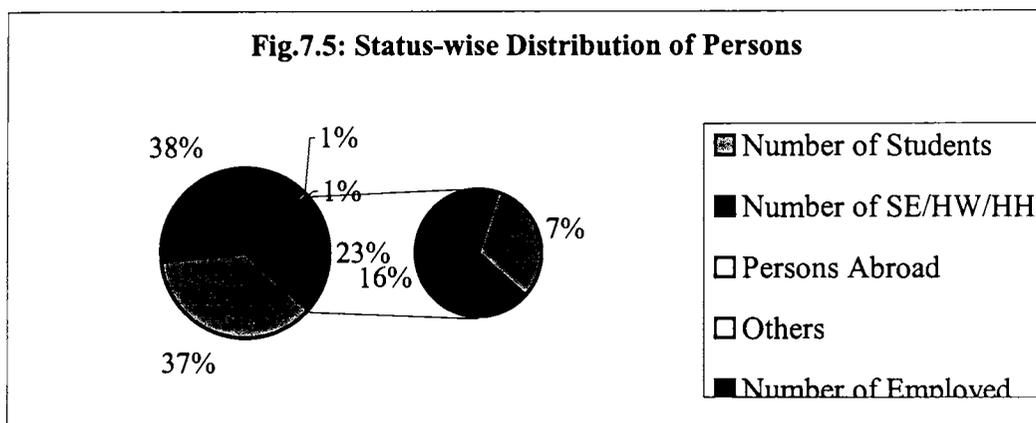
Table 7.4: Occupation Status and Age-wise Distribution of Respondents' Family Members

Status	Below 15	15- 55	Above 55	Total
Number of Persons	118	1140	209	1467
Per cent of Persons	8.04	77.71	14.25	100.00
Number of Respondents				348*
Average Size of Members in the Respondents Family				4.22
Number of Students	112	417	0	529 (36.1)
Number of Employed	0	180	34	214 (14.6)
Number of SE/HW/HH	0	443	122	565 (38.5)
Number of Unemployed	0	83	0	83 (5.7)
Persons Abroad	0	10	2	12 (0.8)
Others	6	7	51	64 (4.4)
Total	118	1140	209	1467 (100)

Figure in brackets show the percentage. SE/HW/HH – Self-employed, Housewives, Household Workers. * Number of Students responded out of 434, on this part of information.

Source: Field Survey.

It can be seen from the table that, out of 1467 members only 78 per cent stood as labour force category as per age-wise distribution, while nearly 8 per cent are below 15 years of age and 14 per cent are above 55 years. The status-wise distribution of persons in age group 15-55 given in figure 7.5 shows that, of the total persons 37 per cent are students, 16 per cent employed, 39 per cent household workers or housewives or self-employment category and 7.3 per cent unemployed.



Thus, the current volume of real labour force is equal to only 23 per cent of which 16 per cent are employed and 7 per cent unemployed.

An examination of the educational attainment of employed as well as unemployed persons corresponding to their specific age category seems important. Hence, a detailed break-up of the same is shown in table 7.5. Obviously, 58 per cent of the employed persons are below graduates and 42 per cent above graduates. On the opposite, 89 per cent of the unemployed persons are below graduates, while only 11 per cent of above graduates are jobless. But, a close observation of the data under different age class will show that the probability of persons getting employment without higher education qualifications in the current situation is declining.

For instance, of the total employed persons among below graduates, 80 per cent are in the age group of 41 – 55, 8 per cent in 31 – 40 ages and 12 per cent in the age group below 30 years. In contrast, 58 per cent of the total employed persons among those with graduation or above are in the age group 41 – 55, 8 per cent in 31 – 40 ages and more than 34 per cent, in the age group below 30 years, as shown in figure 7.6.

Table 7.5: Age & Education Level of Employed & Unemployed People

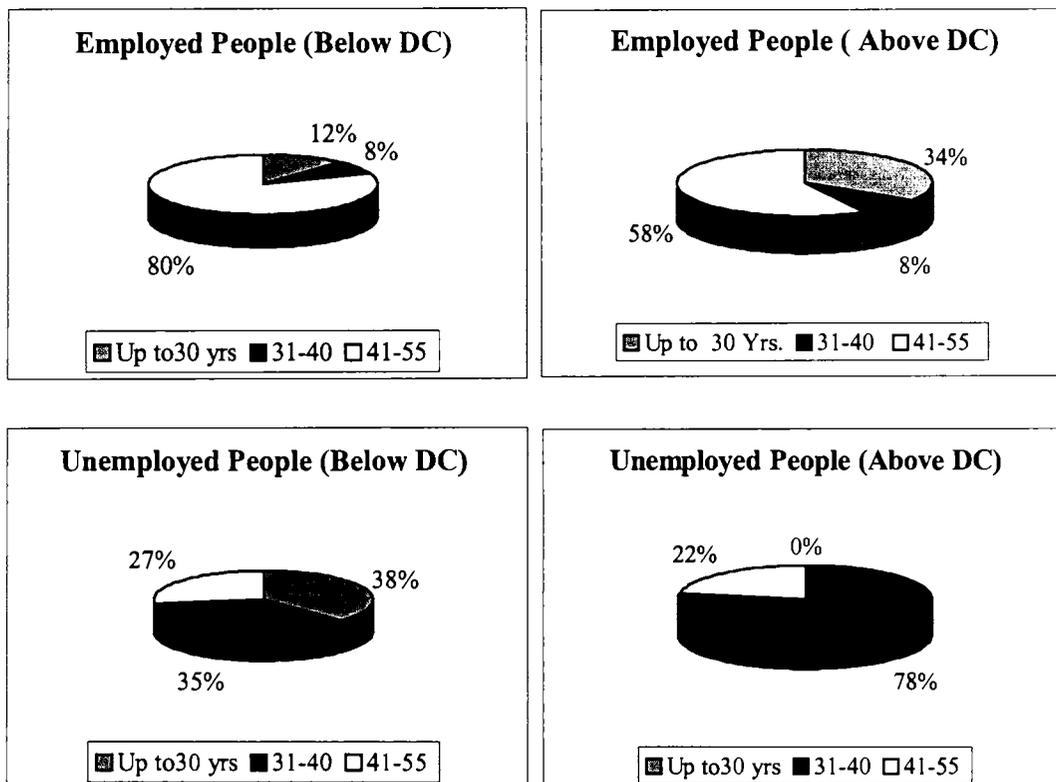
Education Status	Employed				Unemployed			
	Up to 30 Yrs.	31-40	41-55	Total	Up to 30 Yrs.	31- 40	41-55	Total
Below SSLC	0	0	1	1	0	3	6	9
SSLC	3	3	43	49	14	7	10	31
SSLC +	0	2	4	6	2	3	2	7
HSS	4	3	30	37	9	11	2	22
HSS +	5	0	6	11	3	2	0	5
Total Below DC	12	8	84	104 (58%)	28	26	20	74 (89%)
DC	9	1	22	32	0	7	2	9
DC (p/t) +	5	1	8	14	0	0	0	0
PG	7	3	11	21	0	0	0	0
PG (p/t) +	5	1	3	9	0	0	0	0
Total Above DC	26	6	44	76 (42%)	0	7	2	9 (11%)
Grand Total	38	14	128	180	28	33	22	83

Source: Field Survey.

In other words, when 34 per cent of the persons with higher level of education in the below 30 were able to secure jobs, only 12 per cent is expect to get employment without higher education in the relevant ages. That is, in

the present circumstances the probability of getting an employment is higher among persons with higher education than their counterparts.

Fig. 7.6: Educational Attainment and Age-wise Distribution of Labour



Similarly, it is alleged in some studies that; the incidence of unemployment is more severe among educated persons in the State.⁶⁴ But, it is evident from the figure that, none of the persons remain as unemployed with above graduation in the age group below 30 years. In contrast, 38 per cent of below graduates in the corresponding age group are unemployed. In other words, in the current scenario the probability of unemployment is higher among those without higher education. Result of the χ^2 test with respect to the employment and education level of the labour force as in table 7.6, also suggest that level of education and probability of employment (or remain unemployed) are not independent.

Table. 7.6: Status of Labour Force

Education Level	Employed	Unemployed	Total
Below DC	104 (<i>58</i>) (58)	74 (<i>89</i>) (42)	178 (<i>68</i>) (100)
Above DC	76 (<i>42</i>) (89)	9 (<i>11</i>) (11)	85 (<i>32</i>) (100)
Total	180 (<i>100</i>) (68%)	83 (<i>100</i>) (32%)	263 (<i>100</i>) (100)

Source: Table 7.5. Figure in bracket **Bold**, Horizontal Percentage, *Italics*, Vertical Percentages.

Chi-square test statistic =	25.5706	Number of: rows	: columns
p-value =	0.0000	2	2
H ₀	Employment and Education Level are independent		
Table Value at 0.05	3.84		
H ₀ Accepted/ Rejected	Rejected		

In short, from the foregoing analysis, it can be concluded that, unemployment among below graduates is alarming in the State, while the rate of unemployment among higher educated persons are not so. That means higher level of educational attainment significantly determines one's berth in jobs. Again, of the total real labour force (263 = 180 employed + 83 unemployed), 68 per cent are really absorbed in the economy with jobs of various kinds and its earning. While, merely 32 per cent remain as unemployed, may be termed as excess labour force. But, one should try to understand that, of the total unemployed persons, 90 per cent are without higher education, making only 3.4 per cent (9 out of 263) as the higher educated excess labour force among the total real labour force in the State– a case of education-employment mismatch causing unemployment.

7.3.2 Demand For Educated Labour

Labour, which embodies inventive, technical and entrepreneurial skills and knowledge, can be inculcated in them through education and training. At

present all job avenues are open to all provided one possesses the required skill and knowledge to perform the activity effectively and efficiently. This is the basic reason why employers place education and training as proxy for labour productivity and prefer higher qualified persons to low qualified ones. As envisaged in the job competition model, “given the problems of accurately predicting future performance of job applicant and the fact that most job specific skills are learned on the job, the employer uses educational qualification as a proxy for those characteristics and that the productivity is seen as an attribute of job rather than of people” (Hinchliffe 1996).

However, one argument of the traditional theory is that, “the employment and wage rate are determined by its demand and supply forces and that wage rate will be fixed at par with the marginal productivity of labour (Bosworth 1996; Cyert & March 1963). But in the present job competition scenario wage rate is not the prime factor in determining the demand for labour, because wage rate (salary scale) is fixed *a priori*, for almost all occupations and even pays that ‘matches the best’ in the industry. And that salary scale is fixed mostly not on labour-basis but on job-category.⁶⁵ And in certain cases, ‘increased’ scales will be offered on the performance of the labour, which is highly linked to his/her educational qualification, skill and experience, and the worker is free to quit the job if not satisfied. But, for big companies salary or wage is normally determined by following various methods like, Job Ranking, Job Classification, Point Method, Factor Comparison Method, Skill Based Method, etc. in addition to Market Rate (Lloyd Byars & Leslie 1997). And they are often ready to pay any amount (Anila Leinert 1995). In other words, the *modus operandi* in most private sector institutions is to set the salary or wages administratively as in the public sector.

Labour is fixed because it takes minimum 15 – 20 years to create (train) potential labour force. For instance, in “E –commerce and Internet, the employment shift would necessitate appropriate skills to be honed in the labour. But, it will yield smaller benefits in more tightly regulated economies⁶⁶ characterized by rigid labour and product market that prevent labour and capital shifting in response to new opportunities” (Srivastava & Ravendra 2001).

However, there is no systematic method of recording the demand for labour, in a range of avenues either in the public or private or informal sectors within Kerala and outside, for educated Keralites of different denominations. Due to various constraints, the present study too leaves this area for further research. However, education – employment (unemployment) mismatch is analyzed on the basis of the information obtained from the sample survey.

Table 7.7 shows that, of the total labour force 68.4 per cent actually find berth in job market, while 31.6 per cent are out of job resulting a supply-demand mismatch in the labour market. But, a close scrutiny of the figures will expose that, this situation is due to mismatch in education market. For instance, of the total labour force with higher education, 89 per cent find berth, while 11 per cent could not. In contrast, of the total labour force in the category of below graduation, 58 per cent are absorbed, while 42 per cent could not find accommodation. That is the incidence of unemployment is less among higher educated persons.

Table 7.7: Break-up of Education–Employment (Unemployment) Status of Labour Force

Education Status	Total Labour Force	Total Employed	Unemployed		
			Below 30	30 +	Total
Below SSLC	10	1	0	9	9
SSLC	80	49	14	17	31
SSLC +	13	6	2	5	7
HSS	59	37	9	13	22
HSS +	16	11	3	2	5
Total Below DC	178 (100.0)	104 (58.4)	28 (15.7)	46 (25.8)	74 (41.6)
DC	41	32	0	9	9
DC (p/t) +	14	14	0	0	0
PG	21	21	0	0	0
PG (p/t) +.	9	9	0	0	0
Total Above DC	85 (100.0)	76 (89.4)	0 (0.0)	9 (10.6)	9 (10.6)
Grand Total	263 (100.0)	180 (68.4)	28 (10.6)	55 (20.9)	83 (31.6)

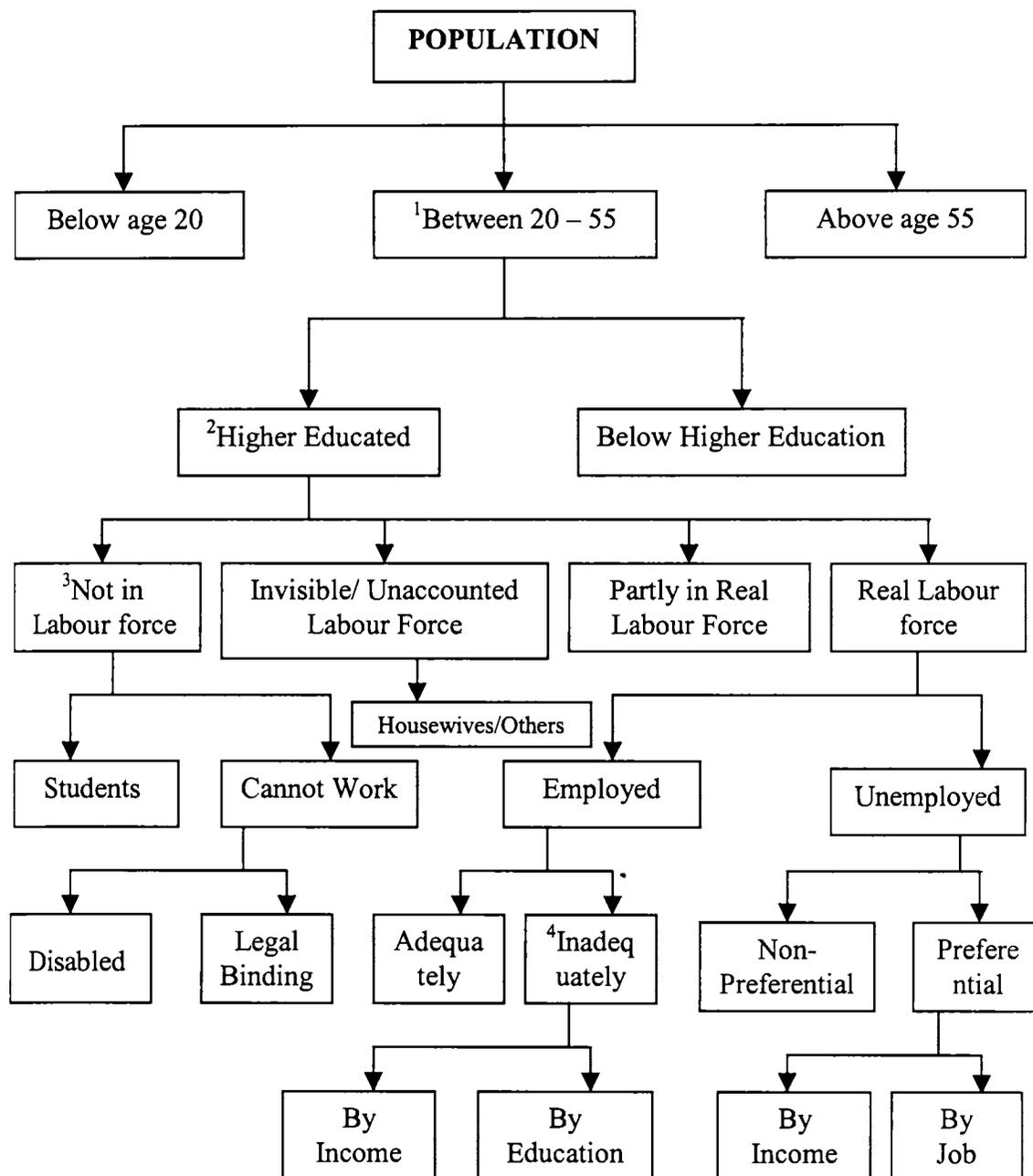
Source: As in Table 7.5. Figures in **bracket bold** show **horizontal** percentage to total labour force.

Again, of the total unemployed persons above graduation, none of them with more than ‘graduate stage education’ remain unemployed showing a short of labour supply with these higher levels of education, against its demand.

In other words, there is mismatch of demand and supply of higher educated persons in the job market by excess demand over and above its supply. On the contrary, results show that, the mismatch is so acute among below graduates by excess supply of these people over its demand in the job market. Thus, by sorting out effective human resource planning methods, the

mismatch can be reduced in future, by facilitating more opportunities to young generation for higher education.

Chart. 7.7: Human Resource Categorization



For this, a systematic analysis of the education market and labour market is needed and that must be proceeded with a systematic human

resource categorization of people concerned. One such categorization is given in chart 7.7. (For more details, see Chart C. 8, Appendix pp 230)

From the above chart, it could be understood that,

- 1) The real educated unemployed persons are the non-preferential group.
- 2) Excess of unemployed persons (by education or income preference) is due to labour mismanagement or lack of scientific manpower planning.
- 3) Inadequately employed (either by education or income) persons and those partly in real labour force are also a loss to the country, which require potential planning.
- 4) Systematic methods has to be evolved to estimate the now unaccounted labour force.

CHAPTER 8

HIGHER EDUCATION: ITS ASSOCIATION WITH INCOME & EMPLOYMENT

In a bid to understand the persistent difference in economic growth and other measures of well-being economists are increasingly broadening their analysis beyond the traditional variables, say human capital and education. It is seen in the previous chapter that there is a close link between education market and labour market, and the real cause of unemployment is education-employment mismatch. Formation of human capital critically depends on education and public educational spending is a crucial determinant of citizen's future economic well-being. Higher education was traditionally justified as a public good with costs paid by public exchequer. But at present there is a worldwide trend towards reduced State support to Universities and colleges. Whatever may be the quest or arguments, improving the quality of education essentially implies getting more benefit out of given expenditures. According to UNDP 1991, both India and Sri Lanka spent 2.5 per cent of GDP in 1988 on human development expenditures. The per capita expenditure was \$ 10 in Sri Lanka and \$ 9 in India. Nevertheless, according to HDI out of total 160 countries, Sri Lanka ranked 75th whereas India ranked 123rd. According to UNDP 1999, India's rank was 123rd among 172 countries, while Sri Lanka was placed at 90th (*Rangarajan 1999*). Also, many studies in the West have shown that education influences labour quality or productivity. Nelson and Phelps (1966) argued that education may raise the value of the efficiency parameter by closing the gap between new techniques and one actually in use, while Brown and Conrad (1967) suggests that education changes all the

parameters of the production function. Even in the case of agriculture, farmer's education has a positive impact on modernization and productivity (*Lockheed, 1987*). Similarly population quality is derived from two sources, namely genetic endowment and acquired abilities. Education is a major source of acquired abilities (*Schultz 1980*). In terms of earnings, statistical data indicate that people with more education earn higher wages relative to people with less education (*Solmon 1987*).

8.1. Education and Gross Income

The positive empirical relationship between education and economic growth is well known (*Denison 1962; Psachoropoulos 1973, 1981; Harbison 1973; Varghese 1988*). Between 1980 and 1990, the average annual GDP growth rate in income was 6.4 per cent in Singapore, 7.1 per cent in Hong Kong, 9.5 per cent in China and 9.7 per cent in Korea. While during this period the growth of expenditure on education respectively was, 7.1, 7.6, 6.4 and 9.5 percentages in these countries (*Padmanabhan 2001*). Whereas, the public expenditure on education in India as a percentage of GNP was only 3.5 in 1990 as against even the average 3.9 per cent for all developing countries (*Raman 2000*).

In Kerala, the tertiary sector's contribution to SDP during 1990–91 was 40 per cent and that has increased to 58 per cent during 2000–01, of which education is the major contributor.⁶⁷ In other words, almost 60 per cent of the growth in SDP is determined by the tertiary sector in the State. For instance, Keralite's share to the total Indian migrants in Middle East Countries is almost 50 per cent and the remittances to Kerala was 10.7 per cent of NSDP in 1990, which increased to 21.5 per cent in 1995 (*Prakash 1999*). Bank deposit is another important indicator of economic growth in Kerala. The

deposits have increased from nearly Rs. 6,660 crores in 1990 to Rs. 51,656 crores in 2002. Of which the share of the NRI's increased from 30 per cent to 48 per cent during the corresponding period.⁶⁸ Since education is the fundamental requirement for migration and acquisition of jobs abroad, the contribution of education to the State of Kerala as an important earner of foreign exchange through manpower⁶⁹ exports, need to be stressed. Again, reduced rate of growth of Population (0.9) and high Human Development Index (0.638) can also be associated with high literacy (90.92) and higher educational attainment among the people of Kerala. Studies have shown that, in Kerala higher education is positively correlated to economic growth and inversely to poverty (*Tilak, 2001*) and education sector is the largest employer in the State⁷⁰ where teachers constituted 18 per cent of the total employment in the organized sector (George 1999).

8.2 Education and Personal Income

Many studies have shown that the relationship between income and education is positive. "Over a lifetime a BA or BS degree generates about a million dollars more than a high school diploma, while a professional degree yields \$ 3.2 million more than high school" (*Baden 2003*). A similar study of this kind shows that, "a college graduate can expect to double his/her income compared to a high school graduate. For instance in US the annual gain of a college graduate is \$ 26,000 per year. Thus it is a good investment of time and money. Higher income leads to higher spending and tax collections. ... Over a lifetime, a student will pay more in taxes than the cost to the State for the Bachelor Degree. In Tennessee persons who had some higher education resulted in increased tax receipts of \$ 1.65 billion for the year 1997. Thus from

the perspective of individual student as well as society, it is a very good investment of public resources” (*Hipple 2001*). The relative earnings of secondary versus primary education in the developed countries is 1.4 to 1 compared with 2.4 to 1 for the developing countries; and the relative earnings of higher versus primary education is 2.4 to 1 in developed countries, and, 6.4 to 1 for the developing countries. The result clearly shows that more education leads to higher incomes (*Todaro 1996*). There is a clear difference in relative earning between workers who have little and those have much education, i.e., even in 1955-56 monthly earnings of unskilled manual labourers and skilled manual labourers were Rs. 80 and Rs. 110, respectively. While the corresponding figures for business and government executives (Bombay) in higher posts and higher professionals were Rs. 897 and Rs. 622. While the earnings in USA was of the order \$ 275, \$ 386, \$ 653 and \$ 824, for unskilled manual labourers, skilled manual labourers, business and government executives in higher posts and higher professionals, respectively even during 1955-56 period (*Kothari 1970*).

Similar study on IRR in Kerala reveals that the public investment on University level education and research appears to be justifiable (*Bhaskaran 1988*). Again, most job offerings in the State (either from domestic or outside the state or abroad) whether in public or private sector specify higher salary scale to highly qualified persons to that of low qualified ones. There is a clear blend of (positive) higher salary scales with jobs that require high-qualified persons.⁷¹ This in turn explains the probability of higher scope of earnings possible to those with higher education and higher expected earnings to those pursuing higher education. Table 8.1 shows the distribution of employed

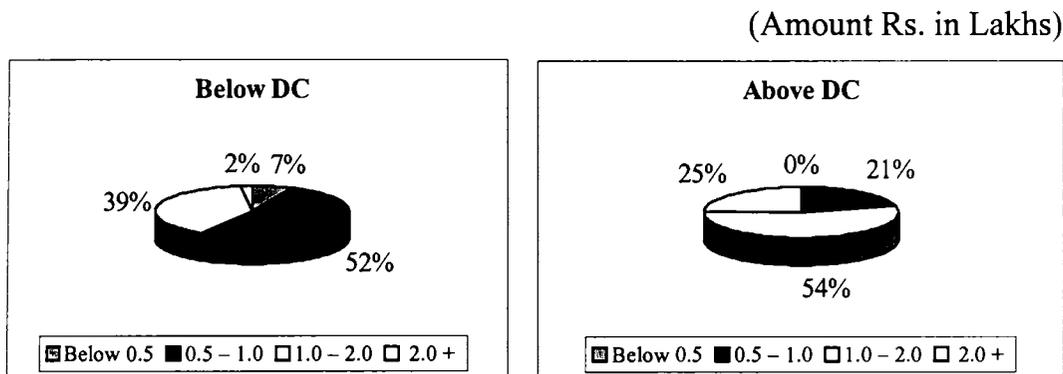
persons between the age group of 15-55, with respect to level of education and annual earnings.

Although, majority (45 per cent) of employed persons in the sample population falls in the income region between Rs. 1 lakh and Rs. 2 lakhs per annum, earnings of the low educated persons are the lowest as illustrated in fig. 8.1. For instance, of the total employed persons with below graduation 52 per cent earns income between Rs. 50000/- and Rs. 1 lakhs, followed by 39 per cent who earns income between Rs. 1 lakh and Rs. 2 lakhs, per annum.

Table 8.1: Distribution of Employed Persons by Level of Education, and Annual Earnings

Level of Education	Number of Persons in Each Earning Slab (Rs in Lakhs)				
	Below 0.5	0.5 – 1.0	1.0 – 2.0	2.0 +	Total
Below SSLC	0	1	0	0	<i>1</i>
SSLC	5	29	15	0	<i>49</i>
SSLC +	0	5	1	0	<i>6</i>
HSS	2	15	18	2	<i>37</i>
HSS +	0	4	7	0	<i>11</i>
<i>Below DC</i>	<i>7</i>	<i>54</i>	<i>41</i>	<i>2</i>	<i>104</i>
DC	0	11	15	6	<i>32</i>
DC (p/t) +	0	1	11	2	<i>14</i>
PG	0	3	10	7	<i>21</i>
PG (p/t) +	0	0	4	3	<i>9</i>
<i>Above DC</i>	<i>0</i>	<i>15</i>	<i>40</i>	<i>18</i>	<i>76</i>
Grand Total	7 (3.9)	69 (38.3)	81 (45.0)	20 (11.1)	180

Source: Field Survey. * Figures in brackets show percentage to total.

Fig 8.1: Distribution of Employed Persons by Education and Earnings

In contrast 21 per cent of the graduates and above category earns between Rs. 50000/- and Rs. 1 lakh followed by 54 per cent who are earning between Rs. 1 lakh and Rs. 2 lakhs, per annum. Also note that, while 25 per cent of higher educated persons earn more than Rs. 2 lakhs, the size of the counterparts in this category is only 2 per cent. Similarly, whereas none of the higher educated person's income is less than Rs. 50000/-, 7 per cent of low educated persons belong to this income slab. All this shows that higher educated persons are advantageous in their annual earnings to that of low educated persons.

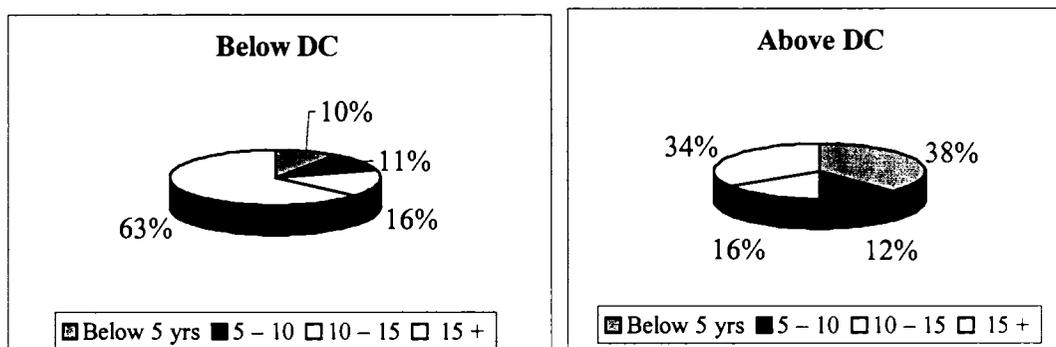
Classification of employed persons on the basis of years of experience on the job vis-à-vis level of education is given in table 8.2. More than 51 per cent of the employed persons are having over 15 years of experience, of whom majority belong to below graduate groups. Specific age-wise break-up of the persons is shown in fig. 8.2.

Table 8.2: Distribution of Employed Persons by Level of Education, and Years of Experience in Occupation

Level of Education	Number of Persons in Each Slab (Experience in years)				Total
	Below 5	5 – 10	10 – 15	15 +	
Below SSLC	0	0	0	1	<i>1</i>
SSLC	4	5	8	33	<i>50</i>
SSLC +	1	1	1	3	<i>6</i>
HSS	3	3	7	24	<i>37</i>
HSS +	2	2	1	5	<i>10</i>
<i>Below DC</i>	<i>10</i>	<i>11</i>	<i>17</i>	<i>66</i>	<i>104</i>
DC	10	3	3	14	<i>30</i>
DC (p/t) +	6	2	1	5	<i>14</i>
PG	5	3	6	6	<i>20</i>
PG (p/t) +	8	1	2	1	<i>12</i>
<i>Above DC</i>	<i>29</i>	<i>9</i>	<i>12</i>	<i>26</i>	<i>76</i>
Grand Total	39 (21.7)	20 (11.1)	29 (16.1)	92 (51.1)	180

Source: Field Survey. * Figures in brackets show percentage.

Fig 8.2: Break-up of Employed Persons by Education and Experience



Nearly 63 per cent of the employed persons who are below graduates have above 15 years of experience, 16 per cent, 10 to 15 years, 11 per cent, 5 to 10 years. In contrast, 34 per cent of the employed persons who are post graduates have more than 15 years experience, 16 per cent, 10 to 15 years and 12 per cent, 5 to 10 years.

It should also be noted that, the present percentage of person in employment who are having less than five years of experience is 34 in the case of higher educated while it is only 10 among below graduates. Clearly, an important inference that can be drawn from this is that, in recent years attainment of higher level of education enables individuals to secure employment compared to less educated. Besides, a comparison of earning levels (table 8.1 & fig.8.1) of employed people with the corresponding experience in years (table 8.2 & fig.8.2) show that it is the years of experience that might have enabled the below graduates to earn almost equivalent to their counterparts. Thus, it is pertinent to find out the relationship between earning and years of experience with the levels of education of the employed people.

The correlation coefficient shows the degree of relationship between earnings of the employed person, their years of education and years of experience in the present occupation.⁷²

Table 8.3:

Correlations Between Annual Earnings, Years of Education and Years of Experience				
		EARNINGS	YRSOFEDU	YRSOFEXP
EARNINGS	Pearson Correlation	1.000	.552 **	.237 **
	Sig. (2-tailed)	.	.000	.001
	N	180	180	180
YRSOFEDU	Pearson Correlation	.552 **	1.000	-.229 **
	Sig. (2-tailed)	.000	.	.002
	N	180	180	180
YRSOFEXP	Pearson Correlation	.237 **	-.229 **	1.000
	Sig. (2-tailed)	.001	.002	.
	N	180	180	180

** . Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient between earnings and years of education is 0.552, means that both are significantly and positively correlated. Similarly, the correlation coefficient of 0.237 between annual earnings and years of experience also show that both are significantly and positively correlated. Whereas, the years of education and years of experience are inversely related as shown by its coefficient -0.229 . It means those cut short their education enters in some kind of jobs and get more years of experience and vice versa.

The estimated correlation coefficient suggests for fitting a linear regression model of the variables to identify the nature of relationships for prediction. Hence,

$$Y = f(E) \dots \dots (1)$$

$$Y = \alpha_0 + \alpha_1 E + \varepsilon \dots \dots (2)$$

Where, Y= annual earnings, E= years of education, α_0 = intercept, α_1 = coefficient of E, ε = stochastic error. (Detailed result, A.1.3, Appx. PP 214)

Table 8.4 Regression Coefficients I

		Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.365	.182		-2.001	.047		
	YRSOFEDU	.119	.013	.552	8.837	.000	1.000	1.000

a. Dependent Variable: EARNINGS

$$\text{Thus, } Y = -.37 + .12 E \dots\dots\dots (3)$$

Extending the model so as to include individuals' years of experience in jobs, one can estimate the nature of relationships from the model,

$$Y = f(E, X) \dots\dots\dots (4)$$

$$Y = \alpha_0 + \alpha_1 E + \alpha_2 X + \varepsilon \dots\dots\dots (5)$$

Where, Y= annual earnings, E= years of education, and X= years of experience, α_0 = intercept, α_1 = coefficient of E, α_2 = coefficient of X, and ε = stochastic error.

(Detailed result, A.1.4, PP 215)

Table 8.5: Regression Coefficients II

		Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1.036	.192		-5.400	.000		
	YRSOFEDU	.137	.012	.640	11.128	.000	.947	1.056
	YRSOFEXP	.031	.005	.384	6.676	.000	.947	1.056

a. Dependent Variable: EARNINGS

$$\text{Thus, } Y = -1.04 + .14 E + .03 X \dots\dots\dots (6)$$

Now, the specific nature of relationship between incomes earned to corresponding levels of education of individuals can be estimated using dummy variables for the purpose of prediction. Treating education as a qualitative variable may do this. Thus if,

$$Y = f(E, X) \dots \dots \dots (7)$$

Where E Education level being a qualitative variable with more than two classes, the present study considers three mutually exclusive levels of education: below graduation, graduation and post graduation. By following the rule that the number of dummies be one less than the number of categories of the variable, introduce two dummies (D_1 and D_2) to take care of the three levels of education, where, $D_1=1$ if GR, =0 if below GR; $D_2 =1$ if PG, = 0 if below PG.

The estimated coefficients of correlation (See D.1.2, Appendix PP 217) between earnings and d_1 (0.49); earnings and d_2 (0.46); earnings and experience (0.24) are positive, means that education level and experience significantly influences one's earnings, of which the former two show high correlation. Similarly, the correlation coefficient between d_1 and d_2 (0.54) shows that both are positively related. It means attainment of graduation or equivalent is a basic requirement for still higher and higher level of education.

Whereas, the relationship between experience and d_1 (-0.17); experience and d_2 (-0.21) are negative and more over, the former coefficient is found higher than the latter means that, as individuals go for higher and higher level (more years) of education, the number of years in job decreases. (A. 1.5, Appx. PP 222)

Table 8.6: Correlation Coefficients

		Correlations			
		EARNINGS	D1	D2	YRSOFEXP
EARNINGS	Pearson Correlation	1.000	.494**	.458**	.237**
	Sig. (2-tailed)	.	.000	.000	.001
	N	180	180	180	180
D1	Pearson Correlation	.494**	1.000	.544**	-.174*
	Sig. (2-tailed)	.000	.	.000	.019
	N	180	180	180	180
D2	Pearson Correlation	.458**	.544**	1.000	-.212**
	Sig. (2-tailed)	.000	.000	.	.004
	N	180	180	180	180
YRSOFEXP	Pearson Correlation	.237**	-.174*	-.212**	1.000
	Sig. (2-tailed)	.001	.019	.004	.
	N	180	180	180	180

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The estimated correlation coefficient suggests for fitting a linear regression model of the variables to identify the nature of relationships for prediction.

Hence,

$$Y = f(D_1, D_2, X) \dots \dots \dots (8)$$

$$Y = \alpha_1 + \beta_1 D_1 + \beta_2 D_2 + \beta_3 X \dots \dots \dots (9)$$

(See D. 1.2, PP 217 & A. 1.6, PP 223)

Table 8.7: Regression Coefficients III

		Coefficients ^a				Collinearity Statistics		
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF
		B	Std. Error	Beta				
1	(Constant)	.508	.083		6.096	.000		
	D1	.472	.085	.379	5.567	.000	.701	1.428
	D2	.532	.110	.331	4.814	.000	.690	1.450
	YRSOFEXP	.030	.005	.373	6.381	.000	.950	1.053

a. Dependent Variable: EARNINGS

Thus,

$$Y = .51 + .47 D_1 + .53 D_2 + .03 X \dots\dots\dots (10)$$

In other words, according to estimated regression coefficients,

- (1) If the individual is below graduate, then $Y=0.51+0.03X$
- (2) If graduate, then $Y=0.51+0.47D_1+0.03X$
- (3) If post graduate or above, then $Y=0.51+0.47D_1+0.53D_2+ 0.03X$

In short, the analysis supports the hypothesis that “higher personal income is positively related to higher levels of education”.

8.3 Education and Employment

Higher education is no longer an elitist idea or purely intellectual pursuit, but has become closely linked with ‘bread and butter’ issues in Kerala as in the rest of the world. The relationship between education and employment is significant. Education, occupational status and earnings from employment have been shown to be positively associated, in a wide range of studies. Jencks, et al (1979) for instance, utilizing considerable amount of data for men aged between 25-64 years in the US concluded that the number of years of education is the best single predictor of occupational status (Hinchliffe 1987). Similar study has shown that youth unemployment rates decrease as the level of educational attainment rises (Jallade 1987). In 1966, more than 65.2 per cent of the staff in the public sector (India) had matriculation and below while in 1978, 68.9 per cent of the staff had University degrees. The corresponding figure in the private sector was 88.8 per cent and 44.6 per cent, respectively (Varghese 1986). The gross immigration of professional and technical personnel from LDCs into United

States, Canada and UK in 1963 was 17154 persons, which increased to 38136 in 1977 (*Todaro, 1985*). India happens to be one of the largest and most important of all contributors to the migration flows to the US. India ranked 6th among the top ten countries sending immigrants to the US during 1970–79. In 1996, Indian immigrants constituted 49 per cent of the total immigrants who entered the US putting India in the 3rd place next only to Mexico and Philippines.... Five per cent of Indian immigrant physicians, 65 per cent of those in managerial/ professional/ or technical jobs and 80 per cent of the men in Indian community have their primary degree from India (*Lakhmi Devi, Renuka 2003*). The experience of the Malayalee migrants reveals that they were able to enter into the formal urban labour market due to their better educational status and vocational training (*Prakash 1999*).

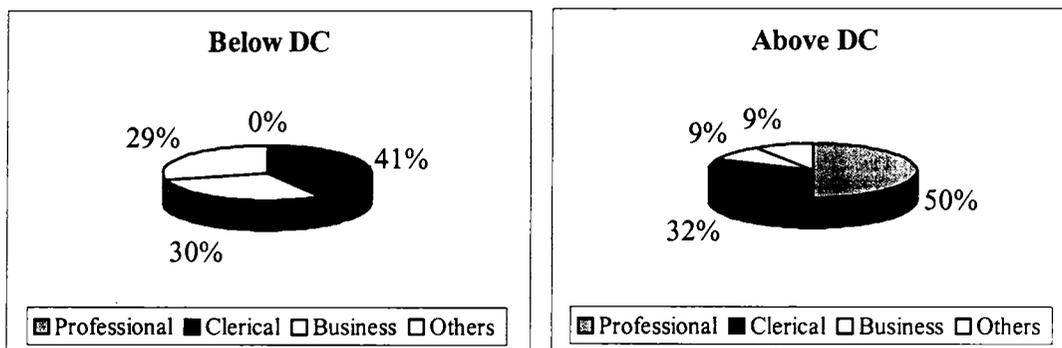
Table 8.8: Employed Persons by Education and Occupation Status

Level of Education	Number of Persons as per Occupation Status				
	Professional	Clerical	Business	Others	Total
Below SSLC	0	0	1	0	1
SSLC	0	29	9	12	50
SSLC +	0	2	1	3	6
HSS	0	9	18	10	37
HSS +	0	3	2	5	10
Below DC	0	43	31	30	104
DC	6	16	5	3	30
DC (p/t) +	9	3	0	2	14
PG	12	5	2	1	20
PG (p/t) +	11	0	0	1	12
Above DC	38	24	7	7	76
Grand Total	38 (21.1)	67 (37.2)	38 (21.1)	37 (20.6)	180

Source: Field Survey. *Figures in brackets show percentage.

Table 8.3 shows distribution of persons in the labour force in the age group of 15 to 55 years corresponding to their occupation status and levels of education. Of the below graduates, 41 per cent are working in the clerical cadre, 30 per cent in business and 29 per cent in other unspecified occupations. None of them succeeded in getting placement in the professional occupation even if some of them are having HSS or equivalent level of education, as illustrated in fig. 8.3.

Fig. 8.3: Distribution of Employed by Education & Occupation Status



In contrast, of the total employed persons in the graduates' category, 50 per cent of them secured placements in the professional or executive type occupations, 32 per cent, in clerical cadre, and only 9 per cent each in business and other unspecified groups. Thus it is evident that, higher levels of education have helped people to acquire substantially good placements in their occupation. This shows that there is a close association between levels of education and higher status job. A test of the hypothesis using χ^2 is done for the data given below.

Table 8.9: Number of Employed Persons as per Occupation Status

Education Attainment	Professional	Clerical	Business	Others	Total
Below DC	0	43	31	30	104
Above DC	38	24	7	7	76
Total	38	67	38	37	180

Source: Table 8.3

Chi-square test statistic =	70.1860	Number of: rows	columns
p-value =	0.0000	2	4
Ho	Education level and occupation status are independent		
Ho Accepted/ Rejected	Rejected		

Hence, the alternative hypothesis H_1 that “education level and occupation status are not independent” is accepted. In other words, it is evident from the analysis done that there is a close association between educational attainment and occupation status as well as education level and income.

CHAPTER 9

SUMMARY AND CONCLUSION

Education is a vital catalyst for human resource development. It acts as a principal driving force behind rapid economic development. It exerts a positive impact on labour productivity and technology; augments the quality and inventiveness of labour and pays them high. The increased earnings by educated workers benefit not only the individuals themselves but also the society as a whole. Bowen pointed out that, “the primary purpose of higher education is to change people in desirable ways to have profound effects on the economy, the society and on the course of history”. According to Hicks (1980) “there is a strong correlation between literacy levels and life expectancy and that influences health and hygiene.” Similar study has shown that, youth with low educational accomplishments are the ones most likely to suffer from unemployment while persons with higher educational attainments suffer the least (*Majumdar 1996*).

Human Resource Planning in India, especially with respect to education has not yet received the real fillip despite being the second largest population in the world. The recommended expenditure equal to 6 per cent of GDP remains elusive even after 45 years of independence. Of the total expenditure the highest priority has accorded always to elementary education and the least to higher education. As per recent statistics India has about 300 Universities, equivalent institution and over 8000 colleges in 2002. But students far outnumber the seats available. Barely 6 per cent of those in the 18–23 age group have access to higher education. According to the *UNESCO*

World Education Report for 2000, only 6.9 per cent of youth in the age group 17-23 are enrolled for higher education in India.

Kerala is ahead of other states in respect of attainment of universal literacy, which crossed even 91 per cent in 2001. Like the national rates, expenditure on University and higher education used to receive last priority in the State, and the proportion is less than 15 per cent on an average during 1995-96 to 2002-2003. The number of Arts and Science Colleges, as per recent records is 286 (38 Govt., 148 Pvt. Aided and 100 unaided) under the four affiliating Universities. Total enrollment of students at the University level stood at 3.43 lakhs in 1997 and the size in 2001-02 declined to 1.60 lakhs (after de-linking Pre-Degree) and 1.59 lakhs in 2002-03.

Despite these, human resource planning with respect to education especially higher education has not received the required emphasis so far in the State. It is in this context the present study is carried out with the objectives, viz; (1) to give an account of the investment and institutional or structural framework of higher education in Kerala; (2) to analyze the higher education market and the strength and weaknesses of supply – demand conditions in Kerala; (3) to compare the cost and benefits of higher education in Kerala; (4) to examine impact of recent policy change in higher education; (5) to suggest the need for expanding higher education market to solve the grave problem of unemployment on the basis of a systematic manpower planning; (6) to analyze higher education and its association with income and employment.

For analytical purposes the study has formulated a few hypotheses, such as (1) supply conditions of higher education is inadequate with respect to its growing demand; (2) both Social and Private costs of higher education

exceed its corresponding (social and private) benefits in Kerala; (3) Except on payment of price (fee) of education and distribution of student aid, both aided/govt and self-financing students are in equal status; (4) Education-Employment mismatch is the cause of growing educated unemployment in the State; (5) higher personal income is positively related to higher levels of education; (6) there is a close association between education and employment (and higher occupation statuses) in the State.

An investigation into the strength and weaknesses of public funding and institutional arrangements along with demand and supply conditions in the higher education market of the State is attempted in chapters 3 and 4. Often it is alleged that, the public spending in higher education in the state is as high as 90 per cent and the increasing gap between receipts and expenditure of the Universities are mainly due to fall in internal receipts. But the present study reveals the following. (1) State's public expenditure on Education was only 3.04 per cent of SDP in the last fiscal too i.e., 50 per cent short of the recommended rate (Kothari); (2) of the total expenditure on education, University and higher education received only less than 15 per cent; (3) out of the total expenditure on University and higher education, nearly 98 per cent is spend on non-plan expenditure as in the case of other stages of education in the State; (4) In the case of four affiliating universities in the State, salary of the staff and expenditure for the conduct of examinations, constituted more than 66 per cent of the expenditure; (5) The internal receipts of the universities have increased over the period 2000-01 to 2002-03, leaving only 70 per cent to external (public) funding; (6) although internal receipts have increased, the expenditure–receipt gap of universities are moving in an alarming rate due to

mounting non-plan expenses. Obviously, the public funding in higher (general) education is inadequate and skewed.

As regards to institutional or structural setting, the study reveals that, (1) it is so huge comprising so many constituent bodies and officials and that phenomenon often creates unnecessary duplication, delay and often escalates govt.'s financial burden, and puts the students in an unhealthy and unfriendly atmosphere; (2) the number of non-teaching staff including University level staff and Govt'.s Higher Education Department staff, is so high so as to bring down the Staff-Student Ratio only to 1: 8 or less than that. Obviously, a forward-looking professional/management practice needs to be evolved, which in turn help to utilize the size or number of university-government and - college level staff viably or economically, or re-deploy them so as to avoid unnecessary duplication, delay and drain of scarce financial resources.

Like any other commodity or service, education has a market. It is the 'market for training'. The important components of which are demand (enrollment) and supply (infrastructure). Based on its origin, demand for education may be distinguished mainly as private demand and social demand. The analysis of social demand for higher education in the State is important as Govt. spends almost 70 per cent or above for the education of people at higher levels. One argument on the enrollment in higher education is that, the higher education system in the State has extensive reach. But, a simple comparison of students enrolled at graduate courses of the students enrolled in 1st standard will expose the bare fact that enrollment in higher education in the State is abysmally low, with only less than 12 per cent. It is very low compared to developed countries where higher education enrollment is more than 60-80 per

cent. Similarly, a comparison between enrollments of students in postgraduate (general) courses out of students enrolled in degree (general) courses also shows that the postgraduate enrollment is at the lowest ebb in the State, i.e. hardly 15 per cent, which makes only 0.9 to 1.2 per cent of those enrolled in the 1st Standard in the State.

It is also observed that, the actual dropouts at primary levels itself is 50 –70 over the last decade. Of which 40-50 per cent go out of the stream without even reaching to 10th Standard and the rest fails in their attempt to clear the final exam. If the dropouts have been reduced, the demand for higher education might have been larger than the current rate. For instance, although the 1st Standard enrollment have shown a declining trend, growth rate of persons reaching to 10th Standard and those enroll in graduate and postgraduate courses, etc. are on a rising trend. This means that the decline in the dropout at primary level exert greater influence upon the students' aspirations for higher levels of education.

In fact demand for higher education is on the increase. The evidence obtained from sample survey also supports this. Of the total persons in the age group below 25 years, 93 per cent are students of various stages. Again, 75 per cent of degree and 48 per cent of postgraduate students have expressed their willingness to continue studies further. Besides, private educational expenses of about 99 per cent of the students are met by their parents, and 72 per cent of degree students and 63 per cent of the PG students are enjoying fee concession, which act as additional advantage to stimulate the demand.

An analysis of the percentage of marks scored by students in their final exam showed that the percentage of marks obtained by 55 per cent of

students at degree level have decreased when they moved from SSLC stage to Higher Secondary stage and almost 10 per cent of them could not make any change in that. Only 29 per cent of them could improve their results. In the case of Postgraduate students, marks have decreased for about 57 per cent and 27 per cent could not make any improvement as they move from SSLC to Higher Secondary and then from Higher Secondary to Degree level. On the whole, it could be seen that students could not maintain their test scores when they moves to higher levels of education, so to say quality deterioration at higher education level.

On the opposite, supply of higher education depends on the available infrastructure including investment and enrollment. Public investment on education in the State is hardly 3 per cent of SDP, and of which higher education used to receive the least priority (less than 20 per cent). It is also seen that, most students (44 per cent) in the arts and science colleges are continuing their education in this stream due to non-availability of alternative institutions offering vocational oriented or non-conventional courses feasible to their financial and physical capabilities. The response of majority of the students (76 per cent of govt. college and 68 per cent of aided college students) is that the facilities existing in their colleges are very poor. In other words, supply condition of higher education is inadequate with respect to its growing demand.

The cost and benefit of education is of crucial importance to educational planners and policy makers, but there are a number of ways of defining and measuring this. Since every government in the world operates under budget constraints, cost scrutinization and benefit analysis are of

primordial importance in educational planning. But, it is rather difficult to distinguish the concepts. The present study, however distinguished the concepts against the standpoint of the theoretical framework laid down in the introductory chapter. It is observed that, (1) private cost of higher education is smaller than social cost; (2) private benefit is larger than social benefit; and (3) both social and private benefits exceed their corresponding costs. Hence the hypotheses that (a) private costs exceed the private benefits of higher education, and (b) social costs exceed social benefit, are rejected.

With regard to the recent policy twist in higher education sector of the State (opening it up for self-financing college) the study reveals that conditions in the State are not yet ripe for such a free market operation, and that puts majority of poor students in disarray. Obviously, a series of criterions (socio-economic and educational) are discussed and compared between aided/govt. and self-financing students, except (1) in the amount of fees charged and (2) in the distribution of student aid, both streams of students are in equal status, as stated in the hypothesis. This warrants an equal treatment of these students with respect to pricing of education. But the recent policy change resulted in treating “equals unequally”, and hence is unjust. Therefore, a systematic strategy must be drawn out to implement a differential fee structure (price system) irrespective of the stream the students are undergoing their studies (i.e., aided/govt and self-financing colleges). The burden must be shared between students, managements and govt., at par with costs (private & social), benefits (private & social) and the financial capabilities of students.

One of the arguments on the causes of increasing educated unemployment in Kerala is the expansion of higher education. But the present

study shows that the work seekers as per live register with higher educational qualification (above bachelor degree including professional degree) was only 6.4 per cent of the total in 1985 and that has increased only to 11.6 per cent in 2002. The responses of students (sample survey) of Arts and Science Colleges in the State reveal that, 64.4 per cent of them hold registration in the employment exchange. Information collected from work registrants show that, the problem of unemployment⁷⁰ is more perennial among those whose level of education is low. For instance, of the total work-seeker registrants only 5.2 percent are really unemployed and their level of education is below graduation.

Assessment of the size of educated labour is done using (i) the taxonomy of Labour Force Status, (ii) Labour Force Utilization Framework and (iii) job competition theory. It is observed that, 68 per cent of the total real labour force (263 = 180 employed + 83 unemployed), are really absorbed in the economy with jobs of various kinds and it's earning. The 32 per cent, who remain unemployed, may be termed as excess labour force. And, of the total unemployed persons, 90 per cent are below graduates. Only 3.4 per cent (9 out of 263) constitute higher educated excess labour force – a case of education-employment mismatch causing unemployment. Of the total labour force 68.4 per cent actually find berths in job market, and only 31.6 per cent remain out of job. This indicates the supply-demand mismatch in the labour market. But, a close scrutiny of the figures will expose that, this situation is due to mismatch in education market. For instance, 89 per cent of the total labour force with higher educational qualification find berth, while 11 per cent could not. In contrast, of the total labour force in the category of below graduation only 58 per cent are absorbed in the labour market and the rest

remain unemployed. This is a clear indication to the fact that incidence of unemployment is less among higher educated persons.

Again, of the total unemployed persons having education qualification above graduation, none of them with more than 'graduate stage education' remain unemployed showing a short of labour supply with these higher levels of education, against its demand. In other words, there is mismatch of demand and supply of higher educated persons in the job market supporting the hypothesis. On the contrary, results show that, the mismatch is so acute among below graduates by excess supply of these people over its demand in the job market.

Again, higher education is no longer an elitist idea or purely intellectual pursuit, but has become closely linked with 'bread and butter' issues in Kerala as in the rest of the world. Thus the relationship between education and employment is significant. Of the total employed persons of below graduates, 41 per cent are working in the clerical cadre, 30 per cent in business and 29 per cent in other unspecified occupation statuses. None of them succeeded in getting any placement in the professional occupation even though some of them are having HSS or equivalent level of education. In contrast, of the total employed persons in the above graduates' category, 50 per cent of them are able to secure placements in the professional or executive type occupations, 32 per cent in clerical cadre, and only 9 per cent each in business and other unspecified group. Thus it is evident that, higher levels of education have helped people to acquire substantially good placements in their occupation. All these show that there is a close association between levels of education and employment as well as higher status (earning) job.

The earning levels of the employed people also show that, persons with higher education are at a greater advantage to those without higher education. To be more specific, 80 per cent of the below graduates could earn only less than Rs. 2000 per month. On the contrary 87 per cent of people having education above graduation earns more than Rs. 3000/- per month.

The estimated correlation coefficient between earnings of employed persons and years of education is 0.552. This means that both are significantly and positively correlated. Similarly, the correlation coefficient of 0.237 between annual earnings and years of experience also shows that both are significantly and positively correlated. Whereas, years of education and years of experience are inversely related as shown by its coefficient -0.229 . It means those cut short their education enters in some kind of jobs and get more years of experience and vice versa.

The estimated correlation coefficient suggest for fitting a linear regression model of the variables to identify the nature of relationships for prediction. Thus, $Y = -1.04 + .14 E + .03 X$

The specific nature of relationship between incomes earned to corresponding levels of education of individuals is also estimated treating education as a qualitative variable and introduced dummies D_1 and D_2 , where, $D_1=1$ if GR, $=0$ if below GR; $D_2=1$ if PG, $=0$ if below PG. The estimated coefficients of correlation between earnings and d_1 (0.49); earnings and d_2 (0.46); earnings and experience (0.24) are positive, means that education level and experience significantly influences one's earnings, of which the former two shows high correlation. Similarly, the correlation coefficient between d_1 and d_2 (0.54) shows that both are positively related. It means attainment of

graduation or equivalent is a basic requirement for still higher and higher level of education. Whereas, the relationship between experience and d_1 (-0.17); experience and d_2 (-0.21) are negative and more over, the former coefficient is found higher than the latter means that, as individuals go for higher and higher level (more years) of education, the number of years in job decreases.

The estimated correlation coefficient suggest for fitting a linear regression model to identify the nature of relationships for prediction. According to estimated regression coefficients,

$$Y = .51 + .47 D_1 + .53 D_2 + .03 X ,$$

i.e.,

- (1) If the individual is below graduate, then $Y=0.51+0.03X$
- (2) If graduate, then $Y=0.51+0.47D_1+0.03X$
- (3) If post graduate or above, then $Y=0.51+0.47D_1+0.53D_2+ 0.03X$

In short, the analysis supports the hypothesis that “higher personal income is positively related to higher levels of education”.

To put in brief, the economic significances of higher education are plenty with respect to Kerala. Here lies the rationale of policy intervention for effective human resource planning in the State, to garner the best out of manpower. Hence a few suggestions are mentioned hereunder to revamp the higher education scenario of the state.

9.1: SUGGESTIONS

1. Enhance public expenditure on education at least to meet the recommended 6 per cent rate of SDP.
2. University and higher education sector should be given top priority in Govt's education allocation in the coming years.
3. Plan expenditure of the universities and colleges should be raised and the expenditure on non-plan items should be reduced to the minimum.
4. The complexity in the institutional and administrative setting has to be eradicated through re-sizing or de-linking bodies and implementing professional management practices, at least in College–University HED–DCE–DyDCE, network.
5. Dropout at primary stage (through failure or quit) has to be reduced and more facilities to higher education have to be created that are required by the industry/ people.
6. A differential price (fee) strategy must be evolved and implemented both in the aided/govt (to mobilize funds for meeting govt's financing stringency) and self-financing (to ease the low income groups) sectors.
7. Formulate a realistic definition to identify the real volume of unemployment (educated unemployment) on the basis of a systematic or scientific human resource categorization method.
8. Education policies should be revised to make a proper linkage with education market and labour market.
9. Reap maximum possible benefits (social & private) by building a suitable human resource base and through human resource exports, as it is a best source of foreign exchange.

NOTES

1. See, T. 1.1; T.1.2; Appendix PP 190
2. See, Statistics for Planning, 2001, PP 393
3. Economic Survey 2002-03; and see T. 1.3; 1.4; Appendix PP 190, 191
4. See T. 1.5; Appendix PP 192
5. An Overview on History of Higher Education, See R.1, Appendix PP 233
6. A brief review of Education Commissions, R.2, Appendix PP 237
7. T. 1.6; Appendix PP 192
8. Major Higher Education Landmarks in Kerala, R. 3; Appendix PP 245
9. Statistics for Planning, 2001, PP 393; T. 1.7; Appx. PP 193
10. See notes 9 above.
11. Economic Review, 2003 PP, 273
12. See Chart C.2; C.3; C.4; PP 226-27
13. See T. 1.8; 1.9; 1.10; Appx. PP 193-94
14. It is the several years of education and training that helps to convert people as real labour.
15. Even the traditional jobs of carpenters, barbers, goldsmiths, etc, now open to all those skilled in that, though in different titles say, interior-exterior designers, beauticians, fashion designers, etc.
16. A critical review of definitions of unemployment estimations used in India/ Kerala is given in Appendix R. 4; PP 249
17. Group A, in Chart C.1 PP 225 and See T. 1.11; Appx. PP 195
18. Economic Review, (2003) SPB, TVM, PP 275

19. *Ibid, PP 55*
20. *Ibid, notes 6 above.*
21. *Ibid, notes 12 above*
22. Zigzag Route of a file, See Chart C. 9, Appx. PP 231-32.
23. See Chart C.5, Appx. PP 228.
24. Please refer to No. F1 22/97 U1 dtd, 27/7/98 & 6/11/98, Ministry of HRD (Dept. of Education), Govt. of India; GO (MS) No. 66/90 H. Edn. Dtd, 13/3/90; GO (P) No. 171/99 H. Edn. Dtd, 21/12/99; etc, Higher Education Dept. Govt. of Kerala, TVM, to name a few.
25. Tried to fish-out the related Govt. Orders, if any, but failed to get convincing evidence due to frequent amendments on the existing ones.
26. *Ibid, PP 24*
27. See T 3.2, Appx. PP 196.
28. The data employed here are compiled from Economic Review of State Planning Board and Annual Report of the DPI. Of course, the data may contain errors due to the chance of presence of repeating students in certain class or classes, those rejoin after a break, enrollment from outside the State, move out of state, enroll in other courses, etc, and is difficult to take care of.
29. The comparison is made here on the basic assumption that a 1st Standard student normally take minimum 12 years to complete PDC/HSS or Equivalent course and aspire for graduate level courses either in general education or professional education.

30. This is an improved estimate, as it takes into account the annual enrollment rather than the total enrollments used in the previous estimate.
Ibid pages 71-73.
31. *Ibid, PP 7-8.*
32. It helps to increase national income, savings, productivity, efficiency, probity and transparency. It reduces population, poverty, inequality, unemployment, cost of governance, cost of maintenance of law and order, cost of protection of health and life. It also helps to promote social welfare and social security, and so on.
33. *Ibid, PP 60-61.*
34. *Ibid, PP 11*
35. T. 4.1, Appx. PP 197
36. T. 4.2, Appx. PP 199
37. *Ibid, PP 17*
38. See Chart C.6 and C.7, Appx. PP 229
39. Remarkable contributions of thousands of eminent persons in the past must be remembered with much admiration.
40. The terms 'cost and expenditure' of education are often synonymously used. For more discussion see, Tilak and Bhatt (1986), Salim (1997)
41. Instead, some others use the terms producer and consumer. (Hallack, 1969)
42. The study here focus attention only on institutions run by govt. and aided private management and not the Self-financing Colleges.
43. *Ibid, PP 85*

44. In the absence of data on the amount spend by private management; the present study considers only the govt.'s expenditure on both streams. (Also see, Salim, 1997, PP 6)
45. Reasonable modification is done on what is in Salim (1997, PP 97-99)
46. The concerned department or agency providing it will meet subsidy differential. Besides, financial aid in the form of scholarship, fellowship or grant, is not a cost. It is the price discount. (For more discussion see, Gordon, 1998)
47. Salim (1997) has made an attempt to study only the cost of higher education in Kerala emphasizing capital cost and private cost. But the benefit side is left undone.
48. *Ibid, PP 86-7.*
49. To know the Govt. approved categories of students of different communities enjoying fee concession, see Calendar 2003-04, Govt. Arts and Science College, Kozhikkode, PP 37-42.
50. Value addition through reputation, frequent grants or aid by Govt, donation or gifts and other externalities.
51. *Ibid, PP 17.*
52. There will be slight variation, when one adds the number of students enrolled during the period other than general education in both degree and PG.
53. Except a discussion only on excess teaching staff.
54. Of course, the number of postgraduate students in each college is quite low to that of degree students. But, it is very difficult in this complex structure to find out per student cost, separately for degree and PG

Student. In most colleges, teachers engage both degree classes and service of the non-teaching staff are commonly shared, although with some variation.

55. The individual's perception prior to the investment is referred to as *ex ante*, while the *ex post* can be calculated from the actual or observed benefits.
56. The spillovers in education are those benefit of education that spillover into other political jurisdictions, normally as a result of net out-migration. (Mc Mahon). But in most situations there are little demarcation between externalities and spillovers. The present study uses the term without any distinction.
57. Here, it refer only the general subsidy that full pay student get and not by special category student.
58. *Ibid, PP 19*. Sen on definition of unemployment & Appendix R.4, PP 249.
59. T. 7.1, Appx. PP 205.
60. T. 1.9 & 1.10, Appx. PP 194-95.
61. *Ibid, notes 58*.
62. *Ibid, PP 137*.
63. For more discussion on this part, see chapter 1, 3 &4.
64. *Ibid, PP 137*
65. Refer, Job Competition model.
66. In Kerala, the labourers are seemed very rigid, but outside the State, they are so handy, flexible and adaptable to the dynamism of labour, technology and product market. Anyway, it opens up a fresh research area in future.

67. Separate data regarding the contribution of education (or higher education) to SDP is unavailable. Research has to be carried out to estimate the specific contribution of education to SDP, in future one in the form of input-output matrix strategy. See T.8.1, Appx. PP 205.
68. See, T.8.2; Appx. PP 206
69. 'Brain Drain' – “ if highly educated people emigrate abroad then losses are imposed upon less educated workers as they now have less human capital to work with. These losses will, however, be greater the less easy it is to substitute between physical capital and human capital on the one hand, and between human capital and unskilled on the other. Let us suppose that physical capital and human capital were required in fixed proportions. If all educated people now leave the country then the physical capital stock would be rendered redundant and unless goods and services could be produced with bare hands alone, national output and income would fall to zero.” (Todaro, 1996) But in reality, this is not so today. Demand for labour comes from all over the world. One need not hesitate to export the precious manpower like any other factor. It is a best source of foreign exchange and innumerable other benefits. It is high time to push aside the age-old concept and fear of 'brain drain' in the present technology age, information can be collected from any corner of the world and exported manpower can be immediately substituted or replaced (except in very few cases), especially in manpower surplus economy.
70. Unlike in gulf countries domestic people (labour) carry out most (professional) works in our State. See, T.8.3; T.8.4; T.8.5; Appx. PP 206-07.
71. It is evident by large number of 'job opportunity' notification.
72. D.1.1, Appx. PP 208 & A.1.2, Appx. 214.

REVIEWS

R. 1: An Overview on the History of Higher Education

The history of higher education in the ancient world is part of the growth of the urban cultures and civilization of the Nile River Valley, Mesopotamia, Crete, the river valleys of India and China, and to a lesser degree part of the development of the civilization in Central and South America. Large aggregation of population in these areas led to the abandonment of agriculture as the sole means of living. This differentiation in occupation led to the spread of art and crafts to meet the demands of an increasingly complex pattern of culture, which in turn led to the emergence of a class of learned professionals in a wide variety of fields. The maintenance, transmission and refinement of these specific skills led to the establishment of various schools where knowledge was passed on from one generation to the other. Although institutions of higher education in modern sense were lacking in ancient culture, higher education was definitely present in these civilizations. The intellectual, artistic and technological advancement of the ancient empires would have been impossible without a tradition of higher education.

INDIAN EXPERIENCE

India gave considerable emphasis (though not sufficient) on the educational policy after the attainment of independence in 1947 as in the post independence period. The number of educational institutions^{1,1} has increased by more than three times from 2.31 lakhs in 1951-52 to more than 8 lakhs in 1990-91. The expansion has taken place at all levels of education namely primary, middle, higher secondary, college, professional institutions and universities. The enrollment in these institutions has gone up enormously from 24 million to more than 157 million, i.e., a rise by more than six times. And the literacy rate in India have gone up to 52.1% as per the 1991 Census report and that to 65.4% according to 2001 Census (males 75.85% and females 54,10%). Similarly the Indian expenditure on education^{1,2} was \$ 910 crores in 1991. Plan expenditure on higher education has also increased rapidly since the first five-year plan. As against the goal of 6% of GDP, the total expenditure on

education in India is currently 3.99 % of GDP (2001 – 02). A high priority has been accorded to this sector in the 10th FYP^{1.3} with an allocation of Rs. 43825 crores as against Rs. 24908. 38 crores made available in the 9th Plan, representing an increase of 76 %.

The urban oriented Indus river valley civilization was the base of Indian higher education. But by 1500 B.C. Aryans invaded and whose presence deeply affected the subsequent nature of Indian education. The ancient Aryans had a well-developed system of higher education and that the institutions, which imparted such education, was comparable to some extent to the colleges and Universities of today.^{1.4} The Aryans divided the society into four distinct classes: Brahmins, Kshathriyas, Vaisyas and Sudras, that eventually led to the casteism in India. Since Brahmins constituted the intellectual and priestly class, education in India was closely tied to them though elementary education was given to other two upper classes. Originally instruction was exclusively oral and took place at home of a learned Brahmin where the student subjected to strict intellectual and moral discipline. In the 7th Century B.C, the Forest Schools where the study of the Vedas was supplemented by an ascetic life challenged the instructional monopoly of the Brahmins. In these schools students lived in the woods with a learned teacher and studied not only the Vedas but also other subjects such as astronomy, etymology and grammar. Both students and teachers led a simple life performing religious ceremonies and some manual work. Celibacy was strictly enforced. When students had completed this preparatory course, higher education including instruction in philosophy, logic, grammar, law and possibly the Sciences was available to those Brahmins who had mastered the basic text of the Hindu tradition. The important development at this time was the emergence of Parishads, the closest equivalents of the Universities in ancient India. Later, especially in the period beginning in the 8th century A D 'tols or pathasalas' were established by learned teachers where students lived in small communities studying logic, law and other advanced subjects.

In the 6th Century B.C Indian education was greatly affected by Buddhism and Jainism, which brought democratization and institutionalization through the emergence of monastic schools. Between 6th c. BC and 6th c. A.D Indian intellectual

life flourished especially at Taxila, Banaras, Kanchi, Vallabhi and Nalanda. By 18th c. A.D internal dissemination among Indian states had left the country vulnerable to outside pressure. Western culture began to appear in small pockets of subcontinent. One such group named 'the Danes' actually founded the first European University at Serampore near Calcutta in 1818.

In 1775 the English East India Company had acquired territories in India and in 1763 the Peace of Paris affirmed the British Supremacy in India. The British colonial rule toppled the then existed Indian educational system. One of the major issues to confront the colonial authorities was, whether to continue the methods of Indian education or to implement the Western. The proliferation of small colleges, which trained students for middle level positions in the colonial bureaucracy and the pressure from certain top Indian leaders, weighed the balance in favour of the latter choice. Sir, Charles Wood, thus articulated the educational policy in 1854 Dispatch to the Governors of English East India Company. It established the ground rules of founding a University system modelled on the University of London that would affiliate the already existing colleges, examine students, set standards for courses, prescribe texts and confer degrees. Thus in 1857, University of Calcutta, Bombay and Madras were come into being. By 1902 there were 191 colleges and five Universities in India including the University of Punjab (1882) [now in Pakistan], and the University of Allahabad (1887). In 1904 the Indian Universities Act was initiated, accordingly the Universities should assume more teaching responsibilities, offer research opportunities and exert more control over the affiliated colleges. Later in 1915, Banaras Hindu University (a teaching and residential university) without the power of affiliation, the University of Mysore (1916), the University of Patna (1917) and Osmania University (1918) were came into existence.

The Saddler Commission 1917 succeeded by a series of similar commissions suggested various reforms. However, World War II marked a brief hiatus in the formation and reformation of the universities, but its cessation and the declaration of Indian Independence (1947), the growth once again accelerated. Since independence the history of higher education in India has been largely determined by Five Year Plans, which tried to democratize and to be responsive to the needs of the country. One

of the most important developments since independence has been the establishment of a University Grants Commission in 1953, a Statutory Body whose main responsibility is to co-ordinate and maintain higher education standards, exercising control through its power to allocate grants to universities and colleges. In 1966 a report of the Education Committee to the Planning Commission suggested the standards of higher education would improve if certain selected colleges were given autonomous status. In 1976 the University of Bombay implemented this by granting autonomy to some of its affiliated colleges with the approval of UGC.

R. 2: Education Commissions and Committees - A Brief Review

In India a host of commissions and committees appointed by competent authorities from time to time both before and after the attainment of independence in 1947. They studied various aspects of higher education, in addition to the contribution made by researchers. In the former case the experts did make an in-depth study of the problems in respect of higher education and offered solution to them.

Wood's Dispatch, July 1954 (Aggarwal)

In view of its manifold importance in the evolution of a good system of education in India, Wood's Dispatch under the name of Sir, Charles Wood, came out. This document dealt with various objectives of education policy and medium of instruction, and recommended:

1. Creation of Department of Public Instruction under a Director, and Inspectors under him in each of the Provinces of the Country
2. Establishment of Universities in Bombay, Calcutta and Madras on the model of London University headed by Chancellor, Vice – Chancellor and Fellows consisting the Senate. The University would give affiliation to Colleges, conduct examinations and confer degrees
3. Establishment of training schools to teachers and scholarships during training period
4. Vocational training in Law, Medicine and Engineering
5. A scheme of Grant – in – aid for the development of education
6. Special emphasis on women education

Indian Education Commission 1882 – 83 (Aggarwal)

Lord Rippon appointed the first Indian Education Commission on February 3, 1882 with Sir, William Hunter member of Viceroy's Executive Council, as Chairman. The Commission (known as Hunter Commission) made a thorough survey on the entire field of education in India and made certain fundamental recommendations.

1. Govt. should withdraw from the management of Secondary Schools and take up the responsibility of Primary education. District Boards and Municipal Boards should be entrusted with the management of primary education

2. Indigenous schools should be developed and encouragement be given to backward areas
3. Grant – in – aid to promote enterprise in managing Secondary Education
4. Govt. should establish model schools
5. Bifurcation of curriculum of secondary education into ‘A’ course leading to the University and ‘B’ course for commercial and non- literary pursuits
6. On grants – in – aid to colleges, the strength of the staff and expenditure of the college should be the base

Indian Universities Commission (1902) (Ghosh)

On January 27, 1902, Lord Curzon appointed the Indian Universities Commission with Thomas Raleigh as its Chairman to enquire into the conditions and prospects of Universities established in British India and to make recommendations.

1. The Universities should be re- organized.
2. Uniformity in the nomenclature of the degrees in Arts and Science at different universities and examinations for the award of degrees
3. Provision for advanced courses of studies
4. More systematic and strict supervision of the affiliated colleges of the universities
5. The number of members in the Senate should be reduced and the number of members in the Syndicate should be between nine and fifteen. There should be proper representation of the teachers of the affiliated colleges in the Universities

Indian Universities Act 1904 (Ghosh)

The Imperial Legislative Council passed the Indian universities Act on March 21, 1904. By this Act the scope of the Universities was enlarged. The Universities were given right of teaching, conducting examinations and to conduct research. According to this Act, the minimum number of members to the Senate was fixed as fifty and the maximum as hundred and their term of office was fixed as five years. The Act provided for the election of members to the Senate. The Syndicate was accorded legal status. The Govt. was given right to give approval and to make amendments to the rules framed by the Senate of the Universities. The Govt. also

secure right to make laws in this regard. The Act also provided for the fixing of territorial jurisdiction for the Universities.

Calcutta University Commission or Sadler Commission 1917–1919 (Aggarwal)

The Saddler Commission under the Chairmanship of Dr. Michael Saddler submitted its report in 1919. This comprehensive report greatly influenced the subsequent courses of Secondary and Higher Education in the country. Though the Commission was to inquire into the problem of Calcutta University, it studied the working of other Universities too and recommended;

1. Intermediate colleges should be established where Arts, Science, Medicine, Education, Agriculture, etc. should be taught.
2. Intermediate classes should be separated from universities and a separate Board free from the control of Department of Education should be established.
3. Duration of the Degree Course should be of three years and curriculum should be arranged as such
4. An Honours Course should be initiated
5. Teachers of the Universities be given more powers
6. Appointment of Professors and Readers should be made by special Selection Committee
7. There should be an Academic Council and Board of Studies
8. Different Faculties should be created in Universities
9. A full – time and salaried Vice – Chancellor should be appointed in each Universities

Hartog Committee 1928 –29 (Ghosh)

Hartog Committee an auxiliary committee of the Simon Commission under the Chairmanship of Sir, Philip Hartog submitted its report in September 1929. It was the first body to note the wastage and stagnation in Indian Education. The Commission stated that the Universities were overcrowded by students who were not fit for University Education and expansion is at the cost of quality, thus recommended:

1. Attention should be bestowed on consolidation rather than on expansion of education

2. The standard and service conditions of teachers should be raised and thus emphasis should be given for training and refresher courses
3. Efforts should be made to remove wastage and stagnation

Sargent Report 1944 (Manager of Publications)

Sir John Sargent, Educational Advisor to the Govt. of India submitted its report in 1944. It was the first comprehensive educational plan formulated by the Central Advisory Board of Education (CABE) of the Govt. of India. The plan aimed at creating in India the same standard of education that had already been attained in England. It recommended:

1. An Indian University Grants Commission should be established to co-ordinate the work of different Universities
2. University education of three years should be restricted to selected students
3. Compulsory physical education should be provided to students
4. Establishment of Employment Bureaus
5. Establishment of Technical Schools and Technology Departments in Universities

Dr. Tara Chand Committee 1948 (Pamphlets No. 52)

The committee appointed by the Govt. of India headed by Dr. Tara Chand, Joint Educational Advisor in its report put forward some valuable recommendations on higher education.

1. Admission to Degree course is made only after Secondary education
2. The pay scale of Teachers should be revised
3. There should be refresher courses for teacher after every five years.

University Education Commission 1948 – 49 (UGC)

The Commission headed by Dr. S. Radhakrishnan, the distinguished scholar and educationist who became the second President of India was to make recommendations. The commission described in detail the aim of University Education and put forward valuable recommendations on all aspects of it.

1. A large number of well equipped and well – staffed Intermediate Colleges are to be established together with a good number of vocational institutes for students who do not go to Universities.
2. The maximum number in Arts and Science Faculties of a University is to be fixed at 3000 and 1500 respectively, in an affiliated college, to avoid overcrowding in Universities and Colleges
3. University Classes should be supplemented by Library work and Tutorial
4. The quality of teaching should be improved, hence stress for refresher courses
5. Suggested agricultural education and research
6. Gave importance to religious education, student welfare activities and student discipline
7. A special examination for recruitment should be conducted
8. Credit system should be introduced at Degree and Post Graduate level
9. The University Education should be placed in the ‘Concurrence List’ and financing of higher education should be the responsibility of the State Govt. concerned
10. University Grants Commission should be appointed immediately

Secondary Education Commission 1952 – 53 (SEC)

The Govt. of India appointed SEC with Dr. Lakshmanaswami Mudaliar, then Vice Chancellor of Madras University as its Chairman. The Commission made certain important recommendations like the ‘Two – years Intermediate’ stage in the College should be replaced by ‘One – year Pre – University Course with the other year being shifted to the higher secondary stage. The degree course in the college was to continue as a ‘ Three years course’.

Education Commission 1964 (Kothari)

The Govt. of India appointed an education commission in October 1964, with Dr. D. S. Kothari as its Chairman. The report of the Commission submitted on June 29, 1966 guided the policies, programmes and development of education for many decades.

1. A radical improvement in the quality and standard of higher education and research
2. Expansion of higher education to meet the manpower needs of the national development

3. Improvement of University organization and administration
4. To improve teaching and evaluation, should include internal and continuous assessment, seminars, discussions and workshops
5. Start Universities for many States
6. Autonomy for the Universities and for the departments within the Universities as well as for the Selected Colleges

In addition to these many valuable recommendations were made by the Commission on the role and appointment of Vice – Chancellor, University Legislation, Affiliated Colleges, Private and Govt. colleges, re- organization of courses, inter – disciplinary studies and inter- university board for developing advisory, research and service functions of all the Universities of the State.

Committee on Governance of Universities (UGC)

UGC appointed the Committee on June 1969 under the Chairmanship of Dr. P. B. Gajendragadkar. The Committee made recommendation on the structure of Universities, functions and powers of the Statutory Bodies, Servicing conditions of the Staff of the Universities and similar issues. It stressed the importance of social opinion, assistance and advice to Universities on all matters.

Challenge of Education; A Policy perspective 1985 (Ministry of Education)

This document was prepared by the Govt. of India in order to review the educational situation and to frame new policies for the further development of education in the Country. The four main chapters included in the document are:

1. Education, Society and Development
2. An Overview of Education
3. Development – a Critical Appraisal, and
4. An Approach to Educational Re- organization.

This document became the basis of the National Policy of Education (NPE) of 1986. The document brought to the light the problem of wastage of resources in producing a very large number of educated unemployed in the Country. It recommended that degrees be de- linked from jobs minimizing heavy enrollment in the field of higher education especially at the undergraduate level. The document

emphasized the need for encouraging only those students who have the right academic aptitude for taking up studies at the postgraduate level.

National Policy Of Education (NPE) 1986 (Ministry)

The major recommendations of the document are given below:

1. Universities and Colleges of the country should be provided with more facilities for their all round development
2. Emphasized the system of autonomous colleges and wanted to replace the system of affiliated colleges gradually
3. Academic programmes and courses should have to be re- designed to meet the demands of specialization. Linguistic competence to be given greater importance
4. In the field of higher education State Councils should be established for the State Level Planning and co- ordination of programmes and projects
5. Emphasis on transformation of teaching methods
6. Financial support should be provided for high quality research in the Universities. Setting up of National Research Centers within the University system should be encouraged. Facilitate inter – disciplinary research.
7. Recommended for de-linking of degree from jobs and suggested a National Testing Service to conduct tests for determining the suitability of candidates for specialized jobs
8. Proposed for the establishment of rural Universities

Based on these recommendations the MHRD, Gov. of India have chalked out a programme of action for implementing NPE, like,

- a) Providing adequate fund for courses and research.
- b) Establishing institutions having close ties with national laboratories and agencies within Universities
- c) Reviewing the management pattern of Universities and their Statutory bodies
- d) Regulating admissions on the basis of facilities and merit
- e) Setting up of State Councils of Higher Education
- f) Envisaged developing 500 colleges as autonomous
- g) In matters of designing courses envisaged to meet the growing demands of specialization

- h) Establishment of a national apex body covering all areas of higher education for facilitating inter- disciplinary research, planning and implementation of programmes of post graduate education and to deal with the policy aspect of higher education
- i) Setting up of an autonomous body named Accreditation and Assessment Council (NAAC) under the auspicious of UGC for maintaining and raising the quality of institutions of higher education

New Education Policy 1986 (AIU)

The AIU's document on higher education reiterates the importance of fresh thinking on the part of the Govt. and the Universities in preparing agenda for action in the field of higher education incorporating strategy for planning and management, autonomy and accountability, quality and content and course structure.

The policy proposed to establish autonomous colleges systematically and extensively. Suggested de- politicization of education in Colleges and Universities is imperative. University Acts need to be reviewed and amended. Regarding course content and structure wanted to help in realizing the social needs and thus incorporate flexibility. Instead of de-linking course should be designed so as to strengthen the nexus between degrees and jobs. It also recommended for setting up of a manpower-forecasting cell in the Ministry of Human Resource Development.

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R. 3: MAJOR HIGHER EDUCATION LANDMARKS IN KERALA

The history of higher education in Kerala goes back to the very ancient days. The contribution of Buddhism to the spread of learning and literacy in Kerala was undoubtedly great. The 'Ezhuthupalli', the elementary school seems to be the legacy of the Buddhist period. In later days the people of Kerala copied the Buddhist examples of running educational institutions alongside their temples.^{1.6} During the Sangam age, which comprised the first five centuries of Christian era, as evident from Sangam works, all people irrespective of caste, creed or sex were entitled to get the benefits of education. Thus education was popular and universal in ancient Kerala.^{1.7} Under the reign of the 'Ay Kings' the educational institutions known as 'Salais' were attached to very important temples in the Southern part of Kerala. The scrupulous enforcement of rules of disciplines made salai of the Ay Kingdom, ideal, educational institutions.^{1.8}

But the Aryanisation in 8th century AD, the ideal universal education got jettisoned and education became the monopoly of the Brahmins. Women as well as the low castes were deprived of the right of education. However, the age of Kulasekharas (800 – 1102 AD) witnessed a remarkable progress in the field of education and learning. A number of Vedic Schools and Colleges sprang up in different parts of Kerala called 'Salais'. The most important among them were Kandallur, Parthisekharapuram, Tiruvalla, Muzhikkulam, etc. Kandallur Salai even been renowned as the 'Nalanda' of South India. Though Salai was Vedic institutions the study of Sanskrit, Grammar, Theology, Philosophy, Law, etc. were allowed. Most of these Salais were converted into military academies during the Chera- Chola war of the 11th century. During this period education faced a major set back. The bulk of the population never went to formal educational institutions. The main means of education was non- formal. The State did not maintain or aid any school but left people to make their own arrangements for the education of their children.^{1.9}

In North and Central Kerala there were Sabha Matts to give Vedic education to Namboodhiri youths. Institutions like 'Ezhuthupallis' were there to give education to non-Brahmin children in each village under the 'Ezhuthasan or Asan'. The

'Kalaris' also had a place of importance in the system of education that prevailed in ancient Kerala. This was an indigenous institution peculiar to Kerala where instruction in Physical training, gymnasium and warfare were imparted.

The arrival of Christian Missionaries in early 19th Century was an important landmark in the educational history of Kerala. They were the pioneers of modern education that the people of Kerala see today. The Christian missionaries take the abiding honour of having taken the first tangible step towards the introduction and diffusion of Western learning.^{1.10} In the beginning of the early 19th century Royal Family of Travencore had been paying much attention to the development of education. In 1817, the Rani of Travencore issued a remarkable Royal Rescript. According to which the State should defray the whole cost of education of its people in order that there might be no backwardness in the spread of enlightenment among them. By diffusion of education they might become better subjects and that the reputation of the State might be advanced thereby.^{1.11} The beginning of English Education in Travencore was under the reign of Swathi ThirunnaI (1829 – 1847). In 1843, an English School was opened at Trivandrum and it was converted into Rajas Free School in 1936. A full – fledged Arts College was established at Trivandrum in 1866 affiliated to Madras University during the reign of Ayilliam ThirunnaI may be the beginning of University education in Kerala. In 1875 a Law College was started with affiliation to University of Madras. The C.M.C College Kottayam (1890) and the Nagercoil Seminary (1893) were also affiliated to the University of Madras.

The starting of training college in the year 1910 and the reorganization of the Sanskrit College at Trivandrum marked another significant development in the field of higher education in Kerala. A Department for the publication of Sanskrit Manuscripts and the University Manuscripts Library were also organized during the period and which had been again re-organized and upgraded as Oriental Research Institute and Manuscripts Library.^{1.12} By this time, the Malabar district also made progress in the field education with the help of Basel missionaries. In 1848 a primary school was opened at Kallai (Calicut) by Basel Evangelical Mission and which later developed into Malabar Christian College. On March 1857, the mission opened at Tellicherry the First English School in North Malabar under the leadership of Dr.

Herman Gundret. In 1862 at Tellicherry Sir Edward Brennen established the Brennen School. It was later taken over by the Government and developed into Government Brennen College. The modern Victoria College, Palghat began in 1866 as a rate school and the Zamorins College Calicut in 1877 as a school for the young Princess in the Zamorins family.^{1.13}

In 1937, Sri. Chithira Thirunna Maharaja Travencore affiliating 10 Colleges (6 Govt. Colleges and 4 Pvt. Management), which were already affiliated to Madras University, founded the University of Travencore. With the imperative necessity and urge for Technological Education And Development, a College of Engineering at Trivandrum was also started in 1939. Again, in August 1939 the Central Research Institute was constituted for conducting research in various technological and scientific fields, both theoretical and applied. Thus the University of Travencore had made a good beginning in the establishment of an effective research programme. In 1942, the Maharajas College of Arts was merged with the Maharajas College of Science, and renamed as University College. With the growing demands for higher education, more colleges were started. By July 1949 at the time of integration of two princely states viz, Travencore and Cochin, the two Govt. colleges of Cochin area namely, Maharajas College Ernakulam (1875) and the Chittur Govt. College were also affiliated to the University of Travencore. Consequent upon the integration of Malabar area a few more colleges were affiliated to the University of Travencore.

With a view to reconstituting the University of Travencore as a Teaching and Federal University for the whole State of Kerala, the Kerala University Act (Act 14 of 1957 of the State Legislature) was brought into force on August 30, 1957. The University of Travencore has since then renamed as the University of Kerala. As on March 1968, the University of Kerala had 12 Faculties, 114 affiliated Colleges for General Education and 34 Professional Colleges.^{1.14} For the development of the postgraduate teaching and advanced research in various subjects two University Centers were started during the 3rd Five Year Plan. In 1968, the University Center at Calicut became a full-fledged University with 40 General Education Colleges and 10

Professional Colleges, located in Trichur, Palghat, Kozhikkode, Kannur, Wynad and Kasaragode.

The Cochin University of Science and Technology started functioning from 10th July 1971 under the Act No. 30 of 1971 as a Federal Type University with the aim of developing Industrially and Technologically based higher education and research. In the same year an Agricultural University was also established for the development of studies in agriculture, animal science, poultry and fishery etc. with the Headquarters at Trichur. And the College of Agriculture at Vellayani has become one of the constituent colleges of the University.

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R. 4: Myth & Missing in the Definition of (Educated) Unemployment

Generally in Kerala the term employment was indicated only to refer to those persons who had been working in the public, few registered private sectors and certain organized enterprise and the rest were grouped as unemployed. This to say at the outset is unscientific. One should adopt a precise and cogent approach to define and estimate the depth or extent of it in accordance with the changed circumstances. That is the frontiers or outlines of a definition should be clear, distinct and specific rather than broad and confusing. A review of the existing definitions pertaining to unemployment is done below.

“Unemployed persons are those above a specified age, who, on the specified day or specified week, fall into one of the following categories:

- i) Workers available for employment whose contract of employment had been terminated or temporarily suspended and who was without a job and seeking work for pay or profit.*
- ii) Persons who were available for work during the specified period and were seeking work for pay or profit who were never previously employed or whose most recent status was other than that of employee or who had been in retirement.*
- iii) Persons without a job and currently available for work, who had made arrangements to start a new job at a date subsequent to the specified period.*
- iv) Persons on temporary or indefinite lay – off, without pay”. (ILO, Blaug 1973)*

This definition primed on a general stance did not contain details regarding specified age, day or week and the nature or type of work. It will ensemble only to “casual unemployed”, as it uses the terms like terminated or temporarily suspended, retired, indefinite lay-off, and so on.

“People above age 6 years are unemployed if they were without gainful work throughout the week and reported themselves as seeking or available for work. They may be categorized into three statuses; (1) Usual Status, (2) Current Week Status, (3) Current Day Status. According US a person is unemployed if he was not working but was either seeking or was available for work for relatively longer time

during the reference period of 365 days. CWS classifies a person as unemployed if he has not worked for at least one hour on any day of the week but has been seeking work or had been available for work at any time during the week. CDS rate is the ratio of unemployed days per week (seeking or available for work) to the total labour supply per week (working plus seeking plus available days)". (NSSO)

The distinguishing 'age as 6 and above' is beyond comprehension⁴. Though the word, 'gainful' has a clearly known meaning and often authoritatively interpreted is not free from ambiguity as it lacks objectivity. Similarly, the use of reference period of one week is too narrow since a person may loose work or may get a rewarding work after that. Unemployed person normally does not report as envisaged (See table 1.9) since the benefit in doing so in Kerala is almost uncertain. A person to remain without any work for a year and least in any day of the year is unrealistic observation. Here the type and nature of the work should have to be clearly defined because many are in unorganized and informal sectors and self-employed whose hours of work or days of work largely varies.

"The unemployment rates based on daily status give a relatively higher levels of it than that based on weekly or usual status. The lower the reference period the higher would be the work participation rate and lower the incidence of unemployment. On the whole, the unemployment rates computed for India are generally low when compared with other countries because people in poorer countries cannot afford to remain without work." Thus unemployment rate estimated for India are not comparable with other similar estimates for the USA or UK". (UNFPA 1997)

"One may question the validity of a measurement with reference to hours of work. The percentage of unemployment reported in a given NSS round is an average of the varying weekly situations recorded for different periods during the year over which the investigation is spread. There is no reason to believe that those classified, as unemployed during the specific reference week preceding the date of Survey of the households would necessarily be without work through out the year. The fact that sample is spread over the entire year does not remove this limitations. (Committee of Experts 1970)

“In the NSS Labour Force Surveys unemployment and underemployment have been measured mainly on the basis of the time criterion. The use of this ‘available for work criterion’ without reference to any wage rate is meaningless and the data based on this approach will be a kind of ‘hotch potch’ aggregate”. (Raj Krishna 1973)

“An unemployed person is one in the age group of 15 – 59 without any gainful employment during the reference week and are either seeking or available for work”. (DES Survey 1980)

“Unemployed are those persons between the age group 15 – 60 who were not able to secure jobs even for a day during the year and are actively searching for jobs. There are two categories of unemployed: chronically unemployed or open unemployed and underemployed. Chronically unemployed or open unemployed are defined as those who have not worked for a single day during the reference year and are available for and seeking employment. While underemployed are those who have worked for major part of the year (less than 183 days) and are available and seeking for more days of work”. (DES Survey 1987)

The stress of reference period of one week is too short to estimate unemployment. As in the case of NSSO definition it also did not clarify the term ‘gainful’ employment. The selection of the age group in two estimates as 15 – 59 or 15 – 60 is misleading, as the age of retirement in Kerala is 55. (Kerala Service Rule 1974) The use of ‘even for a day or single day’ is quite unrealistic since people cannot endure without any work. The type and nature of work should be defined distinctly. Actively searching without engaging in any job is skeptical. The distinction of chronically unemployed and underemployed is also unrefined. In that case even farmers whose working days and nature highly differ will have to be treated as underemployed even if they procure sizeable income.

“Persons seeking employment for the first time and persons employed before but were out of employment and were seeking work during the reference period who came under the category of non-workers are termed as unemployed. As all the marginal workers including those who put in regular work of more than one

hour a day was treated as workers, the unemployed denote open unemployment”.
(Census of India 1961)

The definition is quite vague since persons seeking employment for the first time, employed before but were out of that and seeking work during the reference period etc, convey the same meaning, i.e., ‘unemployed persons are those not in work’. Similarly those in employment before but were out of that at present may be due to suspension or lockout or punishment or under physical or mental ailment. ‘Those who put in regular work of more than one hour a day’ as workers and ‘including all age groups’ forgetting that the work force constitute 15–55 ages only, are beyond comprehension.

“The whole population is categorized into three: main workers, marginal workers and non-workers. The main workers are those whose main activity was participation in any economically productive work and who had worked for 183 days or more. Work involved not only actual work but also effective supervision and direction. Marginal workers are those whose main activity was participation in any economically productive work for less than 183 days. While non- workers are those who had not done any work at any time”. (Census of India, 1991, 2001)

The terms like economically productive work, effective supervision and direction, and not done any work at any time are extremely general and shallow. Of course, one may doubt whose work is an economically productive one? The distinction based on the days of work done is specious. Some people may work 10 hour a day but 150 days or less than that an year while certain others may work a couple of hours a day but more than 200 days an year with which they can procure adequate remunerative income. It will be doubtful where to include college teachers whose work is fixed as 180 days per year by UGC? “Not done any work at any time” again is not a reasonable argument.

“Most of the controversy about definition of unemployment has arisen because of a strong urge to seek, defend or use a single criterion that may be useful for all purposes. But this urge is evidently irrational and unnecessary. If the necessary data are available application on ‘n’ criteria will yield 2ⁿ – 1 different

estimate for the same population at a time. Hence four criteria which if used in combination of two or more as the circumstances demand will give useful estimates, which may be used for policy formulations". (Raj Krishna, 1973)

The four criterion referred by Raj Krishna are,

1. *Time criterion – if a person had no gainful employment at least one day of the week and was seeking work at current rates of remuneration.*
2. *Income criterion – whether it is able to provide minimum living or not.*
3. *Willingness criterion – if one is willing to do more than what is doing at present if it is offered on terms to which he / she is accustomed.*
4. *Productivity criterion – one is removable from present employment and that removal would not reduce output.*

‘Hours of work done’ criterion is unscientific, as the minimum working hours for earning at least minimum subsistence income per month largely varies. In the case of income criterion Raj Krishna himself deny that it abandon the time altogether for measuring the unemployed. The willingness criterion is also unempirical. For instance, if one ask any worker in India whether he / she is willing to work more provided he / she get some additional payment. Invariably, the answer will be yes. (See Table 4.9 Chapter 4) Does this mean that they are unemployed? It is extremely difficult to estimate the productivity of a worker in the contemporary composite production and distribution scenario. Productivity of worker differs individual-to-individual and occupation-to-occupation. Of course, ‘n’ criteria will yield different estimates with different policy options. But the relevant point is that whether these will help to make accurate estimation on real volume of unemployed. These criteria will definitely give different figures of unemployment for same population and that in turn put the policy maker in utter confusion.

The afore-stated ambiguities involved in the definitions of unemployment preclude the present study from applying it again in the very context of Kerala economy to reach out the exact size of unemployed or educated unemployed persons. Suppose a person engage tuition classes for two batches of ten students in four days of a week for ten months a year and earns Rs. 5000/ per month by charging Rs. 250/-

per student. Does this mean that the person is unemployed since he is working only two hours in each of four days of the week or 160 days on an average in a year or he is not working under the title of public or private sector or other similar agencies? Similarly a farmer who procures a minimum of Rs. 50000/- per year may have full time regular work only in the sowing and reaping seasons. In all other seasons he may not have any work in all days of the week. And if he has, the hours of work per day may be two or three only. Does this mean that this farmer is unemployed?

According to Sen, “employment is an important means of generating and distributing income, but a person can be rich yet unemployed if he has other sources of income and also a person can work very hard and still be very poor”. Against this backdrop Sen (1984) have distinguished three different aspects of employment:

- (1) The income aspect: employment gives an income to the employed;
- (2) The production aspect: employment yields an output;
- (3) The recognition aspect: employment gives a person the recognition of being engaged in something worthwhile.

The income aspect of employment is concerned with that part of one’s income, which is received on condition that one works. The focus of the income aspect of employment should be on this question of conditionality, and not just on whether the income level is high or low. An adequate level of employment must be defined in terms of its capacity to provide minimum living to the population. The ILO Mission to Kenya took an approach to unemployment similar to it. (Sen, 1984) He further remarks, “to identify unemployment with poverty seems to impoverish both notions since they relate to two quite different categories of thought. Further, it can also suggest erroneous policy measures in seeking extra work for a person who is already working very hard but is poor. In contrast, the income approach used here is concerned not with checking whether a person’s income is high or low, but with the extent to which it is conditional on the work he performs”. (Page 246)

Present study, thus views employment (unemployment.) on this perspective.

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