EXPENDITURE ON HIGHER EDUCATION IN INDIA: A SPATIO-TEMPORAL ANALYSIS

Dissertation Submitted to Jawaharlal Nehru University in Partial Fulfillment of the Requirement of the Award of the Degree of

MASTER OF PHILOSOPHY

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2003

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CERTIFICATE

I, Moni Sahay, certify that the dissertation entitled **"EXPENDITURE ON HIGHER EDUCATION IN INDIA: A SPATIO-TEMPORAL ANALYSIS "** for the degree of **MASTER OF PHILOSOPHY** is my bonafide work and may be placed before the examiners for evaluation.

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Acknowledgement

In the first place, I extend my heartfelt gratitude to my supervisor, Dr. Sachidanand Sinha whose precious guidance throughout, helped me to complete my work with much more confidence.

I'm also grateful to the members of the Advisory Committee, Prof. Nangia and Prof. Kundu for the direction that I received from them at the very start of my work and am also thankful to Prof. Sharma for his kind cooperation.

Thanks are also due to Mr. S.S. Shokeen, Joint Director, Department of Higher Education, Ministry of Human Resource Development, the Officers and staff members of the UGC Statistical Bureau fir making it easier for me to get the relevant materials.

Shish Ma'am and Pingla Ma'am and Varghese Sir deserve special mention for their support and encouragement.

I give my sincere thanks to all my friends and classmates AND ARADHNA DI *and remain obliged to them for all that they did for me and for being by my side whenever I needed them.*

And last but not the least, I remain indebted to my family for the values that they gave me since childhood that sees me through the ups and downs of all phases in my life.

Sahay.

Moni Sahay.

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INTRODUCTION

1.1 STATEMENT OF THE PROBLEM

Education exercises a decisive influence on the pace of economic development and socio-cultural regeneration of the country. At each level of development, some information is added to the existing base such that there is continuous expansion. Both these dynamic processes of educational development and social change are linked with demographic, socio-economic, political, regional and international forces.

As such, the significance of higher education can also be understood in the same context as higher the attainment level better is the understanding of the socio-economic and political phenomena of the society. Hence higher education has a contribution to make to the solution of the major problems of planetary, regional and local importance (Poverty, homelessness, worsening inequalities, environmental degradation etc)[1].

A major determinant of the quality and availability of the higher educational facilities in any nation is the adequacy of resources to develop and strengthen the system so that it can withstand the influx of a large population without sacrificing on the quality and also at the same time being responsive to the needs of the economy and largely of the society. Musgrave[2] on externalities of investments in education said that "Perhaps the most important aspect of the external benefits of education lies in the change in the social and cultural climate , incident to the widening of horizons, which education entails. Such a change is an essential condition of success of many developing nations".

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[1] *Ibid.*

[2] Musgrave.R.A. (1966).Notes on Education Investments in Developing countries in OECD Study Group in the Economics of Education. PP.34-39.

However, before analysing the educational scenario and the behaviour of educational expenditure in India especially in the context of higher education it would be apt to discuss them in a broader perspective at the international level to see where India is placed among the developing and the developed nations of the world and where the loopholes exist.

1.2 HIGHER EDUCATION SCENARIO

The Proportion of population enrolling for higher education is a significant indicator of overall development of any nation. The higher the proportion the better is the intellectual capacity of that nation.

The tertiary gross enrolment ratios for countries as released by the UNESCO and World Bank Task Force[3] for 1995 shows that among the developed and developing countries of the world India is placed in the second last category where enrolment ratio is only 6%.[4]

Table 1.1: Tertiary Gross Enrolment Ratios Across Countries, 1995

Categories	Countries
$\leq 5\%$	Central Africa (Angola, Chad, Somalia, Senegal), Afghanistan, Pakistan
$> 5\% \leq 15\%$	India, China, Brazil, South East Asia
$> 15\% \leq 35\%$	Mexico, Central & South America, North Africa, Middle East countries
$> 35\% \leq 50\%$	Argentina, Russia, Western Central Europe
$> 50\%$	USA, Canada, Australia, UK and Western Europe

Source: UNESCO (1998), Final Report

Though private entrepreneurship has become the catchphrase even in the education sector the basic responsibility lies with the government in a 'welfare state' which is the chief provider of educational facilities at all levels. It is in turn guided by the amount of expenditure that is committed to bring about development in this sector.

[3] UNESCO & World Bank (2000) Higher Education in Developing Countries: Perils and Promise, p53.
[4] Ansari, M.M. (1994), 'Strategy for Funding Higher Education', *Journal of Educational Planning and Administration*, p.89.

In terms of the proportion of national income devoted to education though the proportion has been rising steadily and India is ahead of many countries when such figures are compared this cannot be considered as a positive indicator considering the population size of India and also the size of its GNP (barring China which has a population more than India and GNP allocations less than India).

Table 1.2: Public Expenditure on Education in Terms of Proportionate Expenditure on Education to GNP

Country	Expenditure on Education as percent of GNP			
	1970	1980	1990	1995
India	2.6	3	3.9	3.4
China	1.2	2.5	2.3	3
USA	7.5	6.7	5.2	_
UK	5.3	5.6	4.9	5.4
Sri Lanka	4	2.7	2.7	3
Brazil	2.9	3.6	_	5.5

Source: UNESCO (2000), Education Task Force Report

In case of high education expenditure measured as percentage of total expenditure on education across the countries, India's percentage allocation is on the decline. It was 15.3% in 1985 as compared to 30.5% in Australia, 25.1% in the US, 18.2% in Pakistan, 21.8% in China and 19.8 % in the UK. In 1995 it further declined to 13.7% as compared to the US, which was 25.2%, Australia (29.8%), UK (23.7%), China (15.4%) and Pakistan (13.2%).[5]

Also as per the data available in 1995 on indicators of educational development India ranked 98th among 166 countries[6]. This indicates the inadequacy of both facilities and funds.

[5] UNESCO & World Bank (2000) op. cit.
[6] Tilak, J.B.G. (1997), 'Five Decades of Underinvestment in Education', *Economic and Political Weekly*, Sept. 6, p2239.

However, across the world much changes have taken place in the 1970s especially in the pattern of financing education, the most dominant change being a century old welfare state approach to financing based on market principles[7]. This has created a displacement effect according to which public expenditure on social sectors like education gets displaced due to economic problems and more importantly the public expenditure levels do not go back to the formal levels even several years after the economic crisis. Such changes are being attempted in many countries developed and developing alike and with the opening of global frontiers education has become more 'tradable'. Even higher education which was till recently provided by the government and highly subsidized in most of the countries is undergoing a transformation in terms of structure and finance such that there is more private participation in sharing of financial and enrolment burdens.

Therefore in the light of the above-mentioned facts some crucial questions that can be raised in the context of India as a developing country are:

- To what extent India is attending to the needs of growing demands for resources in education and especially in higher education?
- Has there been consistency in allocations?
- Has the dependability on government of higher education institutions increased for want of resources?
- What new sources of resources can be suggested in the Indian context?

Keeping these questions in mind this study aims to analyse the light and shades of the area of higher education in terms of resource adequacy and viable alternatives.

1.3 OBJECTIVES

This study aims to probe into the resource aspect of higher education with the following objectives in mind: -

1. To give a historical account of the phases of change in the pattern of educational finance in India and study the present situation in terms of enrolment status and growth of higher education institutions.

[7] Tilak, J.B.G. (1998) Changing Patterns of Financing Education, NIEPA Occasional Papers.

2. To study the inter sectoral and intra-sectoral allocations at the national level and also at the state level and attempt to locate the causes for variations, if any.
3. To study the income and expenditure composition of state universities in India across the states as they enrol a major chunk of students in higher education.
4. To analyse the temporal pattern of disparity among the states in terms of higher education development indicators.

1.4 DATA BASE

Data from various sources have been used for analysis in different sections:

1) Education in India, volume I(c) and II (c), 1976-77 & 1986-87, **Department of Education, Ministry of Human Resource Development.**
2) Analysis of budgeted expenditure on education, different volumes, Ministry of Human Resource Development.
3) University Development in India (2000-2001) Basic Facts and Figures on Higher Education Institutions, Enrolment and Teaching Staff, **UGC Statistical Bureau.**
4) Budgetary data of individual universities pertaining to their income and expenditure 2001-2002, (unpublished), from UGC Statistical Bureau.
5) UGC Annual Report , 2001, UGC Statistical Bureau.
6) **Census of India** (2001), Paper I ,Provisional Population Totals.

1.5 RATIONALE BEHIND THE STUDY

Recently, much has been said and written about elementary education, it's expansion, improvement in the literacy rates and efforts to reduce the inter state gaps by promoting elementary education programmes. Some states like Kerela have a very high literacy rate whereas many states like Bihar and UP are lagging behind considerably. Similarly in the field of higher education, there exists a gap between states, which has often gone unnoticed. Like for example, the states which have a high population like UP, Bihar and West Bengal also have a high enrolment ratio at the tertiary level, and consequently a high student teacher ratio. But they also have tighter budgets as the gap between the assessment of their requirements by them and the assessment and actual allocation by the Finance Commission are more in case of

developing and under developed states than the developed states. As a result of this, cuts and fluctuations in educational budget are more, this is more so in the higher education sub sector as for promoting elementary education many central government schemes and plans are running. Also on the other side, as technical and professional educational institutes are having better infrastructure facilities the universities as a part of the higher education system are marked by several functional irregularities largely affected by inadequate resources. Hence all these facts have formed the background to further study and analyse the problems and prospects of the higher education system in India.

1.6 METHODOLOGY

For analysing both time series data and cross sectional data, the following methods have been employed.

i) Date related to expenditure has been deflated (to remove the impact of price rise) by using GNP as the deflator. Where,

Deflator value = $\frac{\text{GNP (at factor cost) current prices}}{\text{GNP (at factor cost) constant prices}}$

And the log values (with base 10) of both GNP and educational and higher educational expenditure has been taken to run the regression.

ii) Bivariate regression has been used to analyse the functional relationship of GNP with overall education expenditure and with higher education expenditure. A regression equation shows the functional relationship between 2 variables, such as $y = f(x)$

Where y (education and higher education expenditure) is the dependent variable and is treated as a cause of variation in x (gross national product)

The linear regression equation is,

$y = a + bx$

(α) a = intercept on y axis

(β) b = slope coefficient

R- is the correlation coefficient, which shows the degree of association between 2 variables

R^2 – is the proportion of explained variation in y by x to total variation.

ii) Coefficient of variation has been used to show the variation across states in the proportional expenditure on education and expenditure on higher education. It shows the dispersion around the mean,

CV= (standard deviation / mean) * 100.

Where σ (position square root of the variance) $= +\sqrt{\frac{(x-\bar{x})^2}{n}}$

and $\bar{x} = \left(\frac{\sum x}{n}\right)$

iii) Compound growth rates of educational expenditure in between the policies have been calculated-by the following formula,

$$P_t = P_o\left(1+\frac{r}{100}\right)^t$$

P_t =Population of the current year

P_o=Population of the base year.

t = time period

r = exponential rate of growth of population.

Which is again calculated by log (P_t - P_o) / t

iv) Finally a distance square matrix for the states have been constructed for 3 times periods taking the variables related to higher education. Distance is the measure of interval between 2 cases (i^{th} and j^{th} districts) i.e., the sum of the squared distances between scores for as many cases (here16) on all variables (here 7) i.e., the squared length of the hypotenuse, its computed as,

$d^2_{ij} = \Sigma (xik-xjk)^2$

d= distance in Euclidean space,

xik = scale free value i^{th} district for the k^{th} variable

xjk = scale free value of the j^{th} district for the k^{th} variable.

The values are made scale free by division by mean method and finally mean distance of every state from others have been computed to see the variations.

1.7 DATA LIMITATIONS IN THE ANALYSIS

After having discussed the main sources of funds to universities, now the trends and components of the total income of the universities will be analysed. Before proceeding to that it would be apt to discuss the limitations that were faced in the analysis.

1) The data pertaining to income and expenditure of universities for the states were published in series by the MHRD for only two time periods 1976-77 and 1986-87. Since the responsibility of collection and publication of such data was transferred to the UGC in the late eighties, much effort has not been taken by the latter to collect data of such a nature. Hence only these two time periods have been considered
2) Data for the individual universities pertaining to the income and expenditure have been collected only recently and is still under scrutiny before publication .As such a set of 19 state universities have been taken as a sample to see the trends of income in universities in 2001-02.
3) The data availability restricted the choice of the universities, as such they may not be very regionally representative
4) The income trends of one central university and two deemed universities have been compared to show the difference or the kind of gap that exists between central state and deemed universities.
5) Were ever figures on expenditure on education and higher education figures were not available under the revenue and the capital heads, for those part of these analysis only revenue expenditure has been considered.
6) Some states have been left out because of the non-availability of the relevant data.
7) The period of study in chapter 4 relating to GNP and education expenditure has been limited due to the non comparability of the data.

1.8 DESIGN OF THE STUDY

The second chapter is a survey of the literature related to the work done in this field ranging from the statement of the problem to the alternatives modes of financing and some empirical work related to education expenditure by the government.

Chapter 3 probes into the educational history of India to trace the growth of higher education and the changing mode of resources with greater emphasis on the British period. It also traces the present growth of enrolment and institutional proliferation.

Chapter 4 deals with the expenditure by the country (disaggregated at the centre and the state level also) in terms of proportion of expenditure on education and higher education to national income over time. It also deals with 16 major states' expenditure on education and higher education in relation to the state income, over time. The third part analyses the growth rates of higher educational expenditure and total educational expenditure in the interval periods of major policies i.e., (1966 and 1986). The next part analyses the income elasticity of educational and higher educational expenditure with respect to GNP, and finally the fourth part deals with the allocation to educational sub sectors in the plan periods.

Chapter 5 deals with the income-expenditure analysis of the universities at the state level, over time with some sample universities in the most recent period.

Chapter 6 is the concluding chapter suggesting alternative methods of financing (as suggested by educationists) available in the present Indian socio-economic set up. And finally states have been classified in terms of higher education scenario for three time periods (1976-77, 1986-87,1999-2000), to judge homogeneity.

CHAPTER 2

OVERVIEW OF LITERATURE

2.1 INTRODUCTION

The backdrop of the present system of higher education is provided by the deliberate policy of India's then Colonial masters who had decided to withdraw themselves from any direct involvement with the establishment of the educational institutions, thus leaving the field open for private organizations.. The emergence of a free and sovereign Indian State and the onset of planning as a means of socio economic development ushered in an era of new hopes and aspirations in which education was conceived as a potential input for accelerating the process of development and transforming the distributive system in favor of the underprivileged .The Government became alive to the necessity of reforming the system of education for which crucial inputs were required.

The policy of gradual withdrawal from the educational field was replaced by a more constructive and in some cases over enthusiastic policy of institutional proliferation. However all did not go well with such a spurt and sickness crept in the form of deterioration in the standard of studies and academic environment on the campus, frequent agitations and strikes by the student teaching and non teaching communities, inadequate infrastructure facilities irreregularities in terms of exam schedules, delayed sessions, political and bureaucratic interference in the administrative work of the universities, dissatisfaction among the students in terms of academics, consequently leading to migration to bigger and better universities in India and finally abroad in pursuit of better quality leading to much talked about 'brain drain' from India and also other administrative and academic handicaps owing their emergence to starvation of funds.

These characteristics are more peculiar to the Central and State universities .As it was also realized by the U.G.C. in it's paper Development of Higher Education in India

(1985)[1] that the system (educational) "is in a state of crisis due to uncontrolled and unplanned expansion, inadequate inputs in terms of money, material and talent, falling standards in a large proportion of institutions weakening of the student's motivation, increase of the educated unemployed, weakening of discipline and dysfunctionalities created by the adverse effect of socioeconomic problems , a lack of relevance and significance and because of undue political interference by subjecting universities to political partisan pressures and lack of a national consensus in dealing with such situations." Around the same period the Government of India Document

2.2 OVERVIEW OF LITERATURE

A literature survey has been done to focus on the studies that have been done so far regarding such input in the form of resources in the field of education and higher education .The coverage has been done keeping in mind the following three aspects that relate to the allocation of resources to education.

I. Allocation of resources with respect to other sectors / Inter sectoral allocations.

II. Allocation at different levels / Intra sectoral allocations.

III. Inter functional allocation of resources to different activities such as teaching administration and welfare etc.[2]

I. **Inter Sectoral Allocations**: A select few indicators to show this are share of education in the country's Gross National Product (GNP), share of education in State Domestic Product (SDP) and share of education in the Five Year Plans

Share of education in GNP: Major handicaps emerge in the Education system due to inadequacy of the monetary resources, which is a necessary precondition for

[1] R.K.Singh (1989): Higher Technical Education – A Development Perspective, *Journal of higher Education, vol 15.p.55.*

[2] Tilak . J.B.G. (2002): *India Education Report* .P .268.

development. Though education is viewed as " a critical investment for national survival" the pattern of financing it in India in the last more than five decades has been under critical observations. Tilak[3] said that " the pattern of financing education in an economy can be judged in terms of adequacy, equity and efficiency and on all the three counts, India's performance has been mixed. On balance, the system is characterized by a severe degree of under investment both in terms of share in G.N.P. and allocations through various plans at the central and the state level. Though the share of education to GNP is around 4% Tilak has put the requirement to the order of eight percent on norm based estimates (based on cost functions and enrollment projection).

In the early nineties Asari's [4] work pointed out that since one fifth of the total national budget which constitutes to about 4 % of the GNP is devoted to educational development, it is Imperative for the Educational Planners to make financial analysis of the system so as to ensure adequacy and efficiency in the use of resources In his study which extends for a period of fifteen years from 1970-71 to 1984-85, he showed that the rates of growth of expenditure by the Central and the State governments on education as a whole as well as higher education was generally higher than the growth of national income .As educational expenditure is largely financed out of the national income the results indicated that India has made sincere efforts for expediting the process of educational development .He substantiated his arguments through a regression analysis (semi log method) and wrote that educational expenditure is more than proportionate as compared to the growth in national income .One percent increase in GNP led to 1,25 % rise in educational expenditure and for higher education , it was marginally lower at 1.2 %. He has further decomposed this to show the variations in the center and the states, the figures for which were 1.03 % and 1.4% respectively., thereby indicating a relatively higher effort by the latter in promoting tertiary education . He further used regression with income deflator as an additional explanatory variable to

[3] Tilak . J.B.G(1999) National Human Development Initiative –Education in the Union Budget . *Economic and Poliyical Weekly.* P616.

[4] Ansari M.M.(1991). Universitiy Finances : It's Determinants and Implications in Moonis Raza's Higher Education in India, Retrospect and Prospects.P 137.

capture the impact of rise in prices and concluded that rise in prices has tended to reduce the value of total expenditure in real terms , such that growth in expenditure on higher education due to one percent increase in real income was less than unity.

Share of Education in SDP: Ansari[5] has further shown in his work that education and higher education as percent of SDP for states individually showed much variation across and also temporally from 1970-71 to 1984-85. Though the coefficient of variation has declined in both the cases, for higher education it is still more from what it began.

A more recent study by Panchamukhy[6] analyses expenditure on the educational sector in relation to expenditure on other social sectors (health, medical care, water supply, sanitation, equality of economic opportunities, housing conditions etc) in the light of economic reforms that took place in the early nineties. According to him the extent of increase in expenditure on various sub sectors of the social sector is mostly wiped out on account of very significant increase in prices in the period from 1990-91 to 1996-97. Actual decline has also been registered in the capital expenditure on education, which has lead to more fund starvation. Cuts in the non-plan expenditure leads to insufficient recruitment of teachers leading to bulging class sizes, low quality student intake and higher pupil-teacher ratio. Also the average annual growth rate of per pupil expenditure on higher education has actually declined from 0.2% in 1985-90 to – 4.4% in 1990-96.

II. **Intra Sectoral Allocations**: Aiyar[7] viewed education in the perspective of national planning process in his study and concluded that in the light of fluctuating percentage allocation and fluctuating subsectoral allocations, the challenges for future are concentrated in five areas; demand mobilization, mobilization of non budgetary resources, efficiency and effectiveness, participative management and equity. He did a phase wise study of the plan periods to show the fluctuations in resource allocations to the sub sectors,

[5] Ansari M.M.(1991) opcit.
[6] P.R.Panchamukhy (2000), Social Impact of Economic Reforms in India – A Critical Appraisal. *Economic and Political Weekly.,.March* P 839.
[7] Vaidyanathan Aiyar, R.V. (1993), 'Educational Planning and Administration in India: Retrospect and Prospect', *Journal of Educational Planning and Administration*, vol. 7(1).PP. 211-213.

showing the inability of the government to prioritize within the education sub sector. The first phase of the plan began from the 1st Five Year plan up to the plan holiday, the second phase started from 4th Five Year plan and lasted up to the 6th Five Year plan and the 3rd phase lasted from the 6th Five Year plan to the 8th Five Year plan including the annual plan of 1990-91.

a. **Inter functional allocation of resources**: Panchamukhy [8] has viewed intra sectoral allocations in terms of responsiveness of per capita expenditure of each sub sector to the total population and concluded that per capita expenditure and per capita education expenditure with respect to population are quite high for all the sectors, but it is maximum in the case of governments and minimum in the case of university funds .The fees source also has a low degree of responsiveness, thus concluding" scale economies are less operative in the case of governmental sources of educational finance.

A Fund Flow Analysis of universities done by Natarajan[9] aimed at identifying the sources from which the investments on fixed assets have been made and at what level. Funds denote the working capital i.e. the current assets and the current liabilities. HE said that this working capital is always less than commercial organization as the product of the universities are not sold out and there is no salable stocks in account. The funds- flow statements show, where from the investments on fixes assets have been made and the fund-flow chart (shown by proportional boxes according to the size of income and expenditure) illustrates the quantum of sources and application of funds for Hyderabad and Pondicherry Universities.

[8] Panchamukhy.P.R.(1975): Educational Refprms inm India Vol.V P 4.
[9] Natarajan V.(1994) *UniversityNews* (July) PP. 10-15.

Bradburd and Mann[10]measured the institutional wealth of higher education institutions in the USA that includes the capitalized value of regular income flows from 'non endowment' and 'endowment' wealth. According to him, wealth permits an educational institution to spend more in providing educational services, research, and room and board and so on than it receives in student revenues. The income from wealth (that portion of wealth which is free for current operations) allows universities to draw a wedge between the prices charged on students in the form of tuitions. He has plotted the wealth density deciles of both public and private higher education institutions to show that the proportion of higher education public institutes has declined in the lowest deciles of wealth, which is also the richest decile. He has also calculated the variability of income flows from three major components of wealth, endowments, annual gifts and grants and government appropriations. The variability of the aggregated figures has also been looked at. All data was converted in per student terms, by dividing the enrolment in the particular year by university's income flow. The variability was measured by estimating a time trend of income and obtaining the standard error of the regression, which is then divided by the mean value of the dependent variable of the institute to construct a measure of relative income variability (dissimilar means)

Ansari[11] has also attempted to analyze the expenditure and finances of universities and other interrelated questions. Dealing with the sources of income of some sample universities he showed that though the state universities depend for about three fourth of their income on the government there exist large variations across universities as far as mobilization of resources from non governmental sources was concerned (in terms of coefficients of variation) and also the mode of expenditure showed large variation and a major chunk is spent on the salaries of teaching and non-teaching staff. This study was initiated after a study at the state level, which had similar observations. At the national

[10] Bradburd.R.M & Mann P.D. (1993) Wealth in Higher Education Institutions. *Journal of Higher Education* Vol 64 (4) PP. 473-476.
[11] Ansari M.M.(1991) opcit [11]PP.137.

level growth of educational expenditure has been studied in relation to the growth of national income, impact of inflation etc. The econometric result of the study indicated that there has been more than proportionate increase in expenditure due to rise in income for higher education. A 1% increase in GNP has led to the rise in expenditure in higher education by 2.09 % but as the real value of the total expenditure is affected by the price rise (the inflation impact) the actual proportionate rate was only 1.16%. Thus growth of educational expenditure became sticky upwards with growth and national income.

He has also expressed his views on the economy in expenditure through cuts on rising non academic activities and optimum utilization of the available infrastructure facilities and mobilization of additional resources through fee reforms, loan schemes to ensure better cost recovery, through reduction in subsidies and also reduction in the demand for higher education so that the system is not over expanded beyond the capabilities to handle it. In fact major policy guidelines for restructuring of the education system, which are proposed by international organizations like the World Bank, revolve around these themes[12].

Considering the complexities of the issue and the dimensions that can be given to it the association of Indian Universities at its sixty fourth annual general session (1989) chose university finances as the theme for discussion and a background paper was prepared which identified three major deficiencies in the higher education system, i.e., inadequacies of finances available to universities, stress and strain in the center-state budgetary relations and lastly distorted priorities in the higher education system. These can be expressed in the following points:

1. Declining expenditure ratio available for higher education as proportion of GNP, which has been on the decline with regard to sub-sectoral allocations.
2. A cross-sectional study of the states revealed that increase in expenditure on higher education due to rise in income has been less

[12] Likhi, A. (1998), 'Issues in Financing Higher Education in India', *Indian Journal of Public Administration*, Oct-Dec.

than proportionate (regression analysis of income, i.e., SDP and expenditure) indicating that there is built in bias in the prevailing mechanism of allocation of resources for higher education and the priorities attached to its development is much less than desirable.

3. Declining role of the center in funding higher education, which is apparent from the fact that contribution of the center and the states was roughly in the ratio of 23:77 respectively in 1982-83 as against the ratio of 39:61 in 1972-73.

4. Finance Commission estimates of the budgetary requirements of the states are inconsistent with their actual requirements, also the states' forecast do not adequately represent their requirements due to which there are considerable underestimations between estimated requirements and actual expenditure to the tune of 38% and 21% as covered by the sixth and seventh Finance Commissions respectively.

5. Inter-state disparities in terms of coefficients of variation have been widening in terms of both availability of percentage share of SDP for higher education as well as per pupil expenditure on it and failure of the center to rectify it.

6. Declining contributions from tuition fees as percentage of total revenue of universities.

7. Disparity in per student cost not only across different types of institutions or different courses but even across state universities (a time series cross-sectional analysis).

8. Increase in salary components and decrease in developmental components.

Deficiency in allocation mechanism which is not linked with requirements on account of teaching load and inputs for research as a result considerable disparities occur in the provision of infrastructure facilities for teaching and research among universities.

The other important dimension that can be given to the resource analysis is the equitability aspect in the resource distribution.

Raza[13]has done a study on the equitability of the distributional aspects of educational facilities at the level of the NSS regions. District level data on enrolment in different faculties was collected to develop indicators for 11 NSS regions and it was concluded that, of the 77 regions, fairly homogenous in terms of ecological set up are marked by high order disparities as 21 regions out of them were without a university whereas the small Union Territory of Delhi had 19 university level institutions.

Thus, keeping in view the vast dimensions that can be given to the analysis of resource for higher education, this Study has specifically focused on a National level analysis and State level analysis in terms of Government expenditure and a state level analysis, analyzing the income and expenditure parameters of universities in states measuring the status of each state in terms of higher education performance indicators.

[13] Raza.M. (1991) Higher education in Contemporary IndiaSystematic Inequities and Disparities in Hgher Education Finance ijn Indoia : Retrospect and Prospect.P 69.

CHAPTER 3

DEVELOPMENT OF HIGHER EDUCATION IN INDIA

3.1 INTRODUCTION

The aim of this chapter is to review the development of higher education in India .How it grew in the ancient and the medieval phases and how it changed with the advent of the British. It also analyses the changing pattern of expenditure on education as the responsibilities shifted from private to the public. The end part of it generally sees the trend of growth in population and in relation with it, the growth of enrolment and teachers.

Knowledge is a resource, which enables the human race to progresses. It enhances by constant and continuous interaction between man and nature and between man and man. This ongoing process over numerous years has developed a body of knowledge, which is "central as a continuum to the development of human societies". Knowledge is transmitted to subsequent generations, the mode of transmission being either verbal as was practiced in the ancient times, written / print mode or more recently through a mixed technology mode to a large proportion of humankind. Those countries, which have been able to provide this to their citizens, have been able to develop a base of knowledge of knowledge, information, values and skills among the people. This in turn has resulted in the concerned countries established a lead in the development of socio-economic, political, scientific and cultural life of it's people.

The formal system of receiving knowledge is 'Education' As further developments take place in other aspects of material life through innovations, discoveries and research more addition is made to the body of existing knowledge as a result of which further complexities creep in the field of education and a sort of hierarchy develops. There is also lateral expansion through addition of new subjects and creation of new faculties. Though with time the aim content of education and the sources of

resources to these educational centers keep changing as per the requirements in the changing society itself.

Though the aim and content of basic education has remained more or less the same that is to impart reading and writing skills to individuals, education at the higher level has underwent a metamorphosis since it started, not only in India but across the world, which will be evident from the discussion below.

3.2 HIGHER EDUCATION IN ANCIENT INDIA

Higher education in ancient India had two broad trends, Brahminical and Buddhist education .The early and later Vedic period marked the dawn of Brahminical learning and three types of educational institutions were identified [1]. First, the house hold system (Guru *Kula* System) , second was the *Parishads* (debating circles)and the third type was represented by conferences summoned by kings where thinkers exchanged their views . Then in the sixth century B.C. the university of *Takshila* was set up. Here one would study the three subjects of the '*Vedas* ' Grammar and Philosophy or learn some crafts *(Sippas)* such as medicine surgery, astronomy, agriculture etc Subsequently, the universities of *Nalanda* came up in the 4th century A.D. which became a center of Buddhist Philosophy of *Mahayana* School containing both secular and sacred subjects The resources to run these establishments came from the revenue from the villages granted to them.

However the purpose of higher education of these universities was to impart spiritual and mental skills to the students and not as an economic need.

Education of a more formal kind started 8th century onwards with greater emphasis on secular subjects continued the provided at the Buddhist '*Viharas* ' (monasteries). The University of Jagaddala (Bengal) was founded. The other centers of learning included Odantpuri (Bihar) and Kashmir where many *Saiva* sects and centres of learning

[1] Raza.M. (1991) .Higher Education in Ancient India . P2.

flourished. '*Maths*'(Brahminical) *Pallis* (Jains) and '*Vidyasthans*' were also set up in south India such as in Madurai Sringeri and the '*Ghatika*' (Schools of learning) of Kanchipuram Similarly, '*Agraharas*' imparted education and served as miniature centres of Vedic learning and auxiliary literature. Temples also became agencies of education like the Kilasanath Temple. Ideas created through discussions in the above places could be transmitted throughout the country and that was important in strengthening the cultural unity of India. Important contributions in Grammar Linguistics etc were made during this period.

The striking feature of this system was; one, it was predominantly religious in character Two higher education was much 'vocationalised' in the form of surgery, agriculture painting etc. Three, fees mostly remained in the form of services to the teachers and generous grants covered the entire cost of running the institutions.

3.3 HIGHER EDUCATION IN MEDIEVAL INDIA

In Medieval India, education continued to be imparted through '*Maktabs*' (primary and lower secondary schools) and ' *Madarassahs*' (colleges) (such as in Bijapur, Golconda) which were set up by the reigning rulers of the Sultanate and later by the Mughals to promote learning. However the Indo Islamic education system introduced by the Sultans had the Hindus excluded from it due to strong religious bias.

Another major revival took place in the Mughal period under Akbar. His policy was also necessitated by the grant of religious freedom and change in the nature of recruitment of the Imperial Bureaucracy, which was made more secular in function. The educational institutions, mosques, and Hindu temples became places where books and manuscripts were preserved for higher learning. While the ' *Madarassah*' syllabus orientation was to the idiom of Greco Arab philosophy, and logic, education centres such as Mithila in Bihar and '*Tols*' of Nadia in West Bengal etc. offered Brahminical learning, Besides these, there were '*Chatuspathi*" found in large numbers in Bengal Thatta in Sind and Punjab.

3.4 HIGHER EDUCATION IN THE BRITISH ERA

In the British Era education got closely connected with religion and cultural standard of the upper stratum of the society. The Missionary Clause (1698) directed the company to maintain the ministers of religion at their factories in India. The finances for educational institutions came mostly in the form of grants in cash from landed aristocracy and from munificent people.

Under the British rule Indian universities grew up in isolation from the historically evolved system. An unnatural mixture of moribund traditions and spurious modernity was concocted in the crucible of Colonial India. The British wanted education to grow in the patterns as it was in England, which was absolutely a necessity for upholding their domination in India. They wanted to train the urban elites to win over their confidence and consolidate its rule. It was also wanted by the Urban elites because they felt that the western secular education had a special role to play in the sociopolitical regeneration of India, though continuing with the '*Madarssah*' and the '*Pathshala*' tradition In 1781, Sir Warren Hastings set up the Calcutta *Madarassah* for the studying and teaching of Muslim law, Persian and Arabic Languages, etc. In 1791, British resident Sir John Duncan established a Sanskrit College at Varanasi for the study of Hindu law an philosophy. Mont Stuart Eliphinston, the Commissioner of Deccan established the Poona College for Hindu learning. All these were designed to provide a regular supply of qualified Indians to help the administration of law in the courts of the company. In 1802, Lord Wellesley started the Fort William College for educating English officers in Indian languages and social customs. Side by side with these a number of educational activities were also organized by Missionaries who ordinarily worked under the shadow of it's political authority.[2] The Charter Act of the Company (1813), discussed as to whether such Missionaries should continue to work in Indian territories or should the Company accept the responsibility to educate Indian People? The former had a say, and consequently Missionary schools and other educational institutions began to proliferate. For further spread of English education Lord William Bentick established the

[2] Nurrullah.S. & J.P.Nayak (1971). A Student's History of Eduication in India P. 32.

Calcutta Medical College in 1835. In the same year, McCauley's Minute in favour of English as the medium of European learning effectively destroyed the old indigenous system of education.

To spread the system of higher education like Raja Ram Mohan Roy with the Edward Hyde East and others founded the Hindu College in 1817 now called the Presidency College. Educational institutions were also established by the socio religious reform movements in the late 19th century partly in response to the Christian missionary colleges. The forerunners were the Mohammedan Anglo Oriental College at Aligarh in 1877 by Sir Sayyed Ahmed Khan. The *Arya Samaj* sought to modernize education and Hinduism in the Punjab and United Provinces .The Dayanand Anglo Vedic (DAV) was founded in Lahore in 1886 and subsequently DAV colleges sprang up in other areas . Sikhs in Punjab started the Singh *Sabha* movement and established *Khalsa* colleges.

Though very small number of the total population received higher education in the late 19th century, and early 20th century, it got promoted more in the Colonial Education System. Hence a high rate of growth was experienced by higher education as compared to education at the lower levels. (See table 3.1)

Table 3.1 Growth of Educational Institutions in British India (1886-87-1946-47) in Percent

Years	Total number of Institutions	Primary schools	Secondary schools	Higher education
1886-87				
1891-92	11	12.1	7.6	23.8
1901-02	22.8	3.6	14.8	36.4
1911-12	24	20.5	1.3	3.6
1921-31	28	31.4	44.5	24.4
1931-32	29.7	26.8	57.4	37.5
1941-42	8.3	7.4	23.2	7.3
1946-47	3.7	5.1	19.3	46.4

Source: Sinha S (1988): Regional Disparities in the levels of Development of school education: a comparative study of Bihar and Haryana, unpublished thesis, CSRD/JNU, New Delhi.

As far as finances were concerned, the Indian Act of 1813 forwarded a landmark decision of providing public revenue for education; as a result rupees one lakh was released for the purpose by the Directors of EIC, which rose to ten lakh rupees in 1833. The Company's Education Dispatch (Wood's Dispatch) in 1854 however replaced it ' with the doctrine of state withdrawal in favour of a system of grants in aid to privately managed institutions which charged fees from students. The expansion of education thus became depended on the private agencies that were willing to carry the burden, which the government pleaded inability to bear. Hence as a result university of Calcutta, Bombay and Madras were set up in 1857 on the model of London University in England. Subsequent to Grants in aid code though the government was relieved of some of the financial cost (as a third of the cost was borne by the private agencies) and much of the organizational initiative in education, it gave way to the laissez faire policy enunciated by the Education Commission (1882) also called the Hunter Commission to review the of the policy enunciated in the Wood's Education Dispatch. Once the recommendations of handing over education in the hands of the local bodies was accepted, there was a spurt in the growth of all kinds of educational institutions including colleges which charged low fees and as efficiency was not the criterion, they remained poorly staffed, over crowded and ill equipped. (See table 3.2).

Table 3.2 Enrolment by stages in British India

Stages	1855-56	1901-02	1921-22	1946-47
University	4355	23007	58837	237546
Secondary school	33801	82312	218606	370812
Middle Schools		1080670	385372	2036109
Primary schools	885624	3564122	6404200	14105418

Source: Sinha S (1988): Regional Disparities in the levels of Development of school education: a comparative study of Bihar and Haryana, unpublished thesis, CSRD/JNU, New Delhi.

Thus, sources of income and their contribution can be analyzed under the following heads. (Table 3.3)

Table 3.3 Sources of Expenditure in British India

Public	1886-87	1891-92	1901-02	1911-12	1921-22	1931-32	1941-42	1946-47
Provincial	33.9	28.8	25.6	34.3	49.1	45.8	43.8	45
Municipal	4.7	4.6	3.8	3.8	4.3	5.8	6.1	5.5
Board	14.7	17.6	14.6	13.4	9.1	10.3	8.53	9
Private								
Fees	25.8	29	31.6	27.8	20.6	23	27.7	26.4
Endowments	20.7	19.8	24.5	20.6	16.7	15.1	13.8	14

Source: Sinha S (1988):

The Punjab University was established as a result in 1882. Thus as demand for higher education increased in the late 19th century, more and more facilities were sought. And consequently government was constrained to find new sources for financing education hence the other sources of financing took a definite shape, hence imposition of fees was brought in vogue of various kinds such as tuition fees medical, refreshment, games exam, building, development fees etc. Income from these multifarious sources (also including government revenue local and municipal funds for urban and rural areas respectively) became very stable and chances of setbacks were retarded. As a consequence of all this there was a rapid growth in numbers. The financial status of education was further strengthened in the period of Lord Curzon when it was decided that provinces will get some proportion of expenditure on education from the center (Provincial Autonomy) In 1919, the Montague Chelmsford Reforms gave more autonomy to provinces and additional items of revenue was transferred to Indian Ministers, Education was one of those. During this period the total expenditure on education registered an increase of 133.81 % in 1921-22.[3] He also appointed a University Commission under the chairmanship of Sir Thomas Raleigh to enquire into the conditions and prospects of existing universities, to report on proposals of improving their condition and working and make recommendations for improving the standard of university's teaching and promoting the standard of learning, and consequently the

[3] Basu.A.(1988).Essays in the History of Indian Education. P.17

University Act of 1904 was passed .The Commission proposed reduction in the size of universities and colleges and streamlining their governance. All this facilitated educational expansion and within a period of fifteen years educational expenditure increased rapidly. In the year 1913, The Government of India Resolution was Published which urged that the area jurisdiction of the existing universities be restricted in order to provide a separate university for each leading province and that at the same time new local teaching and residential universities be established in each province in consonance with the best education opinion of the day. Quantity wise many universities, which were non-affiliating in nature, were set up like the B.H.U. in 1916. Osmania in 1917, all inspired by the Oxbridge model, however the inner spirit was lacking in all these. It's also noticeable that prior to it from 1857 to 1915, India had just five universities so the development was indeed remarkable. However in spite of all these the Calcutta university Commission chaired by Michael Sadler in 1917 still found the system " fundamentally defective in almost every aspect. (Report of the Calcutta University Commission 1917 – 1919). Though these facts and figure indicate the process of education expansion, the rate of growth was not uniform and neither was the rate of spread. In fact it was more 'enclavised'. There were different rates of growth from one region to another and also between one group in the region the another. The first impact of English education was felt in the three Presidencies (port towns of Bombay, Madras and Calcutta) [4], as these were the first provinces to be annexed. Finally the other Provinces like UP, Punjab, NWFP, Bihar and Orissa and Central Provinces also had better facilities as compared tot the other areas which remained unserved, creating a core periphery gap due to the British politico economic interests. The social impact of this spurt in higher education was an increase in demand for English and western education which fuelled expansion, also fuelled by private agencies motivated by the by the desire of upward mobility for their respective caste and or religious communities. Following the missionaries, new groups jumped onto the educational bandwagon. Gandhiji founded a series of national universities during the first non -cooperation movement in 1920-22. They included Gujarat Vidyapeeth , Kashi Vidyapeeth , Bihar Vidyapeeth, Tilak Maharashtra Vidyapeeth and Jamia Milia Islamia . A different educational experiment was tried by

[4] Basu A.(1985) Essays in the History of Ondian Education . P 15.

Rabindranath Tagore who founded *Viswa Bharti* in 1921, meaning India and World. Government's recognition and grants were demanded not on the basis of performance and quality but on the principle of equality and non-discrimination. "Later with education coming under the provincial and state governments, the politicization commercialization had certainly not helped more worthy or pedagogic or democratic purposes, but it has rather co-opted education to commercial and communal ones[5]. Indian Scholars also took initiatives. Situations such as the economic depression in the 1930's, the two world wars led to a slow down in progress of education As a measure of post war revival of education, the Central Advisory Board of Education or the Sergeant Report was formulated which among other recommendations stressed on the need to have more universities and also more of the affiliating type as they are an economic necessity in a vast and poor country like India. It also decreased the duration of the degree course from four to three years and that a Grants Committee on the line of UGC of Great Britain would be constituted.

3.5 HIGHER EDUCATION IN FREE INDIA

Further development took place in the post independence period where it drew with a changed aim content and requirement and in a very changed social set up. First was a University Education Commission headed by Dr S. Radhakrishnan and two American educationists to do a complete and comprehensive enquiry into all aspects of university education, ranging from constitution, control, function, jurisdiction finance and maintenance of high standard of teaching. This phase was different from British era in the following respects.

Firstly, in the colonial period, the base of higher education was quantitatively small in size as enrollment in research per one lakh of population was a meager 1.4 percent and at the postgraduate level, was 2.31 percent. However after independence with a rapid increase in the size of the population in the country, (1951 is considered to be another divide line in the history of population growth) more number of people went in

[5] (Rudolf . C . Heredia (2000)–' Persistence and crisis in higher education ' .*Social Action*

for attainment of higher educational levels . Moreover there was also a sharp increase in the enrollment of girls for higher education and research, which showed a marked departure from the prevalent custom in the society.

Secondly, higher education in colonial India responded to the needs of the alien administration rather than those of socio economic development. It was only expected to produce 'graduate cogs and wheels for the administrative machinery', i.e., clerks to fit in the bureaucratic structure. But after 1947, in the new economic and democratic setup need for educated and skilled manpower emerged in different sectors of the economy as economy grew under the plan periods, hence the target became to fill in such positions through spread of educational facilities.

Thirdly, higher education in colonial India was concentrated in and around its gateway port cities; this enclavization being in conformity with the nature of colonial underdevelopment. After independence, initiatives were taken to establish universities in different states also in the remote interiors so that it's within the access of the masses as well as the classes and also to ensure better opportunities for social mobility.

Fourthly, higher education was extremely elitist, a small tip of the pyramid with a very inadequate base. The focus here was on transmission of knowledge, not it's creation and that too more in the arts than the sciences, more generalists than the specialists, more liberals than the professionals. It was only after independence that attention was diverted to strengthening of the base of technical education through establishment of specialized institutes. The search for excellence led to the establishment of advanced centers as well as departments of special assistance within the university system and to an increasing diversion of research funding from the blighted universities towards institutes and government departments.[6] Higher Education also developed because of the need of import substitution the in the field of the intellect and to build up self-reliant academic structure.

[6] ibid P 41.

Thus in a nut shell it can be said that the growth and mobility of the population, proportion of children to adults, industrialization, change in resources of the states all have their impact on demand for education and in turn education influences all these aspects, that is they have a 'bi-directional linkage'

Higher Education in contemporary India: Independent India inherited a system of higher education which was an integral part of the colonial set up and progress towards transforming the inherited pattern into an instrument of development after independence however was regulated through a system of contradictory forces exerted by bipolar objectives Quantity and Quality, and Concentration and Dispersal. [7]

In the first place though the number of universities have increased more than ten folds there gas also developed a distinct categorization on account of the procedure through which they have been set up. The following is the broad scheme of classification.[8]

Affiliation type model- This is the predominant type, which is fully supported by the state governments and caters to more than ninety percent of the students. All the state universities fall in this category. Colleges are affiliated to the mother university and located far and wide in the geographical area coming under the jurisdiction of the university Colleges are of varying quality and size and in general only a very few are able to maintain even a semblance of the campus life which can be described as academic. The mother university in a massive impersonal exercise, which has been recently criticized for it's many inherent weaknesses, conducts exams here. The strength of students and teachers on the main campus represent only a fraction of the total strength inclusive of all the affiliating and constituent colleges.

Residential Type Model- These are generally single campus unitary type of institutions located unevenly in different parts of the country. Central universities belong to this category, though there are some exceptions like the Aligarh Muslim University and

[7] Raza.M (1985).Opcit. p12.
[8] UmmerkuttyA.N.P(1995)-University and Social Transformation in India ; *University News* .

B.H.U., which affiliate some local colleges in their geographic vicinity. Such universities are small in number and form islands of excellence in academics. Opportunities are provided to students for a corporate life and they also have a sound financial structure.

Deemed University Model- These are mainly born and brought up in free India and are essentially single campus institutions which perform all the functions of a university like teaching, research, practical training, extension services etc. Most of them are specialized in one particular discipline or a group of related disciplines with great deal of emphasis on higher reaches of the discipline / disciplines concerned. These maintain a very high academic standard both in teaching and research. Students enrolled in these institutions are a small fraction of the total students in higher education but are considered the cream of Indian educated class. Since these are specialized institutes, they cannot be equated with the traditional universities, which encompass the totality of pursuit of human excellence, which make possible the unlimited development of all his endowments. Still their limited contribution at the higher echelons of various newer enterprises and of government itself is considerable.

Specialized University Model- These also perform specialize functions and have significant contribution to developmental activities in various fields, such as the role of agriculture universities in ' Green Revolution'. It's through these institutes and universities that that Indian society has experienced for the first time and on a massive scale the intense impact of technology on man and society. This has posed a fundamental question before the traditional university on the possible role a university can play in the life of a society and it's transformation. These also pose even a more fundamental question to the very meaning and mission of a university it's suitability to different kinds of societies and its role in the making or even unmaking and remaking of the society.

Quality Vs Quantity- Development of higher education in the post independence era has been such that it has created a situation where it produces a limited quantity of high quality products from a small number of centers (like the deemed, central and specialized universities) and a large quantity of poor quality products from a massive number of marginal institutions (like the state universities). Though the number of all

these have grown geometrically post 1947, it's the spurt in the number of state universities and also a huge proliferation in the number of affiliated colleges that is remarkable. Such a growth has been propelled by two factors:

1) Country's vibrant democracy that makes people compete for access to higher education to ensure better opportunities for social mobility. This democratization was possible through the government's reservation policy on behalf of the weaker and deprived sections of the population.

2) Requirements of the economic development of the country – the upsurge towards economic development resulted in the setting up of industries and business establishments, improved mode of travel and transport goods and improved infrastructure facilities which called for manpower support such as engineers professionals etc.

In 1947, there were 20 universities and about 500 colleges in India. In 1951-52 the number increased to 32 and 695 respectively. Further it gradually increased to 56 universities and 1542 colleges in 1960-61. The number of universities crossed the mark of 100 (102) in 1970-71and the colleges were more than 3000 (3604) in number. For the year 1980-81 the figure were 133 and 4722 and by 1985-86 the figure for universities was 159 which was more than fifty times the number of universities thirty five years back and the number of colleges was 5816 which was more than eighty times the number of colleges same time in antiquity. In 1993-94 the universities were 207 in number and colleges were 8441. Presently, as on December 2002, the total number of universities was 265 of which eighteen were central universities, fifty two were deemed universities, twelve were institutes of national importance and specialized ones, five institutes were established under state legislative act and the rest 178 universities were all state universities.

It's a fact that Indian university system is the largest in the world. Every eighth student enrolled for higher education on the globe is an Indian. The absolute size can be gauged from the fact that it accounted in the early eighties for about forty three percent of

the total enrollment in developing countries, equal to the size of total population of New Zealand then. However it's not that students enrolled to attain higher degrees by choice, but in fact in the present situation it happens out of compulsion and has become a tool of deferring unemployment because of decreasing number of sought after jobs.

In 1950-51 there were just 173696 students (excluding the pre university and intermediate level students), which increased to 663661 in 1961-62, an increase of 19.2% over the preceding year. The increasing rate became further steep upwards in 1970-71 when the total strength of the students became 1953700, an increase of 9% over the preceding year. Since then it has increased remarkably hovering around 10% every year. In 1971-72, total enrollment was 2065041 (5.7% growth over the preceding year) . In 1980-81, it grew by just 3.9% over the last year and the figure was 2752437, in 1990-91 it was 4924868 (increased by 7%) and in 2000-01, the total number of students were 8399443 which was 4.3% more than the previous year. (These enrollment figures correspond to enrollment in the university teaching departments, constituent and the affiliated colleges).

The trend of growth rates of population, enrolment (in universities and universities and affiliated colleges) shows a very irregular trend. But one thing is clear that the creation of facilities in terms of number of universities and colleges have not been in consonance with population growth rates. Two periods can be distinctively marked. One is in 1991, when population growth increased and the growth rates of enrolment, number of universities and colleges also increased. The second period was marked in 2001 when population growth rate declined and with it declined the growth rates of all other indicators, and that too very sharply.

The growth in the number of institutions and enrollment does not necessarily reflect improving standards of education, or better employable skills among the individuals. As at the dawn of independence, the demand for higher education was linked to the needs in different sectors of the economy, but in the later years, the demand was driven more due to increase in population in general. Expansion was also linked to the

political interests of people who took it as a matter of pride to make available university education in their political jurisdictions.

Thus the aim of providing higher education was lost and the whole system now appears to be in a crisis, which is evident from the following facts. There has been an over production of 'educated' persons, increasing educated unemployment, weakening of student motivation, increasing unrest and indiscipline on the campus, frequent collapse of the administration, deterioration of the standard, and above all the demoralizing effect of the irrelevance and purposelessness of most of what is being done.[9]

Concentration Vs Dispersal- As stated earlier it was only after independence that the 'enclavization' of higher education around it's gateway port cities was broken and there was a spatial diffusion of educational facilities. Universities came up in the remote and rural areas, which the demand for equity and quantitative expansion led to the unfolding of the contrary process of dispersal of higher education. Universities in the states of Arunanchal Pradesh, Assam, Haryana, Himachal Pradesh, Jammu &Kashmir, Manipur Meghalaya, Nagaland, Punjab, Rajasthan, Tripura came up only after independence. Also in Madhya Pradesh, there was just one university at the time of independence; the second one came up only ten years after that is in 1951. Such regional imbalances do exist not only across the states but also within the boundaries of the states.

Also policies of positive discrimination were adopted to extend the benefits of modern education to weaker sections of the society through provision of scholarships, reservations, establishment of minority institutes etc.

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[9] Jayaram.N.(1989-90) Higher Education –State Policy and Social Constraints

Table 3.4: Proportion of Population in Higher Education in India

Year	Population(millions)	Percentage of Population in Higher Education
1950-51	360	0.04
1960-61	439	0.12
1970-71	548	0.35
1980-81	685	0.42
1990-91	8440	0.58
200-01	1002	0.83

Source: Population Tables (Census 2001) & UGC (University Development in India.2001-02).

If we look at the enrollment scenario, in the year 2001, (table 3.4) There exists disparities across the states, where in some ten states enrollment in university teaching departments and constituent and affiliated colleges is more than the national average of 0.83 %, but almost equal number of states have lower enrollment proportions, highest being 1.32 % in Himachal Pradesh and the lowest being in Arunanchal Pradesh 0.42% North eastern states generally show a neglected picture and also the southern states have more than the national average . Some of the factors that can be thought of for the emergence of such disparities can be the difficulties related to the access of higher education institutes, in terms of socio economic backwardness, lack of will to pursue higher education, migration of students for better academic environments elsewhere.

Table 3.5 Higher Education Enrolment as Percent to total Population and increase in number of Teachers

States	Population	Percent of Population In Higher Education	Number of Teachers
Andhra Pr	75727541	0.87	4923
Arunanchal	1091117	0.42	75
Assam	26638407	0.7	1148
Bihar	109788224	0.59	12923
Gujrat	50596992	0.93	2652
Haryana	21082989	1.03	1629
Himachal	6077248	1.32	878
J & K	10069917	0.52	885
Karnataka	52733958	0.98	5779
Kerela	31838619	0.72	1594
M.P.	81181074	0.68	2382
Maharashtra	96752247	1.22	4641
Manipur	2388634	1.45	195
Nagaland	1988636	0.54	138
Orissa	36706920	0.87	1067
Punjab	24289296	1.04	2167
Rajasthan	56473122	0.56	2369
Tamil Nadu	62110839	1.04	6157
U.P.	174532421	0.65	7772
West Bengal	80221171	0.73	4474

CHAPTER IV

EDUCATIONAL EXPENDITURE IN INDIA

4.1 INTRODUCTION

This chapter has been broadly outlined to incorporate the cross sectional and time series analysis of the educational and higher educational expenditure in the context of national priorities, that is inter sectoral allocations, vis-à-vis other sectors of the economy. It will be measured as: Educational and higher educational expenditure as proportion of GNP and SDP over time and the state level variations that exist and the probable causes of it. Expenditure in terms of per capita figures have also been considered so as to get the correct picture in terms of investments for the center, the states and the aggregated figures for the two together .It also studies the growth of expenditure in current and constant prices to see the real increase in expenditure by removing the inflation impact.

India has adopted a mixed economic system whereby the responsibility rests with the public sector to provide infrastructure facilities and the private sector is to concentrate more on the mainstream of economic activities such as manufacturing and production of goods and services. But under a more globalized regime the State has been withdrawing in favor of the private sector or partnerships of various forms increasingly becoming a feature today, for infrastructure development. As the State has also assumed the responsibility to be a 'Welfare State', the issues in the social sector including education, which provides for the attainment of the well being of it's people are largely taken care of by the State .It is the Government's responsibility to see that proper standards are being maintained in the provision of the educational services at all levels and in all areas of specialization. However the 'federal dilemma asserts itself' (Pinto, 1984.) in the educational arena in India. Till the 42nd Amendment of the Constitution in 1976, education was in the State List but for certain specified items in the Union List such as

the determination of standards in institutes of higher education and research, establishment and maintenance of Central Universities as well as specified institutes for scientific and technical education and research. The inclusion of Education in the 'Concurrent List' in 1976 was done to facilitate evolution of all India policies in the field of education such that both the Parliament and the State Legislatures will have concurrent legislative powers to educational reforms, with the supremacy of the former.

As in any dual polity a certain degree of tension between the Centre and the States does exist. Being a Democracy, the elected governments at the State levels may be exposed to political and policy compulsions different from those that hold sway at the Central level. (Reddy, 1988.) . Substantial resources flow from the Centre to the States for all educational expenditures through institutional mechanisms like the Planning Commission and the Finance Commission

The **Planning Commission** plays a vital role in the planning process. It was set up in 1950, to include the broad functions of assessment of material, capital, and human resources, formulation of a plan for their most effective and balanced utilization, determination of priorities and allocation of resources for completing each stage of the plan, determination of the machinery for successful implementation of the Programme, appraisal of the progress and recommending adjustments in policies and measures during the execution of the plan and making of interim and ancillary recommendations on current development policies, measures etc. It acts in consultation with the ministries of the central and state governments. The N.D.C. (National Development Council) established in 1952 and Inter State Council are some institutional innovations which impart a national character to the entire process of planning[1].

The **Finance Commission** is a statutory body appointed once in five years. It makes recommendations on the following matters [2].

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[1] Vaidyanathan Aiyar R.V. Educational Planning and Administration in India, Retrospect and Prospect. *Journal of Educational Planning and Administration*; Vol. VII, No 2, April '1993.

[2] Expenditure Report of the Ninth Finance Commission.

1. The distribution between the Union and the States of the net proceeds of the taxes which are to be divided between them under Chapter I of Part XII of the Constitution and the allocation between the states of the respective shares of such proceeds.

2. The principles which should govern the grants in aid of the revenues of the states out of the Consolidated Fund of India and the sums to be paid to the states which are in need of assistance by way of grants in aid of their revenue under Article 275 of the Constitution for purposes other than those specified in the provisos to clause (1) of that Article.

All non plan expenditure (expenditure on schemes which are completed in the earlier plans) inclusive of the committed expenditures i.e. expenditure on the maintenance on plan schemes completed by the end of the immediately preceding Five Year Plan are scrutinized by the Finance Commission. The amount of expenditure scrutinized is larger than the planning Commission as they are cumulative over several years' efforts in the past and the latter are only additionalities.[3]

Thus all plan expenditure on education are assessed by the Planning Commission which gets it's authority only by convention and the recommendations of which are not binding on both the Centre and the States but are ' normally' accepted by the Centre and are followed by the States in view of the commandeering influence of the Centre. The Finance Commission assesses the non-plan expenditure, the recommendations of which when adopted by the Parliament and approved by the President is binding on the Centre and the states. There may be however a small percentage of educational expenditure which may not come under the approved plan and non plan categories, the responsibility for which is entirely with the concerned state governments, which may be necessary according to the state government. [4]

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[3] Panchamukhy P.R. Studies in Educational Reforms in India , Vol. V, 1989; (Chapter 5- Public Financing of Education : A review of the Educational framework).
[4] Panchamukhy P.R. *op cit.*

In the current socio economic scenario, where the resources are not abundant, there is inadequacy of funds to cater to the needs and demands of every sector. Fiscal resources are limited and tax revenues are also inelastic upward, mobilization and management of the available funds is of utmost importance. Since education in India is an issue where each of it's sub sectors are equally important in creating a socially aware society and building a better human resource, investment needs to be cautiously done so as to promote every sector and avoid negligence of either of them or over emphasis on some of them. A major problem, which the decision-makers confront today, is how to provide financial sustenance to the system. This problem has become more acute because of the following reasons.[5]

I. A large section of the population is yet to be covered by the network of the educational programs to provide elementary education to which the Constitution of India is committed. The cost of educating o university graduate is as high as 70 to 100 times the cost of education of a primary school student.

II. In terms of quality and relevance of educational programs, the credibility of higher educational institutions has been eroded as is reflected from the growing number of unemployable graduates.

III. More than three fourth of those benefiting from higher education are drawn from the top one fourth comprising the higher income group which indicates the inegalitarian character of the system.

IV. Heavy subsidization of higher education by the state has come under sharp criticism, especially on grounds both of social justice and economic efficiency. The system has helped perpetuate the concentration of income and

[5] Ansari M.M. Strategy of Funding Higher Education, Areas and Directions of Reforms; Journal of Educational Planning and Administration Vol. VIII pg. no . 89, Jan 1994.

wealth in the hands of a few who are generally and traditionally the main beneficiaries of the system

Before coming to the sections under which the educational finance can be studied, it is important to note the two factors that have been affecting growth of expenditures made in the field of education particularly, and other fields in general. These are: -

- Rapid growth in population leading to increase in student numbers and consequent decline in per capita expenditures.
- Escalation in prices such that real increase, both in total amount and per capita come down to modest levels.[6]

4.2 EDUCATION AND GNP: THE IRREGULAR TRENDS

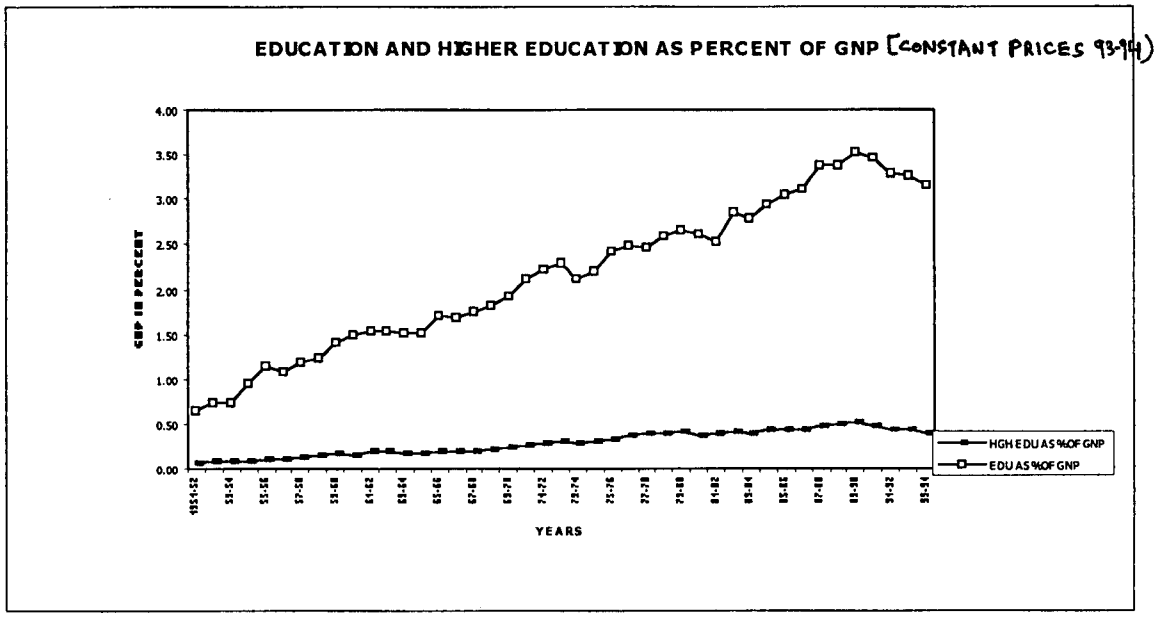
A Nation's priority to education is reflected in the proportion of the national income (i.e. the gross national product) devoted to it. The total expenditure (expenditure of the education department only) on education (including all the sub-sectors) was only 0.64 % of the G.N.P., at the initiation of the first plan i.e. 1951-52, rose to 1.15% in 1955-56. It took almost fifteen years to become more than 2%. It was 2.13 % in 1970-71 and in 1985-86 it was 3,06 %. Even now the expenditure is less than 4 % despite the reiteration in the educational policies to raise it to 6 % of the G.N.P. According to a study on the proportion of national investment in education in many other developing leave alone developed countries of the world, including Africa, India ranked 98th among the 166 countries on which such data was available in 1995.[7]

The priority given to higher education in allocation of resources of the economy has also been steadily coming down, which is evident from the following figures. During the same time i.e. in 1951-52, the expenditure on higher education was only 0.07 % of G.N.P. It grew steadily to 0.11 % in 1955-56, and 0.3 % in 1972-73. It fell again to 0.27

[6] Tilak J.B.G.(1997) 'Five Decades of Under investment in Education' *Economic and Political Weekly.* (Sept), Pg no. 2239.
[7] Ibid. pg 2240

% in the subsequent year and has been varying between 0.3- 0.5 %. The maximum of all time was in 1989-90 when it was 0.52 %. (See table 4.1)

Figure 4. 1: Temporal Growth of Education and Higher Education expenditure as percent of GNP



4.3 EDUCATIONAL EXPENDITURE AT CURRENT AND CONSTANT PRICES:

Though total expenditure on education and higher education in India has increased remarkably during the post independence period, this has been more so if the current prices are compared for different time periods but the increase in real prices is not so impressive .The expenditure and the corresponding growth rates have been considered for four periods.

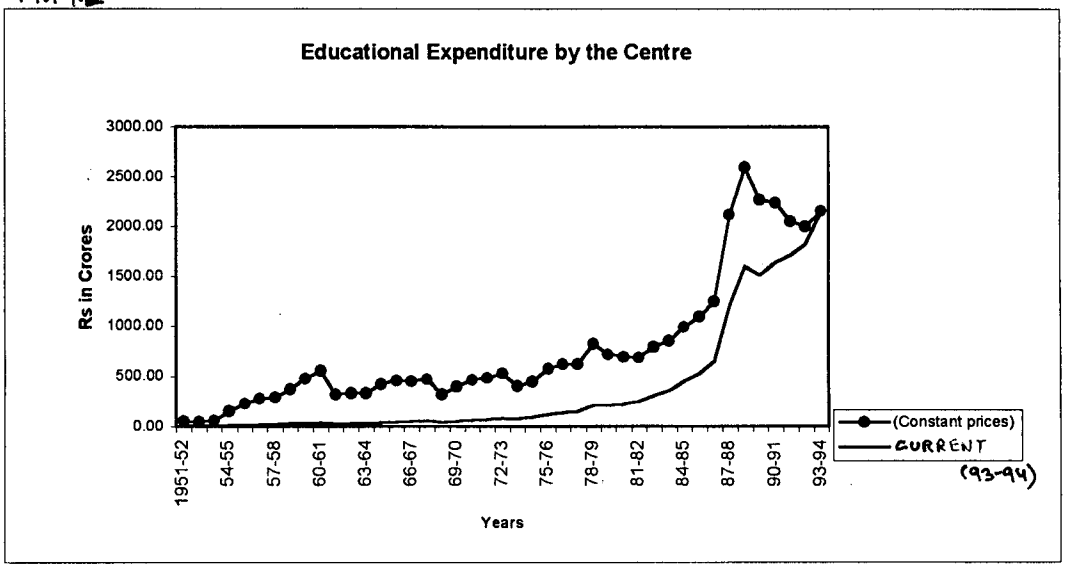
1) The first period span is of 15 years from the dawn of economic planning (1951-52) to the dawn of educational planning (1965-66) when the first major recommendations in the educational field were made by the Education Commission, 1964-66 (Kothari Commission).

2) The second period span is of 20 years from the first Educational Policy to the second policy i.e. from 1965-66 to 1985-86.
3) The third period span is for 9 years from 1985-86 to 1993-94 that is the post N.P.E. phase.
4) The 4th period covers the entire study period of forty-three years and indicates the overall growth rates of educational expenditure and higher educational expenditure for the entire study period of this part.

This phasing has been done with a view to capture the impact of the policies on the expenditure concern of the Centre and the states and also to assess the expenditure growth rates.

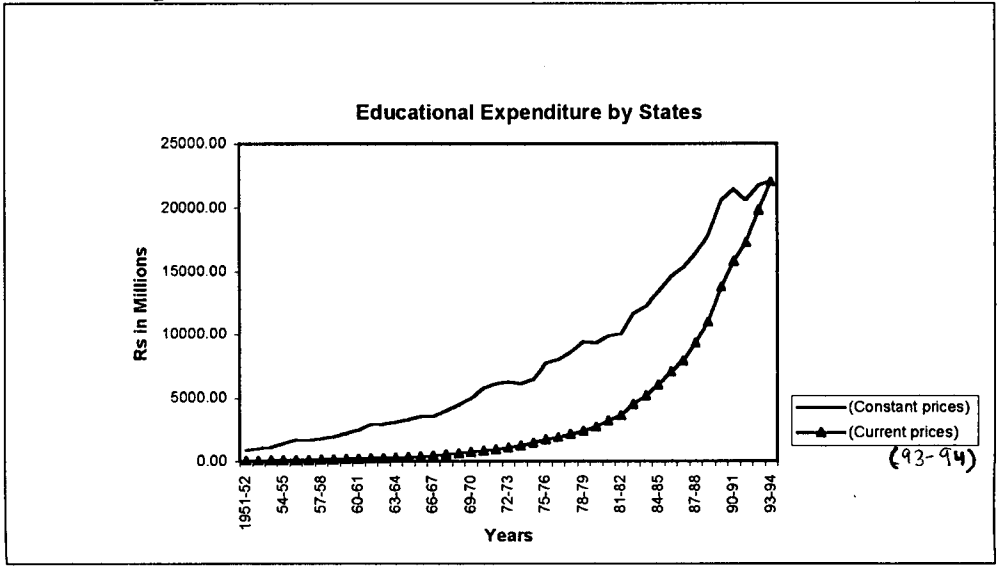
Educational Expenditure at Current and Constant Prices (Analysis): If we have a look at the figures of the Centre and the states together, we find that in current prices, there has been a steady increase in expenditure from Rs. 64.96 crores in 1951-52 to Rs. 994.82 crores in 1971-72 and to Rs. 24224.76 crores in 1993-94. But if the impact of inflation is removed the same series shows three periods when expenditure actually declined. This was from 1972-73 to 1973-74 when the decline was from Rs. 6797.48 crore to 6557.09 crore. The second period was from 1978-79 to 1979-80 when it declined from Rs. 10262.78 to 9995.12 crore and the third period was from 1990-91 to 1991-92 when the decline was from Rs. 23717.29 crore to 22683.18 crore.

FIG 4.2



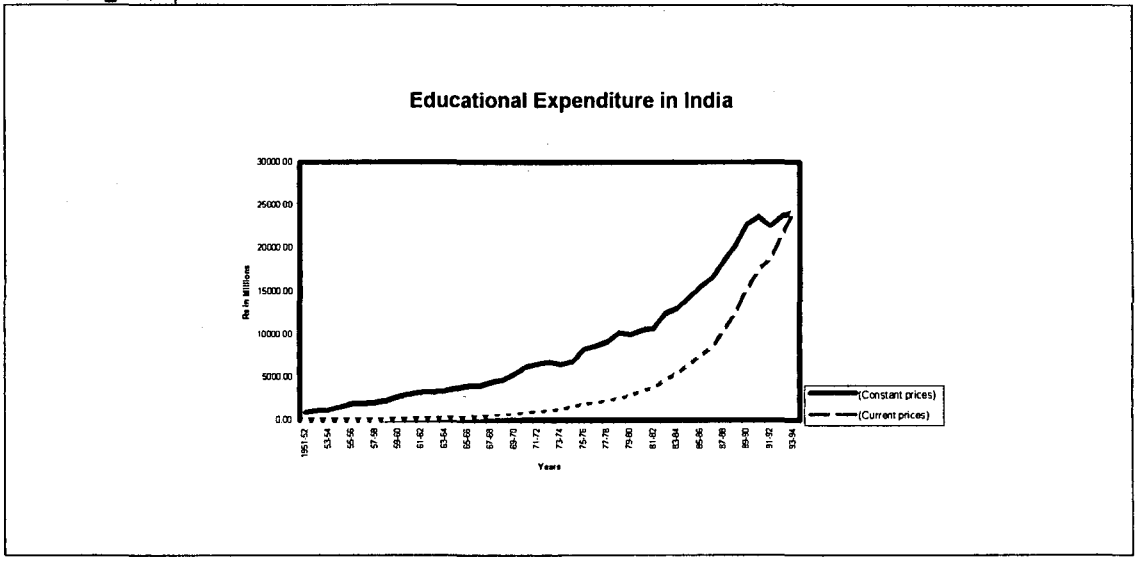
Analysis of the expenditure of the Centre on education reveals that the expenditure has declined in certain years not only at current prices (for 5 years) but even at constant prices (for 10 years) but as a result of the Educational Policy of 1986, the expenditure increased substantially from Rs. 1247.97 crore in 1986-87 to Rs. 2115.46 crore in 1987-88 (real increase), an increase of 69.5 % over the preceding year. Thus it gave a meaningful definition to the concurrency of education enshrined in the Constitution through the 42nd Amendment.

FIGURE: 4.3



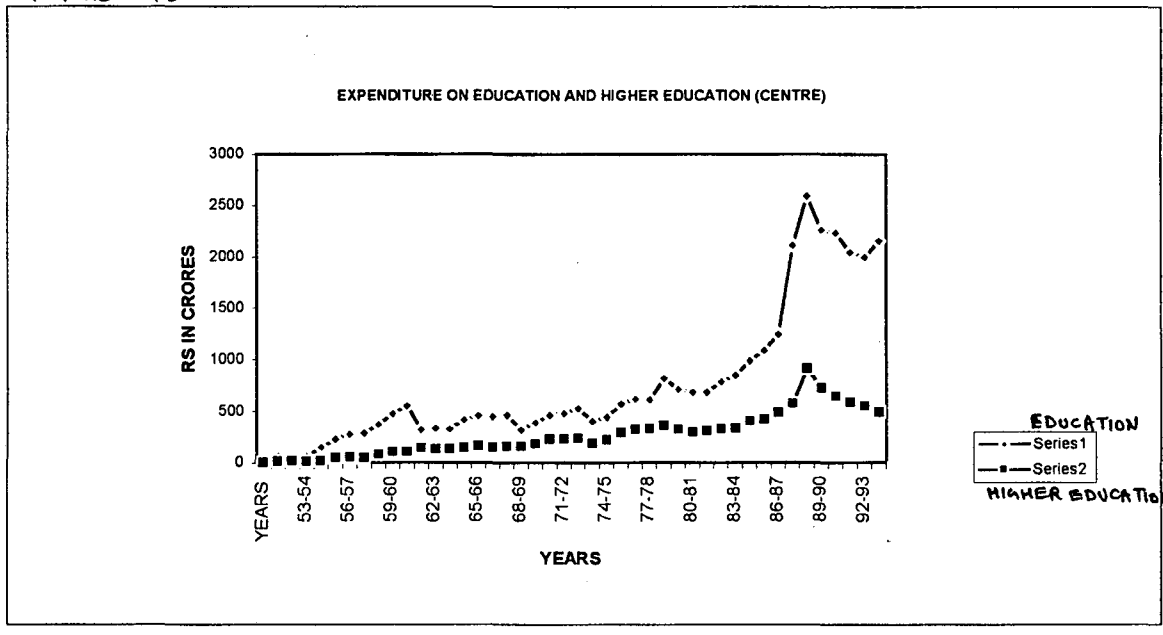
As states finance more than 90 % of the public expenditure on education, it is necessary to analyze their expenditure behavior. There was again no decline as far as current prices are concerned but in constant prices, there have been periods of substantial decline in 1956-57 (down by 133 cr.), 1979-80 (down by Rs. 164 cr.) and 1991-92 (down by Rs. 848 cr.) There was however an increase of 10.85 % in 1967-68, to an extent showing the impact of the policy recommendations.

FIGURE: 4.4



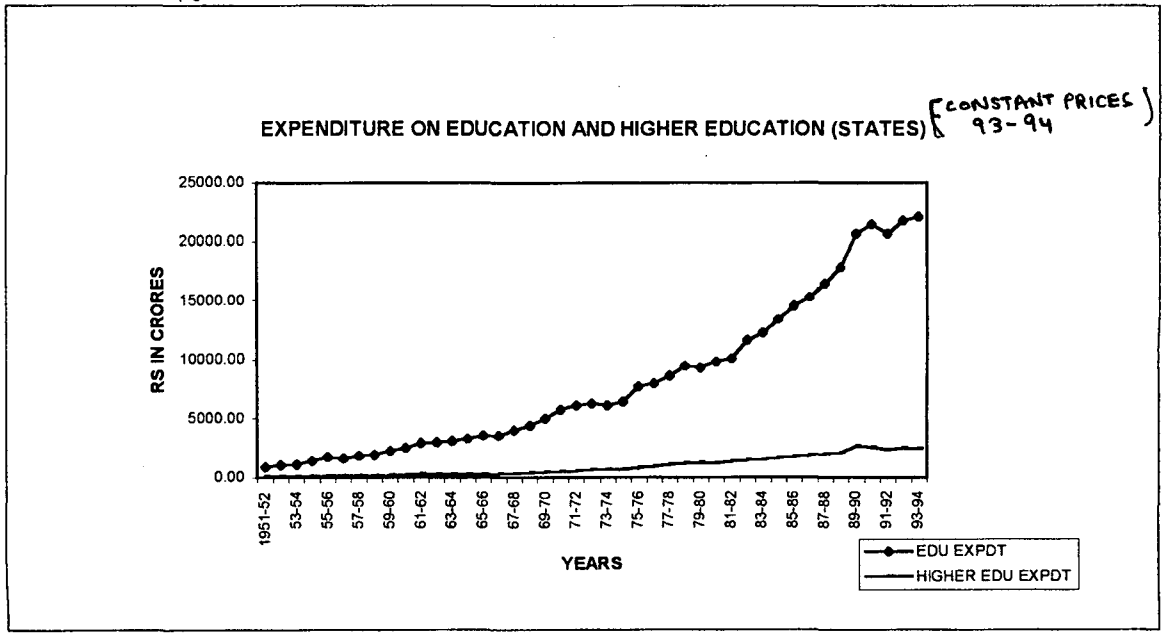
Higher Education expenditure has also been fluctuating over time. The total expenditure of the Centre and the states together show a rising trend in current prices over a period of 43 years, but in constant prices it declined marginally by not more than 5 % in 1953-54, 1963-64,and 1980-81 from the preceding year.

FIGURE: 4.5



For the center expenditure at current prices increased from 0.91 crore in 1951-52 to 20.47 crore in 1967-68 to 338.01 crore in 1987-88 and 495 crore in 1993-94 but in constant prices it varied both upward and downward, in a few years though only marginally.

FIGURE 4.6



As far as the states are concerned, current price expenditure has increased steadily but in some years, when the increase was not much, reported a decline in constant prices especially from 1961-62 to 1964-65 when the figures were Rs. 285.94 crore to 257.71 crore respectively .In 1989-90, the increase in expenditure was quite significant (from Rs. 2073.49 crore to 1619 crore (in constant prices) which may be the impact of the National Policy of Education, which emphasized on state level planning and coordination of higher education.

Thus the overall picture shows that the real increase in terms of allocations for education and higher education has been only nominal for the center and the states and little impact of policies is seen in terms of spending.

4.4 GROWTH RATES

A clear picture of the educational expenditure with respect to GNP and higher education with respect to GNP and total educational expenditure will emerge only when we see the growth rates at certain time intervals. Compound growth rates of educational expenditure by the central and the state governments together have been estimated for four time periods.

The total educational expenditure grew by 14.78 % at current rates and at 7.90 % at constant rates from a period ranging from 1951-52 to 1993-94. For the same period higher education expenditure grew by 15.01 % at current rates and at 8.11 % at constant rates. The growth of GNP during the same period was 10.62 % at current and 3.98 % at constant prices. This shows a positive picture of the growth of expenditure on higher education, as the growth rates are the highest (constant prices growth rate). In the sub periods, maximum growth occurred in the fifteen-year period from 1951-52 to 1965-66 (both in current and constant prices). Higher education expenditure also increased in more or less the same proportion (13.39 and 10.13 current and constant prices) and growth of both of them was more than the growth of national income. In the other two sub periods though growth rate of higher education was highest among the three, the period proceeding the 1968 Educational Policy, it significantly reduced to even less than

the growth of national income .The total income grew by 4.6% educational expenditure grew by 5 % and higher education expenditure grew by just 3.36 % .It 's important to notice here that the Kothari Commission recommended a change in the pattern of allocation of resources to different sectors of education in the future from decade to decade , such that the first decade from 1965-66 to 1975-76 would emphasize larger allocation to the school stage , the second decade from 1975-76 to 1985-86 would stress on seven years of effective primary education and vocationalisation of education and in the third decade , 1985-86 onwards emphasis will shift very largely to the development of higher education and research .[8] In context of this the declining growth rate of higher education expenditure is an important concern.

The expenditure of the Centre also reveals the same picture. The overall growth rate for GNP, education and higher education expenditure were 3.98, 8.76, and 8.84 (in constant prices) respectively revealing again a higher growth rate of educational expenditure to GNP (almost double) and higher education also rose in the same proportion .In the sub-periods, a higher growth rate occurred in the 15 year period; 3.33%, 14.69%and 18.41% of GNP, education and higher education, but in the 20year period from 1955-56 to 1985-86, it grew only a little more than national income growth rate . The rates were 3.97, 4.45, and 4.87 .In the third phase post NPE (1986), higher education increased by only 1.73 % (at constant rates) whereas educational expenditure grew by 7.88 %. This reflects the idea of the government to promote primary education as envisaged in the NPE 1986.

The expenditure by states show a lesser priority accorded to higher education. Though the over all growth rates in constant prices is almost the same as education itself, it's in the 1st and 3rd sub-periods where the growth rates were actually less than educational growth rates. It was 7.71 % in 1951-52 to 1965-66 as against 9.86 % growth of educational expenditure and it was only 3.75 % as against 4.75 % in 1985-86 to 1993-94.

[8] The Kothari Commission Report On Education, 1966,

Table 4.1: Compound Growth Rates of Educational Expenditure

Compound growth rate	1947 to 1st Education Policy	1st Educational Policy to NPE (1986)	From1986 – to now	Over all period
	1951-52 to 1965-66	1965-66 to 1985-86	1985-86 to 1993-94	1951-52 to 1993-94
CENTRE				
GNP constant price	**3.330**	**3.974**	**4.649**	**3.984**
GNP current price	**6.386**	**12.066**	**13.397**	**10.616**
Edu exp current price	18.084	12.586	16.899	15.697
Edu exp constant price	14.692	4.458	7.880	8.760
H. edu exp current price	21.92	13.03	10.24	15.78
H. edu exp constant price	18.41	4.87	1.73	8.84
STATES				
Edu exp current price	13.11	15.68	13.51	14.71
Edu exp constant price	9.86	7.33	4.75	7.83
H. edu exp current price	10.89	18.28	12.42	14.87
H. edu exp constant price	7.71	9.74	3.75	7.99
TOTAL				
Edu exp current price	13.53	15.40	13.77	14.78
Edu exp constant price	10.27	7.06	5.00	7.90
H. edu exp current price	13.39	16.81	12.00	15.01
H. edu exp constant price	10.13	8.37	3.36	8.11

Computed from CSO data and 'Education in India' volumes

4.5 INCOME ELASTICITY OF EDUCATIONAL EXPENDITURE

National income is a major indicator of a country's ability to finance inter alia it's education system and therefore it should be treated as a major determining factor to finance education The phenomenon of rise in prices however reduces the real influence

on the magnitude of allocation of funds for education. Thus while the income variable is expected to exert a positive influence on the magnitude of allocation of funds for education, the impact on inflation on such allocation may be negative to cause reduction in the real value for money. [9] In view of this an attempt has been made to study the strength and degree of relationship between educational expenditure on the one hand and nationals income as well as the rise in prices on the other.

Regression Results: Log values (with base 10) of figures in constant prices have been taken to run the regression between national income educational expenditure and higher educational expenditure for a period of 42 years beginning from 1951-52 to 1993-94 where income is the independent variable and expenditure on education and higher education are dependent ones. Separate regressions have been run for each of them with GNP. The relevant coefficients with respect to them are as follows:

1.) The income elasticity of total (center + states) expenditure with respect to education emerged out to be above unity, thereby indicating more than proportionate increase in expenditure due to rise in income. Over the period of study, one percent increase in income induced the growth in expenditure by 1.88 % .If this coefficient is decomposed to show three breakup of the center and the states, the relevant income elasticity coefficients emerged out to be higher for the states (1.90 %) as compared to the center (1.75%) .The total explained variation being 97% in total, 82% for the center and 92% for the states.

2.) The income elasticity of total expenditure (center +states) with respect to higher education also emerged out to be above unity i.e. showing more than proportionate increase due to rise in income. One percent increase in income led to growth of higher education expenditure by 2.09 % The coefficients were once again noticed to be higher for the states (2.13 %)

[9] Raza .M. (1991) Higher Education in India : Retrospect and Prospect; Chapter 10- University Finances , It's Determinants and Implications.

than the center (2.01 %), the total explained variation being about 82 % for the center, and 96 % and 95 % for the states and total respectively.

Table 4.2 Education And GNP (Regression Results)

	R	R2	Slope Coeff.	Intercept	Std Error of the Estimate	T- Test
TOTAL EXP	0.979	0.959	2.09	-8.618	9.24	1
CENTER	0.908	0.825	2.01	-8.831	0.198	1
STATES	0.984	0.968	2.13	-8.98	8.236	1

Table 4.3 Higher Education and GNP (Regression Results)

	R	R^2	Slope Coeff.	Intercept	Std Error of the Estimate	T- Test
TOTAL EXP	0.986	0.973	1.88	-6.586	6.695	1
CENTER	0.914	0.836	1.751	-6.892	0.165	1
STATES	0.987	0.974	1.9	-6.709	6.621	1

3.) It's also a noticeable fact that the elasticity of expenditure on higher education was more than education itself. Total figures for education were only 1.88 % whereas for higher education it was 2.09 %. Similarly the decomposed figures for the center 1.75 % and 2.01 % and for the states it was 1.90 % and 2.13 % for education and higher education respectively

If we look at the per capita figures of growth of GNP education and higher education, the following picture emerges:

I. For every one percent increase in per capita GNP at the all India level per capita educational expenditure grew by 2.9 % and per capita higher education expenditure grew by 2.09%, thus indicating that in per capita terms, the allocations for higher education has grown at a slower pace.

II. For every one percent increase in GNP per capita at the center, per capita educational expenditure grew by 2.71%and per capita higher educational

expenditure grew by 2.01 % which shows that states still owe a major part of the responsibility to provide education services to the people as all India increase is more than increase at the center. Also when compared to educational expenditure, growth of higher education expenditure appears to be less.

III. At the State level, per capita growth of GNP induced the growth in educational expenditure by 2.9% but it could only induce a growth of 2.13 % in higher education expenditure. This shows that even in the states, the priorities are fixed in favor of primary education in the education sector as a whole.

Table 4.4 Per Capita Education Expenditure and GNP (Regression Results)

	R	R^2	Slope Coeff.	Intercept	Std Error of the Estimate	T- Test
TOTAL EXP	0.96	.92	2.92	-8.91	7.91	1
CENTER	.85	.72	2.71	-9.18	0.16	1
STATES	.96	.92	2.95	-9.08	8.18	1

Table 4.5 Per Capita Higher Education and GNP (Regression Results)

	R	R^2	Slope Coeff.	Intercept	Std Error of the Estimate	T- Test
TOTAL EXP	.97	.95	2.09	-8.61	9.24	0.013
CENTER	.90	.82	2.01	-8.83	.198	1
STATES	.98	.96	2.13	-8.98	8.23	0.013

4.6 INTERSTATE VARIATIONS IN EDUCATIONAL EFFORTS :

As the macro level figures and aggregates don't reveal the characteristics especially relating to the extent of variations in the magnitude of educational expenditure,

it becomes quite necessary to study the sub components or the sub units, in this case the states. As mentioned earlier, states finance around 90 % of the total; public expenditure on education, an attempt has been made to work out the ratios of expenditure on education and higher education with respect to SDP for different time periods and to see whether the variations of provision of educational expenditure has reduced across states over time or not. Eight time periods, 1960-61, 1965-66, 1970-71, 1975-76, 1980-81, 1985-86, 1990-91, 1992-93, have been considered for the study and the results show that:

- The educational expenditure as proportion of the state domestic product has increased for almost every state. The states however differ a great deal in making resources available out of their incomes for the development of education. Kerela for e.g. Initially had more than 3 % of SDP given to education and by 1990-91, it rose to 6.31 % of the SDP, the highest among all the states. In states like Punjab, Bihar and Orissa it decreased in some years , Whereas in other states the percentage has varied between 1-3 % in 1960-61 , 2-5 % in 1975-76 and again 2-6 % in 1992-93.
- Of the total expenditure on education (revenue account), the share of higher education has fluctuated in all the years for almost every state. States like Madhya Pradesh, West Bengal, J&K, Andhra, and Bihar have had expenditures around 10 % or more than it, in almost all the years. Andhra is the only state where highest percentage allocations have been made in the recent years to the order of 22.08 % in 1992-93. Lowest allocations have been in Assam (6.17 %) Rajasthan (8.69 %) and U.P. (8.43 %).
- In terms of coefficients of variation across the states, in relation of education with SDP, the variations have decreased over time from 41.54 % in 1960-61 to 24.18 % in 1990-91again to increase at 26.52 % in 1992-93,still being less than the 1960-61 mark. In case of higher education, though, the variations across the states have increased from 30.63 % in 1960-61 to 35.75 % in 1975-76, reduced in the subsequent years, but again rose to 30.03 % in 1992-93 to touch almost the figures of 1960-61, thus indicating no reduction in disparities.

Table 4.6 Total Expenditure on Education (by Edu Dept) as Percent of S.D.P.

STATES	1960-61	1965-66	1970-71	1975-76	1980-81	1985-86	1990-91	1992-93
ANDHRA	1.77	1.81	2.46	2.75	3.09	3.95	3.28	3.41
ASSAM	2.11	3.06	3.26	3.35	3.57	4.16	5.07	5.79
BIHAR	1.33	1.15	2.07	2.59	3.23	4.14	5.27	4.51
GUJRAT	1.47	1.67	2.02	2.39	2.62	3.91	3.73	3.41
HARYANA	N.A.	N.A.	2.13	2.16	2.35	2.62	2.58	2.63
J&K	2	3.29	3.71	4.13	4	4.66	4.84	4.1
KARNATAKA	1.8	2.11	2.89	2.98	3.01	3.6	3.75	3.95
KERELA	3.74	3.99	4.79	5.79	5.52	6.32	6.31	N.A.
M.PRADESH	1.78	2.76	2.48	2.69	2.39	3.05	3.32	3.46
MAHA'TRA	1.45	1.72	2.53	2.52	2.55	3.02	3	3.05
ORISSA	1.16	1.64	2.26	3.38	3.29	2.84	3.96	5.4
PUNJAB	2.79	3.13	2.1	2.46	3.08	2.79	2.96	2.92
RAJASTHAN	1.88	2.30	2.51	3	N.A.	4.32	4.48	N.A.
TAMIL NADU	1.65	2.53	3.06	3.25	3.26	3.84	4.87	4.39
U.PRADESH	N.A.	1.50	1.77	2.88	2.48	3.11	4.25	3.7
W.BENGAL	1.25	1.48	2.2	2.23	2.79	3.39	4.32	3.64
TOTAL	26.18	34.14	42.24	48.55	47.23	59.72	65.99	54.36
NO OF OBSN.	16	16	16	16	16	16	16	16
MEAN	1.64	2.13	2.64	3.03	2.95	3.73	4.12	3.40
STD DEV	0.68	0.82	0.77	0.89	0.80	0.92	1.00	0.90
C.V.	**41.54**	**38.48**	**29.07**	**29.36**	**27.19**	**24.71**	**24.18**	**26.52**

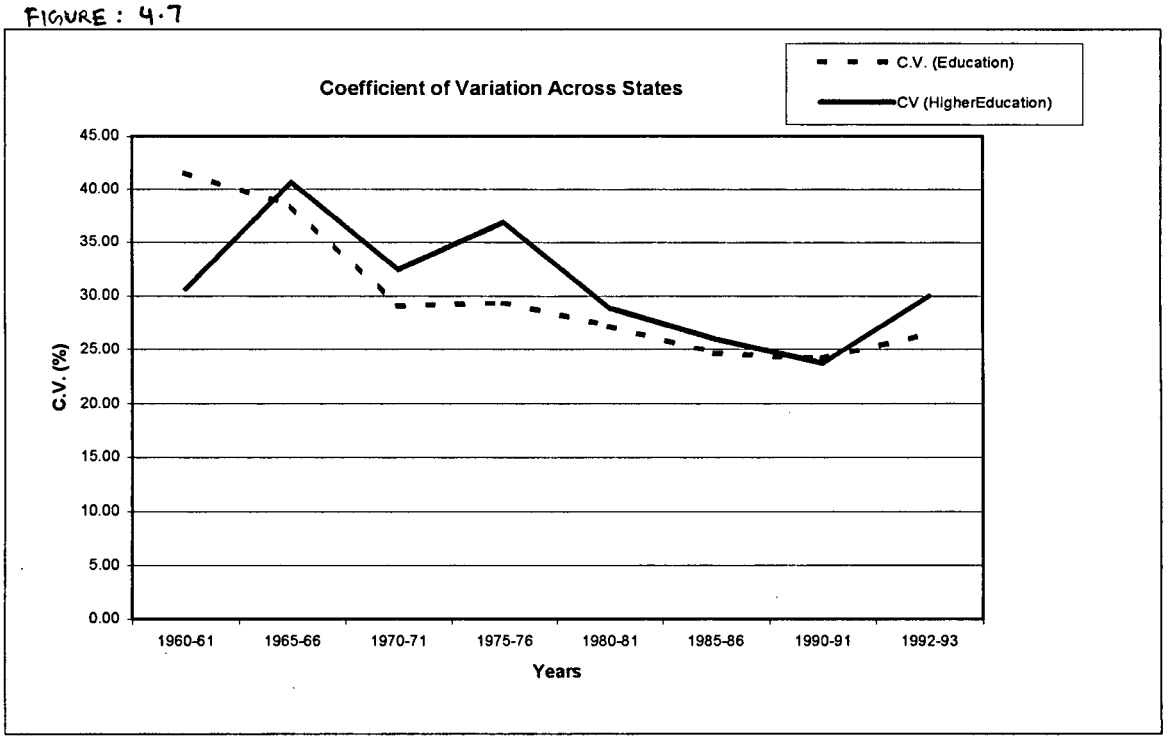
Analysis of Budgeted Expenditure on Education (different volumes)

Table 4.7 Total Expenditure on Higher Education as percent of Total Expenditure on Education (Rev A/C)

STATES	1960-61	1965-66	1970-71	1975-76	1980-81	1985-86	1990-91	1992-93
ANDHRA	7.82	8.63	10.16	15.39	16.27	18.54	18.75	22.08
ASSAM	9.4	5.09	9.01	9.51	8.25	7.89	9.02	6.17
BIHAR	10.41	10.02	9.55	19.74	4.75	12.96	10.22	10.40
GUJRAT	7	8.23	4.81	4.77	7.72	8.86	8.52	10.16
HARYANA			7.43	8.33	12.53	11.67	12.93	13.27
J&K	9.17	13.51	12.86	16.03	10.65	10.8	11.85	12.39
KARNATAKA	7.97	7.13	7.81	13.36	15.12	12.19	11.97	12.83
KERELA	4.65	3.60	4.2	11.12	9.33	11.14	11.33	16.16
MADHYA PRAD	11.54	8.94	8.58	9.36	9.09	10.17	10.11	11.56
MAHARASHTRA	6.91	6.38	5.19	5.4	12.17	8.37	10.44	10.20
ORISSA	7.37	10.61	8.92	11.72	13.09	11.37	11.89	11.80
PUNJAB	9	7.27	11.41	10.05	9.67	12.11	12.81	13.16
RAJASTHAN	12.03	10.29	9.58	10.67	9.11	8.31	8.42	8.69
TAMIL NADU	5.51	3.82	5.66	6.88	15.5	16.31	9.15	10.73
UTTAR PRAD	5.18	6.64	5.71	7.92	8.8	8.67	8.27	8.43
WEST BENGAL	12.14	3.46	12.62	12.6	11.74	9.95	13.89	13.40
TOTAL	126.1	113.62	133.5	172.85	173.79	179.31	179.57	191.42
NO OF OBSRVN	16	16	16	16	16	16	16	16
MEAN	7.88	7.10	8.34	10.80	10.86	11.21	11.22	11.96
STD DEV	2.41	2.89	2.71	3.99	3.14	2.91	2.66	3.59
C.V.	**30.63**	**40.68**	**32.46**	**36.92**	**28.86**	**25.98**	**23.74**	**30.03**

Analysis of Budgeted Expenditure on Education (different volumes)

FIGURE : 4.7



4.8 EDUCATIONAL EXPENDITURE IN THE FIVE YEAR PLANS

Indian Planning has had to balance three competing claims as far as education is concerned The Constitutional obligation regarding eight years of compulsory education, the manpower needs of a growing economy and the insatiable demand for expansion of educational institutions [10]. Hence optimization of investment is a perpetual challenge. Constant review of the intra sectoral preferences and choice of a balanced sectoral investment are essential elements of the planning process. The pattern of expenditure can significantly be related to the developmental imperatives and also the reigning definitions of development.

[10] Vaidyanathan Ayyar. R.V. (1993) Educational Planning and Administration in India ; Retrospect and Prospect: *Journal of Educational Planning and Administration* Vol. VII , No 2.

The entire planning period, (considered for the study) from the1st to the 8th can broadly be divided into three phases of progression and regression of higher education expenditure with respect to other sectors of education.

The first phase extends from the 1st plan to the plan holiday. In the 1st FYP higher education received only of the total allocations made to the education sector as compared to 56 % to elementary education 13 % to secondary education and technical education. It showed a lopsided emphasis not only on elementary education but also on other layers of education. . The 2nd plan allocated 18 % of the resources to higher education, which was almost equivalent to the allocation to the secondary and the technical education sector. This was done because the need was felt to expand higher education due to constantly expanding base of elementary education and secondary education. Not only the number of colleges and universities increased (1050 & 46 respectively) but the UGC also took measures for the development of new department in universities in specialized fields of scientific study such as geophysics, astronomy, astrophysics, applied geology, oceanography, applied physics and animal genetics. In humanities, departments of Buddhist and African studies and institutes and departments were developed for studies in Hindi, linguistics social sciences and for archaeology, museology, music etc .The UGC also initiated a scheme for awarding post graduate and research scholarships. [11] Programs initiated in the second plan were continued in the third plan but the percentage allocation decreased to 15 %. During the plan holiday the percentage allocation was 24 %, which was equal to the share of elementary education, but in terms of absolute amount, it was RS 100 crore less than the 3rd plan. Thus it seems to be quite cl4ear that relative emphasis gradually shifted to higher education and technical education for the supply of manpower as it 3was a critical factor for economic development. (it was also during this period that a number of technical and management institutes were established like the REC's, IIT's , IIM 's etc).An additional factor fuelling it's expansion was the demands in the political markets for expansion of institutions of all types.

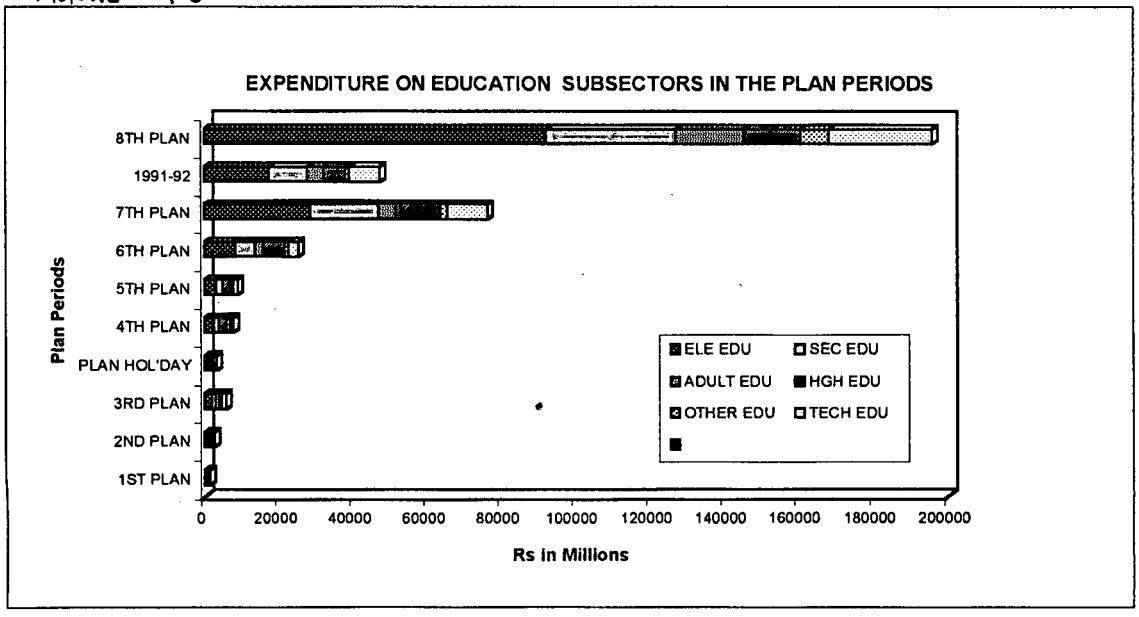
[11] The Third five-year Plan Document.

Table 4.9 Plan Expenditure on Educational Sub-sectors

	1st plan	2nd plan	3rd plan	plan	4th plan	5th plan	6th plan	7th plan	1990-92	8th plan
				holiday						
ele edu	**56**		**34**	**24**	**30**	**35**	**33**	**37**	**37**	**47**
	(850)	(950)	(2010)	(750)	(2390)	(3170)	(8360)	(28490)	(17290)	(92010)
sec edu	**13**	**19**	**18**	**16**	**18**	**17**	**21**	**24**	**22**	**18**
	(200)	(510)	(1030)	(530)	(1400)	(1560)	(5300)	(18320)	(10530)	(34980)
adlt edu	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**6**	**9**	**9**
							(2240)	(4700)	(4160)	(18480)
hgh edu	**9**	**18**	**15**	**24**	**25**	**22**	**22**	**16**	**12**	**8**
	(140)	(480)	(870)	(770)	(1950)	(2050)	(5590)	(12010)	(5880)	(15160)
others	**9**	**10**	**12**	**11**	**14**	**14**	**4**	**3**	**2**	**4**
	(140)	(300)	(730)	(370)	(1060)	(1060)	(1080)	(1980)	(1180)	(7510)
tech edu	**13**	**18**	**21**	**25**	**13**	**12**	**11**	**14**	**17**	**14**
	(200)	(490)	(1250)	(810)	(1060)	(1070)	(2730)	(10830)	(8230)	(278600)
total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
	(1530)	(2730)	(5890)	(3230)	(7860)	(9120)	(25300)	(76330)	(47270)	(196000)
(Figures in brackets indicate rupees in millions)										

Vaidyanathan Ayyar. R.V. (1993) Educational Planning and Administration in India ; Retrospect and Prospect: *Journal of Educational Planning and Administration* Vol. VII , No 2.

FIGURE : 4·8



The second phase – The recommendations of the Education Commission (1964-66) provided the framework for the formulation of the 4th plan, hence more emphasis once again shifted to elementary education also the emergence of "poverty economics" and the basic needs paradigms influenced the planners to pay more attention to minimum needs such as universal elementary education and not to be driven by growth oriented models which tended to play down social consumption, hence as decline in technical education allocations. Higher education allocation increased to to 25 % keeping in view the growth of enrolment, and emphasis on consolidation and improvement of higher education through strengthening of staff, library and laboratory facilities, funds to assist affiliated colleges so that they cater to more than 80 % of the university students. Stress will also be on post graduate education and research, the CAS (Center for Advanced Studies) which were intended to encourage the pursuit of excellence would be developed further and also some university departments will be allowed to grow as advanced centres for inter disciplinary research [12].Fifth Plan continued with the provisions of the preceding plan only the allocation came down to 22 % which was maintained in the 6th plan as well . The scheme of Scholarships continued in these plans and the area was enlarged to include medical scientific and industrial research education.

The third phase – trends of the 2nd phase gained strength in phase three with the enunciation of NPE 1986 and the Review Report in 1992. India's elementary education system by this time had expanded to one of the largest in the world. The quantitative expansion however could not be matched by the necessary investment for quality improvement and infrastructure facilities though allocations for elementary education were increased to 37 %. Secondary and technical education also witnessed an increase of 2-3 5 in the 7th plan. Higher education declined sharply from 22 % in the 6th plan to 16 % in the 7th plan, which further declined to 8 % in the 8th plan, which was even less than allocations made in the 1st plan. Initiatives however continued to be undertaken for the improvement of quality. Some of the NPE suggestions for higher education were creation of autonomous university departments and colleges, setting up of State Council of higher education enhanced support for research, establishment of an apex body covering higher

[12] The Fourth Five-Year Plan Document, 1969-74.

education in all areas. Based on these the UGC included more state universities in the list, who were to receive grants besides the Central universities, More than 3000 colleges were financially assisted for general development programs, around 300 departments received special assistance under different programs such as CAS, DSA's, and departmental research support. Some departments were assisted under the of COSIST (Coordinated Strengthening of Infrastructure in Science and Technology) Fellowships for all classes and sections of the society continued. An information and library network called the INFLIBNET was also proposed in the plan with a view to provide common research facilities and services of the highest quality b. Inter university centers in nuclear science astronomy. Astrophysics and atomic energy were established. Apart from these it was also proposed to establish inter university centres in emerging areas biotechnology atmospheric science, oceanography electronics and computer science etc, also constitution of a working committee to improve undergraduate courses at Indian universities was proposed [13]. Several programs were initiated to improve the quality of higher education. These included faculty development through establishment of Academic Staff Colleges, CAS were continued in a number of universities, the scheme of university science instrumentation centres were expanded model curricula were produced in the Curriculum Development Cells in different subjects and for quality improvement through a systematic assessment procedure, the NAAC (National Accreditation and Assessment Council). Also to make higher education relevant, many career-oriented courses were introduced as a part of the 1st degree program.[14] The Ninth Plan also treated education as the most crucial investment in human development. As far as higher education was concerned priorities were set mainly to serve the un served areas and using financial assistance as a leverage to secure better performance of the system, updating of syllabi to enhance their relevance and improvement in internal resource generation and a model code of governance to reduce non-academic influence in higher education system[15]. As the emphasis has shift more to internal resource generation by institutes of higher education Governments support has taken a receding trend. As from the first phase to the second, the increase in the amount on higher education was more than secondary

[13] The Eighth Five Year Plan Document. 1992-97.
[14] The Ninth Five Year Plan Document, 1997-2002.
[15] *Ibid.*

and technical education but from the second to the third phase it declined to the lowest of all (see table 4.10).

Table 4.10: Total Expenditure on Education Sub-Sectors in three Plan Phases (in Million Rupees) (Current Prices)

	1ST PHASE	2ND PHASE	3RD PHASE
ELE EDU	4560	13920	137790
SEC EDU	2270	8260	63830
HGH EDU	2260	9590	33050
TECH EDU	2750	4860	46920
	INCREASE FROM THE PREVIOUS PHASE		
ELE EDU		9360	12380
SEC EDU		5990	55570
HGH EDU		7330	23460
TECH EDU		2110	42060

Computed from Table 4.9

The conclusions that emerge from the above analysis are as follows:

1) The efforts made by the Centre and the state in promoting education and higher education is indeed shown in the rising share of their expenditures an percent of GNP, but the two things that off set the increase are ; one, the rise in prices that have led to a decline in allocation in real terms , both for education and higher education , and second , the rise in the population at the national level and also individually for the states

2) The states which have a experienced a high growth of population in the recent decades and rank high in the population tables like Bihar, Uttar Pradesh, West Bengal, Gujrat, Maharashtra , have a low percent of allocations with respect to

their SDP (around 3-4%), as compared to smaller states like Punjab and Haryana which also have around the same percentage of allocations. Though the size of the SDP may also be large for the larger states , the large size of population make the difference

3) Since the Analysis of the percentage share is affected by the size of population, the per capita figures for all the states have been considered together and the change analyzed in terms of elasticity of education and higher education expenditure with relation to GNP shows that education expenditure per capita has grown more (2.95%) than higher education expenditure (2.13%). For the Centre also the educational expenditure is more elastic than higher education expenditure (2.71% and 2.01% respectively). It shows the committed priorities of the Center to first of all provide elementary education to all. That is educating the masses first.

4) The state level analysis also shows that the coefficient of variation for allocation to education from SDP has declined over time period of analysis , but for higher education , it declined , but again increased to the earlier levels. This might be due to the changing priorities of the states in terms of bringing about development .Like, the states like Punjab, Haryana, Gujrat etc are developing on the basis of the agriculture , hence it seems to be quite obvious that they have a larger share of SDP devoted to developing agriculture infrastructure . The other category of states include the industrialized states , which have witnessed a growth in the number of industries set up by the multinationals , hence they have a larger share of their SDP devoted to build up infrastructure so as to attract them to set up the industries. The underdeveloped states like Bihar and Orissa suffer on account of

mismanagement of funds , and lower allocations from the Finance Commission as needed by them.

5) Sub-sectoral allocations show that the clear cut priorities are lacking in terms of planning and allocations are made in a haphazard manner , though despite the fact that higher education is significant in terms of building the intellectual capacity of any Nation.

CHAPTER 5

TRENDS IN FINANCING UNIVERSITY EDUCATION

5.1 INTRODUCTION

This chapter aims to study the framework of finances that is available to the universities from governmental and other non-governmental sources accruing to its income. It also studies the expenditure part in terms of major items of expenditure. Under this broader perspective, it analyses the income and expenditure patterns of the state universities for three time periods; 1976-77, 1986-87 and 2001-02 – to see as to what changes have taken place in the contribution of sources to income and the changes in composition of expenditure. The data constraints that this study had to face have been mentioned before the analysis.

The higher education system in India has constantly striven to build universities as places of culture and of learning open to all and, above all, reinforcing the theme of learning throughout life. Participating in and contributing to major debates concerning the direction and future of the society is seen as a major task and a moral obligation of the university system.

Together with the expectations and perceptions of the academic community the functions of higher education system and university education have changed today. Today they are considered to be:

a) Providing education and training within a structure integrating research and instruction;

b) Providing professional training;

c) Carrying out research in a broad range of disciplines and training qualified people for all fields of employment;

d) Playing a part in regional development and developing international contacts;

e) Fostering the intellectual and social development of the society.[1]These aims, however, have been broadly set to achieve social efficiency. The core issues of **functional efficiency** are:

- Structuring university management on the principles of self-governance based on participation, decentralization, autonomy and accountability.
- The main Act of a university should lay down the structure and organization in broad terms and statutes and ordinances may prescribe the relevant details.

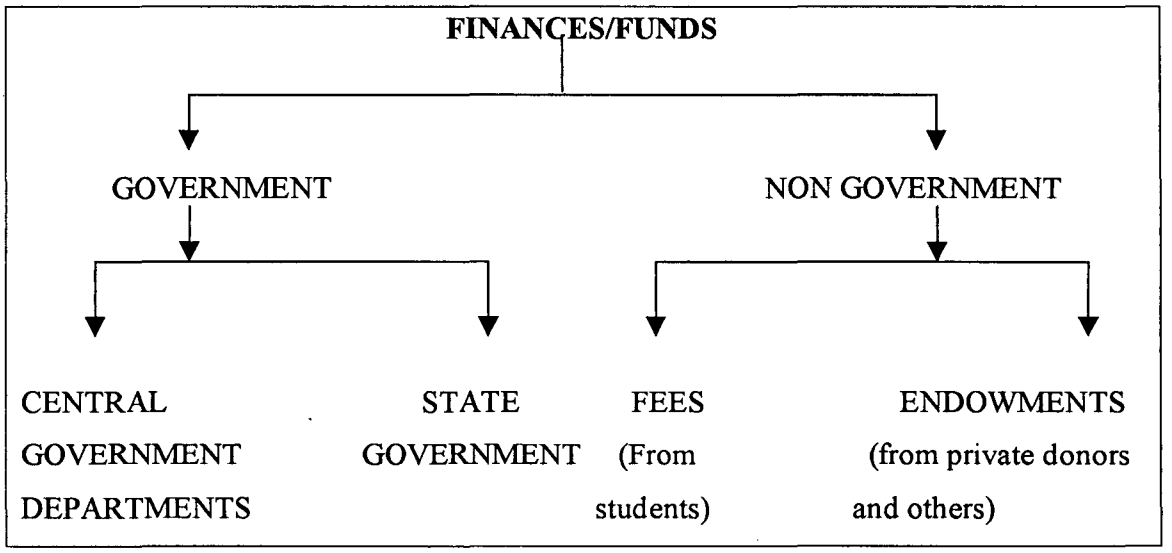
Functional efficiency is dependent on resource adequacy and that is where the investment aspect sets in. The trends in the finances of University education are closely linked with the trends in education. On account of the single entry system, which is generally prevalent, a tremendous expansion at the first level of education and high transition probabilities especially from the school system to higher education has experienced a very large increase in the recent past, which seems to be mainly under inertia. Lack of checks in terms of adequate employment opportunities have led to an increase in higher education enrolment as it has almost become like a tool of differing unemployment.

The investment aspects can be studied under the two broad heads of income and expenditure.

[1] Sanyal, B.C. (1994) 'Excellence and Evaluation in Higher Education: An International Perspective', *Journal of Educational Planning and Administration*, vol. 3 (1), p. 2.

5.2 INCOME

The various sources of income finances for the university system can be understood from the following chart:



The government sources remain a major source of revenue in the absence of new sources. Therefore it is a necessity to plan public financing in such a way that the basic principles of financial soundness are kept in mind like adequacy, built in flexibility and financial autonomy thereby meaning freedom of universities to mobilize, utilize and accumulate funds[2]. Also the 'personal circumstances' of the individual institutions should be given fair consideration.

There is a multiplicity of public sector bodies disbursing funds under different systems. The UGC and the departments of the central and the state governments are the chief public sector bodies making grants to the universities.

[2] Panchamukhy P.R. (1975), Studies in Educational Reforms in India, vol 5.
[2] Education and National Development Report, (1966)-page no. 305.

5.2a Resources from the Government

The method of financing by the government has been in the following forms[3]:

- Maintenance/non plan/ block grant by the state government for running the institution, i.e., maintenance of facilities faculty positions or the already created units during the previous plan. The finance commission governs the non-plan expenditures, and the state universities receive it from the state government, whereas, the central universities, deemed to be universities get it from the UGC. It is this system of grant that has exerted greater influence on the growth and functioning of these institutions.

- Development grant / plan grants given by the UGC for the state, central and deemed to be universities. By and large plan grants are made for the creation of a new facility, faculty position or unit. It is through the Planning Commission that the agencies like the UGC get their funds.

The ways in which these grants in aid are released from these public sector agencies are:

5.2b State Governments

The state governments finance only the state universities, which are in majority and enroll about 95% of the students in higher education and the latter obtain grants for 3 purposes[4].

a) For matching share on developmental grants given by the UGC, i.e., they have to contribute an equal amount on the development grants given by the UGC. Though UGC can provide grants on a 100% basis, this has been done to arouse the interest of the state governments to develop higher education.
b) Non-plan grants for university development.
c) Grants for committed expenditure.

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[3] Sharma G.D. (1989): Higher education in India. p 346
[4] Education and National Development Report (1966). Op. cit.

The latter two form the bulk of the total financial resources available to the universities. The main system of the grant in aid from state governments to the universities is of the following types[5].

1. Block grants / maintenance grants:[6] These are determined by the state governments for a specified period ranging from 3 to 5 years. They are subject to increase on account of rise in costs. The two main ingredients of a block grant are,

a) Fixing of the amount on the basis of net deficit (block deficit grants) of the university on approved items for the previous year plus some increase on account of the rise in costs. This however creates several problems in practice and the defects that have been pointed out by Azad[6] are:

- It is arbitrary and does not take all the items of expenditure as approved items. Further the basis of deduction made on account of those items is not intimated to the institutions.
- It does not offer any incentive to the institute to show good results or effect efficiency in management because the grants are available on the basis of the deficit and not on the basis of the academic or administrative efficiency of the universities.
- It leads to uneconomical spending leading to extravagant expenditure. In most of the states, the deficit is calculated on the basis of the previous year's expenditure, which is not an appropriate guide for the purpose.
- Time lag in the budget approval and budget needs of the university.
- Sudden cuts made in the budget such that the university cannot even incur any recurring liability, however small without the prior approval of the government.

b) The frequency of revision[7]:

These are considerable variations in practice here when the amount of block grants is specified in the University Act itself and is made statutory the system becomes

[5] Ibid p. 305.
[6] Azad J.L (1975), Higher Education Finance in India, Sterling, p146.

inelastic. The grants remain fixed for years and the development of university is retarded. The non-statutory block grants are revised sometimes triennially and sometimes quinquennially. But in a majority of cases they remain unchanged for much longer periods.

The block grants therefore hardly cover all the requirements arising from the need to modernize facilities and to cope with inflationary pressures.

2. Development grants: These are given mainly on a matching basis to enable the institution to lift assistance given by federal agencies like the UGC.

3. Non-recurring grants: These are given for buildings, equipment etc., i.e., mainly capital expenditure. The Kothari commission mentioned three essential conditions to institute a better system of grant in aid. Firstly, ensuring against too much control and rigidity of approach of the grant giving authority. Secondly, exercising utmost vigilance and economy in utilization of public funds by the grant receiving bodies. Thirdly, ensuring sufficient elasticity in the system to leave some scope to the universities to experiment with new ideas and projects.

The recommendations of the Kothari Commission for the reorganization of the grant in aid system on the basis of a system of block grants were,

- Fixations of a block grant for a short period say 3 to 5 years.
- Provision for inevitable increase of expenditure during the period of grant
- Payment of special grants during this period for unforeseen development.
- A 'Cushion' to be left to the discretion of the universities so that they can have a fund on which they can freely operate. One way of provision of this cushion would be by taking into consideration only the 'standard' fees, the cushion consisting partly of the difference between the standard and the actual fees.

[7] Education and National Development Report, *op. cit.*

The National Policy on education (1986) suggested the setting up of a council in each state to deal with the problems of higher education and free from pulls which dominate at this level so that, it can act as a buffer or channel of communication between the state government, UGC and the institution. It would advise the state government and the institution on enrolment policy, provision of adequate infrastructure facilities, fixation of fee rates for different courses and measures to augment additional non-governmental resources, could formulate plans for overall development of higher education, monitor the existing plans and allow for experiments and innovations in all aspects of administration.

However, much has not changed since then and even now, a well-conceived policy on higher education is lacking. Under the existing system of grant in aid as the main thrust of it is on administrative and financial aspects rather than achievement of academic excellence in institution. As a consequence, the emphasis appears to be more on regulation than on development[8].

Also as the conditions for the award of grants are becoming more stringent, the university authorities are advised time and again of the necessity for cuts in expenditure and that too on activities, which range high on academic priorities. While the growth of state funds is under control, the growth in enrolment is guided by different sets of considerations, which do not necessarily govern the flow of funds. There is no guarantee that the universities especially in the cities and metropolitan areas can count on increased grant from the state government if they are asked to take in more students and / or the universities affiliating jurisdiction is extended.

5.2c. Central Government

The Central government also has a role to play in a federal set up in the higher education arena. The inclusion of 'education' in the concurrent list and the emphasis given by the NPE (1986) on more responsibilities to be shared by the center on account

[8] Balachander K.K (1989): 'Wanted: A more meaningful government varsity partnership' *University News* Vol. XXVII (40), p10.

of its superior resource position have further stressed on the active role to be played by the center. Though the Department of Education under the Ministry of Human resource development directly funds institutions of higher technical education, it provides grants to the UGC, which is in turn given to the university.

The **UGC**[9] is a statutory organization established by an Act of Parliament in 1956, for the coordination, determination and maintenance of standards of university education. The commission has its own fund called 'Fund of the commission'. All sums, which may be paid to the commission by the Central government and all the receipts of the commission, are carried to the fund and all payments by the commission are made form there.

The UGC Act empowers the commission to allocate and disburse funds out of the fund of the commission to universities (apart from colleges and other institution of higher education) in the form of maintenance (non-plan) and development (plan) grants through various programs of the commission.

The non-plan grants are meant to meet the recurring expenditure on salaries of non-teaching and teaching staff, for maintenance of laboratories, libraries, buildings and also for obligatory payments such as taxes, telephone bills, postage, electricity. Non-plan support is also provided for other specific purpose for these institutions. The plan grants are meant to improve the infrastructure and basic facilities in universities to achieve at least the threshold level and to develop excellence in those who are already ahead.

Though the Radhakrishnan Committee on university education (1948) never mentioned for special consideration for Central universities (it stated that the UGC was responsible for all Indian Universities for developmental and maintenance assistance) the separate kind of treatment resulted only after provisions were made for it in the UGC Act of 1956.

[9] UGC-Annual Report : 2001 (Higher education) p9.

Of the total 176 state universities all those set up after 17th June 1972, are ineligible to receive any grant from the Central government UGC or any other organization receiving funds from the Central government unless the commission satisfies itself that such a university is fit to receive grants. At present 116 universities (excluding medical and agricultural universities) are eligible for receiving developmental grants from UGC[10].

UGC and Central universities: The Central universities obtain all maintenance and development grants from the UGC. These universities have a statutory finance committee comprising apart from others representatives of the UGC and the government of India (MHRD), which prepares the financial statement highlighting the resource needs.

The amount of grant payable for maintenance is determined on " Covering the deficit basis (i.e., income generated by the university is deducted out of the actual expenditure incurred and the remaining amount sanctioned), the pattern of funding roughly being 50 % grants for salaries and 50 % for meeting other expenses. Moreover, this system has led to the development of some unhealthy trends[11].

Since income generated by university is deducted from the total expenditure, there is no motivation for any university to generate additional resources by innovative methods. As the sanction is based on the expenditure incurred during the previous year universities tend to utilize all the amounts sanctioned to them and are unable to build up reserves of the grants made from public funds. The whole funding process is based on expenditure incurred in the previous year rather than on actual need and performance to be achieved during the current year.

UGC and State universities: The state universities obtain their development grants mainly through UGC. The UGC appoints visiting committees to assess the needs and requirements of the universities for developmental projects during a plan period and

[10] UGC-Annual Report, *op. cit* p34
[11] Muralikrishna.P (1993) :'Financial crisis in Central universities'*University News*- Vol XXX1 (18).P2.

sanctions grants in-aid on the basis of the recommendations made by the committees. Majority of the grants require matching grants from the state governments. Difficulties arise in some cases when the state governments sometimes are not prepared to provide the committed expenditure arising out of the developmental programs undertaken by them with assistance from the UGC, sometimes lack of coordination also arises when state governments refuse to oblige to provide such expenditures, as they feel they have not been consulted by the UGC. Also the UGC does not take into consideration the adequacy or in adequacy of state grants. Hence there are not only resource inadequacies but also procedural deficiencies, which is not in the case of Central universities.

Recently however, grants are being given to state universities under various schemes like jubilee grants to institute completing anniversaries of more than 25 years for activities requiring capital expenditure, special one time grants for upgrading existing laboratories and libraries under special scheme of up graduation, special grants for earthquake and cyclone relief to meet the rehabilitation and damage repair programs to the concerned states, development assistance to post graduate centers of various universities etc.

The UGC has also established Inter university centers to provide common facilities services and programmers to universities since heavy investment in infrastructure and inputs have made it beyond the reach of individual universities to obtain these facilities. Some examples of it are Nuclear Science Center, New Delhi. Inter Universities center for Astronomy and Astrophysics, Pune, Information and library network Ahmedabad etc.

It has also set up center as national facilities in selected universities such as western regional instrumentation center Bombay, Crystal growth center, Chennai etc.

5.2d Non-governmental Sources:

Endowments and others:

At the beginning, the private initiative (from individuals and organizations) was taken to set up educational institutes to serve the society. It was prompted by either by philanthropy or by consideration of self-interest such as status in society. This through endowments for non recurring expenditure in the form of land, buildings, equipment etc., and generous donations educational institute were established which were basically 'founded funded and run by private agencies funded partly government sources'. But with increase in demand for education and rise in recurring and non-recurring cost of providing education, the private efforts declined.

These donations had certain implications as their recipient had to abide by the stipulations of the donors, thus sacrificing the autonomy to some extent. The major tangible determinants of donations however, may be listed below[12].

- The present value of the monetary gains from the job market accruing to the donor over his lifetime.
- The present value of tax savings on account of the deductibility of the donations from income.
- Needs for non-governmental funds as experienced by different educational institutions.
- The extent to which the donations are in line with the plans of development of the educational institutes so that donations do not curtail the autonomy of these institute.

Fees:

Since education is considered to be a merit good and educational institutions are considered to be non-profit making bodies, they cannot enter into sale of services produced by them. It is implied that funds should come from sources other than the

[12] Panchamukhy.P.R(1975) op. cit. p 69

receivers of education; hence fee rates in India have been inelastic upwards, despite the rise in prices. There is no provision under the present system for occasional revision of fee rates (major earners being tuition fees and exam fees).

There are also discriminations on the grounds of the kind of institute where fees are charged. As the present system of low tuition fees involves a substantial amount of subsidy in education, the more expensive courses are given more subsidies, such that central universities are more subsidized than state universities and the technical and professional get even more concessions than central universities. These subsidies are quite large if the indirect benefits in the form of subsidized hostels, boards, food, transport facilities are taken into account. Hence, it seems to be quite clear that the existing fee structure in India is not related to the cost of providing different courses. A study by Mundle and Rao[13] showed that education accounted for 59.57% of the total revenue expenditure on social services, but the total recovery rate in it was only 1.30 % as compared to 3.65 % for all the social services. The subsidy on education as % of total subsidy on social sector was 22.63 %. For higher technical and university education revenue expenditure was 11.36 %, recovery rate was 1.71 % and subsidy was 4.33 % of the total subsidy. Even in the case of states individually, the recovery rate varied between 1-2 % and subsidy as % of total subsidy varied between 25 and 40 %.

Table 5.1: Subsidy on Education in India, 1991

	Development Expenditure (Rs. Crore)	Total Cost of Service (Rs. Crore)	Total Recoveries (Rs. Crore)	Recovery Rate	Subsidy as % of total subsidy
Center	1241	1281	8	0.59	3.01
States	8336	8422	118	1.41	19.62
Total	9577	9702	126	1.3	22.63

Source: Mundle.S. & M.G.Rao,(1991):Volume and Composition of Government Subsidies in India,1987-88, *Economic and Political Weekly* .

[13] Mundle.S & G. Rao (1991): 'Volume and composition of government subsidies in India'. *Economic and Political Weekly* ,May 4; pp1161-1166.

The UGC has itself stated elsewhere against such huge subsidies pointing to the fact that "more than 80 % of the beneficiaries of university system are drawn from the top 30 % of the income group" and also as the subsidy is largely paid out of indirect taxes (forming about 85 % of the total tax revenue) the incidence falls mostly on the low income group. Various methods to make the cost recovery through fees more efficient have been discussed in the relevant contexts later so as to reduce the amount of subsidies.

5.3 DATA LIMITATIONS IN THE ANALYSIS

After having discussed the main sources of funds to universities, now the trends and components of the total income of the universities will be analysed. Before proceeding to that it would be apt to discuss the limitations that were faced in the analysis.

1) The data pertaining to income and expenditure of universities for the states were published in series by the MHRD for only two time periods 1976-77 and 1986-87. Since the responsibility of collection and publication of such data was transferred to the UGC in the late eighties, much effort has not been taken by the latter to collect data of such a nature. Hence only these two time periods have been considered
2) Data for the individual universities pertaining to the income and expenditure have been collected only recently and is still under scrutiny before publication .As such a set of 19 state universities have been taken as a sample to see the trends of income in universities in 2001-02.
3) The data availability restricted the choice of the universities, as such they may not be very regionally representative
4) The income trends of one central university and two deemed universities have been compared to show the difference or the kind of gap that exists between central state and deemed universities.

5.4 ANALYSIS OF INCOME:

The all India figures for the state universities showed that over time the dependence on the state government grants have increased from 48.98 % in 1976-77 to 51.15% in 1986-87. The figures for the sample universities stood at 42%, thus indicating towards the increasing dependency on the state grants.

1. The central government departments also give some grants for certain projects in different universities, however it accounts for a very meager percentage of the total income .It was 6% in 1976-77, 9.38 % in 1987-88 but for the sample universities it is as low as 1%. Roughly however, income from the government sources comes to about 50% of the total income and more worrisome is the fact that the percentage contribution is on the rise .A major chunk of the government fund goes to meet the recurring expenses which is not a healthy trend.

2. The funding from UGC has almost remained static for the first two time periods (13.47 & 13.19%) respectively for 1976-77 and 1987-88 though for the sample universities it is as low as 1 % in 2001-02. This may be because more than half of the funds of UGC are utilized for funding of central universities and some portion of deemed universities, both under recurring and non recurring heads thus leaving very little for the most vast network of universities.

3. One of the main area of concern however remains the declining resources from local boards, endowments, fees and universities' own generated resources .The contribution of local bodies has declined from 1.06 % to even less than unity (0.79%) in 1986-87 and it's as low as 0.10 %in 2001-02 for sample universities. Endowment percentage has declined considerably from 9.15 % (1976-77) to 6.65 % (1986-87). This trend may be attributed to the larger role of being a 'Welfare State' by the government and also because private interests (tax concerns of the donors) became more important than public services.

The universities' own resources remained static almost for two time periods (1976-77, 1986-87) and the fees contribution declined marginally from 12.88 % to 11.20 % from 1976-77 to 1986-87 as there were no incentives given for innovative methods of resource mobilization to the universities, hence the attitude towards it became more laid back. Though fees are charged in various forms, the rates have hardly changed to positive.

For the sample universities, however, the fees contribution is as high as 39.59%. The reason for it could be the introduction of new courses which require better infrastructure facilities, hence more recovery of the cost through fees, especially universities like Guru Nanak Dev, Bharatidasan, Madurai Kamaraj, North Maharashtra and Bangalore universities have a higher contribution of fees to the total income. These, however, may be treated as exceptional cases as there are also examples of the other extreme like Ravindra Bharati and North Bengal University where contribution of fees is minimal. Both these universities belong to West Bengal and notably for the previous two periods West Bengal recorded a very low rate of collection (11.8% in 1976-77 which further declined to 5.1% in 1986-87).

FIGURE 5.5: SOURCES OF INCOME OF UNIVERSITIES IN INDIA (1976-77)

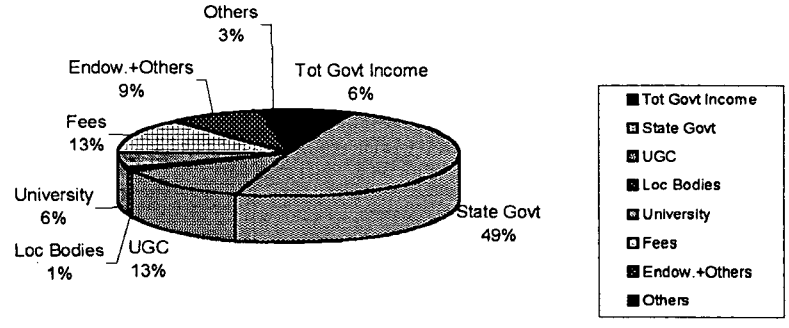


FIGURE 5.6: SOURCES OF INCOME OF UNIVERSITIES IN INDIA (1986-87)

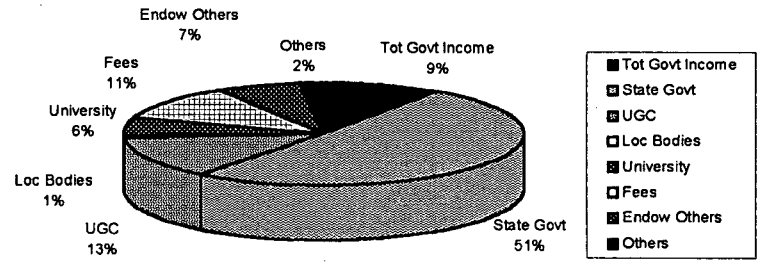
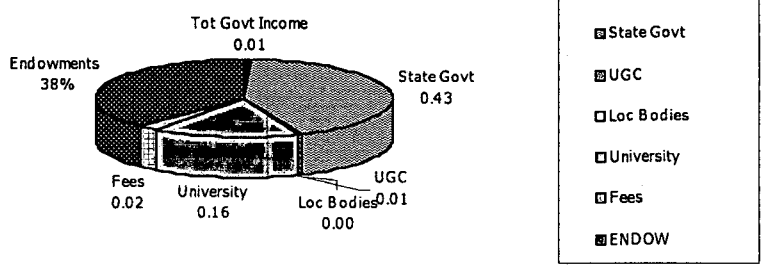


FIGURE 5.4: INCOME FROM DIFFERENT SOURCES IN THE SAMPLE UNIVERSITIES (2001-02)



A state-wise analysis for other sources of income reveals that though overall the percentage contribution from the government has increased, it has increased in a larger proportion for some states like Andhra Pradesh (61.45% to 64.35%), Assam (50.92% to 52.49%), Bihar (73.83% to 77.31%), Gujarat (34.35% to 58.93%), J&K (62.67% to

75.60%) and Punjab (63.36% to 75.47%). But for some other states it has marginally declined except for West Bengal where there was a considerable decline from 54.27% to 28.35%. The decline from fees contribution as well as government inputs have been compensated in West Bengal by a considerable rise in mobilization of resources through university's own sources which rose from a meager 1.8% in 1976-77 to 24.07% in 1986-87. The universities sources of income generation include sale of publications, application forms and prospectus, rent for university quarters and buildings, recovery for electricity and water charges, receipts of the printing press etc. But there seems to be lack of motivation to make them more remunerative.

or all other states the contribution from this source remained marginalized below 10%. Though in the initial period UP, Tamil Nadu, Karnataka and Madhya Pradesh generated some income from this source it declined significantly in the next period, which indicates the loss of interest of the university authorities to strengthen the system so that it becomes more productive. Contributions from UGC have remained unequal in terms of allocations to the states ranging from a high of 21.69% for UP to 3.645 in Assam and 0% in Maharashtra in 1976-77. The reason could be to an extent the self-sufficient system in Maharashtra where recovery through fees is on the higher side and contribution from endowments is more. However, in 1976-77 the UGC share declined for all the states except for West Bengal and UP which may be because of growth of enrolment in these states at a much higher rate to cope up with the pressure to horizontally expand the system in these states.

Endowments as a source of income has had a lower contribution since the beginning and it has declined over time which could be due to the responsibility being undertaken by the government and the tax concerns of the individual donors.

The other sources of income in the universities include rent from university staff quarters, shops, canteens, etc. These however account for even less than 5% of the total income accruing to the universities and have shown a declining trend.

Thus it may be concluded that:

1. The universities in India are functioning under financial stress in the scene of increasing enrolments and decreasing incomes.
2. The universities' own sources of funds have been least effective in reducing the severity of the financial tensions and they have not been able to create net surpluses.
3. Stickiness of fees in the upward direction and a general hike in the material costs has largely contributed to the declining importance of the own sources of funds.
4. The dependency on public funds made by public bodies has been increasing for both recurring and non-recurring purposes.
5. The public bodies and university's financial relations have many complexities like multiplicity of the grant system, resource assessments and actual requirements, 'personal circumstances ' of the universities, dichotomy on plan and non-plan requirements, which affect the inflow of funds.

5.5 EXPENDITURE

t constitutes the other half of the total framework of finances and it's analysis reveals the items of expenditure which are fruitful investments and which are not.

An analysis of university expenditure will be done by a decomposition analysis to study the components of expenditure so as to understand:

1) The relative position of recurring and non-recurring, as well as consumption and investment expenditure in higher education.
2) The relative percentage of expenditure on some of the important items like teaching staff, scholarships libraries, buildings etc in the universities.[14]

The two different types of expenditure incurred by a university are: -

a) Recurring Expenditure / Current Expenditure including wages and salaries of academic and non academic staffs, books and stationers, equipment and furniture, repair of buildings and equipments, sports, culture, scholarships etc.

b) Non Recurring Expenditure /Capital Expenditure including construction / extension of buildings and libraries. [15]

In order to increase the comparability of the data from one time period to another, the items of expenditure have been clubbed to form broader items. For example, the expenditure under teaching and non teaching heads have been kept as it is but the total recurring and non recurring expenditure on buildings, libraries, laboratories, furniture, apparatus, chemicals and consumable stores have been clubbed to form the total development expenditure, where the maintenance part refers to the recurring amount. Similarly, the welfare expenditure includes expenditure on games, health, cultural and student's union activities. As for the period of 2001-02, the fund have been separately earmarked for scholarship and not included in the budget of universities unlike the previous year data set. So the portions where scholarships have been considered in the previous years have been replaced by grants given by the universities to the colleges. The other recurring expenditure includes expenditure on common services and general charges, water electricity, postage, stationary etc and the other non recurring expenditure includes expenditure on refresher courses, visiting professors and guest lectures, establishment of Academic Staff Colleges, institution of INFLIBNET etc

5.6 EXPENDITURE ANALYSIS

Salary component constituted the bulk of total expenditure (> 45 %) and has shown a rising trend. It was 44.3% in 1976-77, rose to 52.50 % in 1986-87, and 51.40 % in 2001-02 in the sample universities, Further decomposition analysis shows that there has been tremendous increase in the salary of teaching staffs as more than 60% of the total expenditure on salaries goes to the teaching staffs. Seperately for the states more

[14] Azad.JL (1975): Overall Expenditure in Higher Education p31.
[15] Ansari.M.M. (1989) 'Resource Allocation And Financial Accountability Of Universities' *University News* vol XXVII (40) p17

than 50% of the total salary expenditure on salary is constituted by the teaching staff salary barring a few states.

The next item, which consumes a major chunk of expenditure, is the recurring expenditure on essential common services and general charges (mentioned earlier). It stood at 24.84% in 1976-77 and almost remained stagnant for the next period, changed marginally to 25 % showing very little variation in 2001-02 for the sample universities. States in the period of the 70's and the 80's also show the same trend, barring a few states like Bihar. J&K, Orissa and Punjab where it's share is around 15 % .

The total developmental expenditure formed about 21.86 % of the total expenditure in 1976-77 which however declined sharply to 12 4 % in 1886-87 and for the period of 2001-02, it stood at 20 %. By further decomposing the data between recurring and non-recurring expenditure, it was found that the recurring portion of it has increased over time. It was 37.85% of the total developmental expenditure in 1976-77, which rose to 46.26% in 1986-87. Even at the state level , it constitutes for more than 50% except a few states like J&K , Karnataka, Haryana etc.

The welfare grants / College grants account for a meager percentage of the total expenditure, between 1 and 5 % and that too has shown a declining trend over the years. The non-recurring expenditure has improved marginally from 3.65% in 1976-77 to 7.51 % in 1986-87and for 2001-02, the figures was 5 %.

The analysis at the state level shows that the salary component was above 40% in most of the states in 1976-77 barring Kerala where it was only 20.57%. Though the student teacher ratio is also less here, it cannot be logically concluded that higher the expenditure on salary, lower the student teacher ratio as the correlation figures for the two time periods do not suggest this. Also for all other states the expenditures are high as well as the student teacher ratio. In 1986-87 there has been a mixed growth. For some states like, Assam, Bihar, West Bengal, Rajasthan, Punjab etc. there has been significant increase in the expenditure on salaries. In other states like Andhra Pradesh and

Maharashtra it has declined marginally. For the sample universities the contribution varies between 25-65% showing large variations in the recruitment pattern of individual universities. A decomposition analysis between the salaries of teaching and non teaching staff shows that it is the non teaching staff salary that is consuming the highest resource. Except in case of Rajasthan, Bihar and Orissa where for both the time periods the expenditure is more on the salaries of teaching staff.

The total development expenditure (expenditure incurred on construction and maintenance of libraries, laboratories, furniture, buildings, etc) has declined from 1976-77 to 1986-87. It varied between 16% in Punjab to 38% in J&K and 40% in Karnataka in 1976-77 to 3.7% in Assam and 3.42% in Rajasthan to 20% in Tamil Nadu and 34% in J&K in 1986-87. The universities in 2001-02 also show the same trend where expenditure varies between 6% in Madurai Kamaraj to 33.35% in North Maharashtra University.

Expenditure on other items such as welfare, scholarships, college grants and other non-recurring expenditure generally forms around 10-15% of the total expenditure on university education and its share has not shown much variation over the year

FIGURE 5.1: EXPENDITURE DETAILS OF UNIVERSITIES IN INDIA (1976-77)

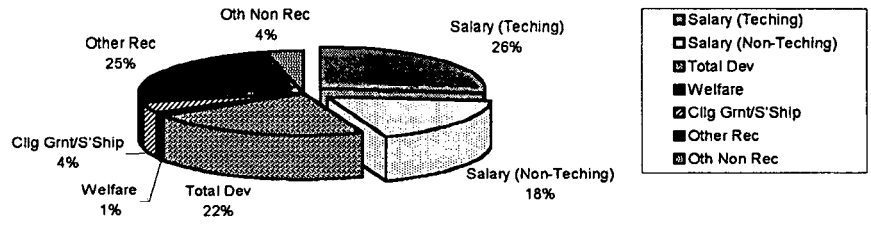
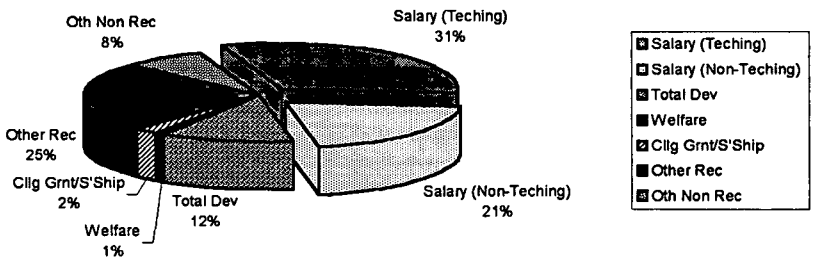
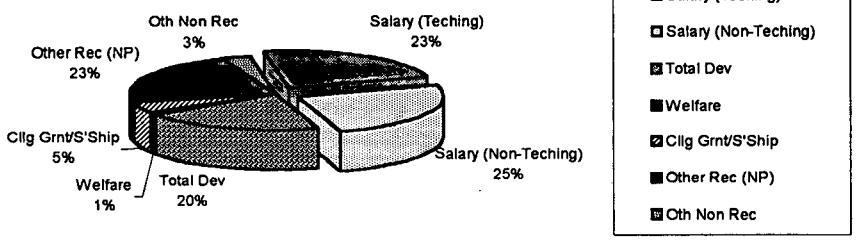


FIGURE 5.2: EXPENDITURE DETAILS OF UNIVERSITIES IN INDIA (1988-87)



FIGRURE 5.3: EXPENDITURE DETAILS IN SAMPLE UNIVERSITIES (2001-02)



EXPENDITURE DATA	1976-77		1986-87		Univs 01-02	
	Absolute figs	%	Absolute figs	%	Absolute figs	%
	(RS in thousands		(RS in thousands		(Rs in lakhs)	
Total Expdt	**1354709**	**100**	**4961969**	**100**	**62651.88**	**100**
Salary Total	600169	44.3	2600507.0	52.4	32266.8	51.5
ST	360095	26.6	1578661.0	31.8	13410.6	21.4
SNT	240074	17.7	1021846.0	20.6	14736.7	23.5
Total Dev	**296256**	**21.9**	**615339.0**	**12.4**	**11640.8**	**18.6**
% Rec	112155	8.3	284696.0	5.7		0.0
Welfare	**18032**	**1.3**	**41911.0**	**0.8**	**638.7**	**1.0**
Cllg Grnt/S'Ship	**54237**	**4.0**	**106013.0**	**2.1**	**2897.8**	**4.6**
Other Rec	**336519**	**24.8**	**1225432.0**	**24.7**	**13401.4**	**21.4**
Oth Non Rec	**49496**	**3.7**	**372767.0**	**7.5**	**1806.3**	**2.9**

INCOME DATA	1976-77		1986-87		2001-02	
	Absolute figs	%	Absolute figs	%	Absolute figs	%
Total Income	**1543936**	**100**	**5269543**	**100**	**46367.157**	**100**
Tot Govt Income	92656	6.0013	494355	9.38136	362.05	0.78083
C	20461	1.3252	105562	2.00325	24.12	
M	72195	4.676	388793	7.37812	305.02	
State Govt	**756270**	**48.983**	**2695624**	**51.1548**	**19811.73**	**42.7279**
C	102508	6.6394	265439	5.03723	18774.31	
M	653762	42.344	2430185	46.1176	1037.4	
UGC	**208005**	**13.472**	**695154**	**13.1919**	**287.26**	**0.61953**
C	75805	4.9099	199415	3.78429	287.26	
M	132200	8.5625	495739	9.40763		
Loc Bodies	**16420**	**1.0635**	**41733**	**0.79197**	**48.87**	**0.1054**
C	314	0.0203	1427	0.02708	11.32	
M	16106	1.0432	40306	0.76489	37.55	
University	**90259**	**5.84**	**292419**	**5.54923**	**7358.34**	**15.8697**
C	8936	0.5788	22888	0.43435		
M	81323	5.2673	269531	5.11488		
Fees	**198995**	**12.889**	**590673**	**11.2092**	**958.337**	**2.06684**
Others + Endow	**141388**	**9.1576**	**350844**	**6.65796**	**17540.57**	**37.8297**
Others	**39993**	**2.5903**	**108741**	**2.06358**		

The conclusions that emerge from the above discussion are:

1) Around half of the total expenditure is accounted for by salaries of teaching and non-teaching staffs in all the time periods and the trend has been maintained.
2) The proportion of expenditure on non-salary support services is on the decline thereby indicating inadequate financial provisions for physical facilities in universities.
3) The total expenditure on development has a high variation across the states, which has increased over time.
4) Development expenditure may not necessarily be related to student enrolment as Maharashtra with a high enrolment proportion has one of the lowest expenditure on development in the recent periods.

This is the broad statistics of income and expenditure of the state universities in India. The ways in which financial soundness can be achieved or the prescription needed to improve the financial health of the university like decreasing the expenditure and augmenting the resource base have been discussed in the next chapter.

CHAPTER 6

ALTERNATIVE SOURCES OF HIGHER EDUCATIONAL FINANCE

The previous chapters made an effort to diagnose the past and the present patterns of financing of higher education in India and also the present financial crisis being faced by the university system in India and that is largely becomes the government's responsibility of higher education financing is continuously increasing but the government's enthusiasm, willingness, and of course the capacity to continue to shoulder this burden is declining over time.

Continued reliance of university is (almost to the point of totality) on government funds has had a very depressing effect on them by weakening their endeavors to raise their own resources for meeting various needs of higher education. With declining 'own' or internal resources of university's and much less than commensurate increase in public financing to growing needs and that too in an increasing proportion appear to be the most valid reason for the present financial crisis of universities in India. With severe resource constraint on the one hand and the ever-increasing demand for higher education of various types on the other have made things worse[1].

Under such conditions, the initiatives that can be taken and the steps that have been suggested by educationists and planners from time to time, to cure the financial sickness may be broadly categorized into the following: -

A) Restructuring the playing fields of central and state governments.
B) Augmenting resources from private sources including the beneficiaries.
C) University's own income generation.
D) Economizing expenditure in universities.
E) Diverting enrolment to other courses at the higher level.

[1] Mohammed.M(1993)- Reorganizing the financing of higher education- *University News*, Dec 20 page-25).

F) Privatizations of higher education.

Though the responsibility of the central and state governments has been demarcated with respect to the provision of higher education, they lack specificity. After the inclusion of education in the concurrent list, though the participation of the central government has increased, it is more sought after in the light of increasing budgetary deficits that the states individually have to cope up with. The following suggestions have been made with regards to the sharing of responsibilities between the center and the states[2].

A. Restructuring the playing fields of central and state governments

Ai. Central government: It should provide more financial assistance to state universities of a non-recurring nature, as it will obviate the difficulty experienced by the states in taking over the recurring financial responsibility once the central assistance is stopped.

a) The government may take up programmes, which are experimental in character in order to give broad direction to the national intellectual effort.
b) It should promote the establishment of 'Centres of excellence' for programmes important from the national point of view and also finance programmes of national integration like exchange of students and teachers among university institution, study tours etc.
c) Programmes for identifying and assisting talent by setting up more scholarship and fellowship programmes. Especially at post graduate and research level.

Aii. State governments

a) The state should mainly concentrate on provision of facilities for institution in which private participation is not forthcoming basically universities and apart from it.
b) Should keep punctuality in disbursing the funds to the universities as and when the need arises, without the time lag.

[2] Azad JL(1975).- Financing of higher education in India (page-191).

c) Check the proliferation in the number of universities and instead concentrate on the quality provided.

Though much of the needed initiatives are being taken by both the government's, still more needs to be done. Like reduction in subsidies- this is not only felt necessary for education development, but also a desirable form of providing education becomes markets cannot provide socially optimum quantity and quality of education and also cannot capture externalities. Besides state financing is also believed to be important on equity and efficiency consideration. Public financing still holds important in free market economics like France, Germany, Spain, and USA, England etc[3].

B Resources from private sources

Bi Fees- The case for increasing fees in public or public supported institution derives support from the following argument-

- Low level of fees entails low level of income to education institution, which increases the burden on the state exchequer.
- Low levels of fees are regressive in nature. As 80 % of the revenue comes from direct taxes, the contribution of the pool to the central revenue is more than that of the rich and as the proportion of rich students pursuing higher education is more they derive greater benefit than the poor.
- Higher fees would reduce the rush on universities, which would enable the state governments to control the expansion of institution simply to accommodate the ever-rising enrolment.

The AICTE (1994) committee and also the UGC (1993) committee pleaded for raising the cost recovery rate three fees to about 20-25 % (Presently its around 15 % which is almost near to the fees contribution in the US, South Korea, Chile (see Tilak – in AIU-page no. 28). This is the reason why many educationists also argue against an increase in fees on the grounds that it will lead to a fall in the social demand for higher

[3] Tilak. JBG (1995) Policies of higher education- AIU- The dilemma of reforms in financing higher education in India- Page-27.

education leading to medium and long run shortage of supply of man power, making education pro-rich, etc.

Bii Student Loans- However, increase in fees along with efficient pro student schemes like student loans at low rates of interests can be more acceptable as it will help safe guard the interests of the weaker sections. These loans get tax concessions when they are paid back in installments. Off late, this scheme is finding favor with students taking up professional courses like MBA, Engineering etc; but still has to become popular in the university masses[4]. This, however has its own drawn backs like non-repayment of loans and loss to the government on account of defaults. The planning commission has been of the view that emphasis should be laid on a programme of loan scholar ships because after a period of initial investment, it develops into a self-generating, self-perpetuating fund. It has also been argued that since the repayments are spread over a longer period, when the scholar has started earning, it does not burden him in any way. Further by being payable even at a later date, it engenders a sense of responsibility and a feeling of self-confidence among the loanes (see Azad- page no. 209).

Biii Postponed Fees- A linkage between universities and companies/ corporations/ industries can be established as they are the beneficiary sectors of the economy, which use the educated manpower from universities. The universities may think in terms of beneficiary financing of their own activities by introducing what one may call the system of 'Postponed fees'. The using sectors may be required under mandate to contribute against all recruitments a percentage of salary of their educated employees to the university education. At present however, there is no system of establishing such a linkage[5].

C Univesities own income generation

The university can generate its own resources in the following ways –

[4] Bawa MS,(2000)-Emerging trends in financing higher education in India- *University News*, March 13.
[5] Panchamukhy .PR.(1996)- University finances in India, *Journal of Educational Planning and Administration*, Vol X no-1 January. (page no.21).

Ci. At any point of time each university has large sums of money available in one form or the other. It may be caution deposits, project fund, special earmarked fund or advance grants received from the government. Since all money is not needed at the same time, some amount can be placed in fixed deposits to earn from the interest rates[6].

Cii. The university can enroll foreign students who are willing to study there and the fee structure for them could be substantially higher that of local students.

Ciii. Many international organization look towards the developing countries for organizing international conferences and seminars. This can be quite rewarding in terms of income for universities, which have good infrastructural facilities, like conference halls, guest houses, hostel facilities, good communication system etc. (Muralikrishna 1993)

Civ. The expert faculties in various department of a university can also be properly used to mobilize funds by allowing them to accept outside consultancies under the condition that they share their earnings in desired proportions with the university.

Cv. If a universities product (graduation and above) goes abroad, the government may stipulate a condition for such personnel to contribute a % of their earnings to the university when they start making earnings this way (Panchamukhy 1993).

Cvi. Each university over the years acquires certain facilities for use of its teacher and students. These facilities can be offered on hire selectively to generate income. Some of them are –

1. Computer facility, which can be utilized for job work to earn extra money.
2. Scientific equipment like liquid hydrogen/helium plants, which can be thrown open to users at a price.
3. Library can also be made available to public on payment basis.

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[6] Murali Krishnan.P. (1993). Financaial crisus in central universities- *University News*- May (page no.3) vol-31, no. 18.

4. The printing press of the universities can accept outside jobs on commercial principles (see Panchamukhy Page 21and Muralikrishna page 4).

5. The university can also establishment links with large industrial corporations and move close together with university receiving financial support for development of a number of disciplines (including humanities and social sciences). However, at the same time guidelines should also be framed to protect the autonomy of universities.

D. Economizing expenditure in Universities

Besides all this, there is a need to probe into the relative weights of academic and administrative expenditure in the universities. As in some universities especially the large affiliating ones, the administrative/non teaching expenses first shoot up more rapidly than allocation for real academic activities. Some methods of economizing the expenditure as suggested by educationisits are [7]

1) Reduction in non-academic expenditure- like salaries of non-teaching staffs, as there number is 3 to 4 times more than teaching staff strength-with intensive utilization of the existing strength and more use of computers can lessen the number of staffs needed.

2) Optimum utilization of infrastructure- such facilities like classrooms, library, labs on which huge capital expenditure has been made are not utilized optimally. So instead of going for creation of new facilities the existing ones can be utilized on a sharing basis with comparable educational programmes especially between universities where the resources are lying unutilized and the ones, which lack in such facilities.

3) Economising expenditure on exams as they have a considerable influence on the universities budget. Internal evaluation should be encouraged for general courses as in IIT's, so as to save money on the conduct of exams. Secondly, as the NPE emphasized the need to delink degrees from the jobs and almost all the employers are conducting

[7] Ansari MM (1994)-Strategy of funding Higher education- Areas and directions of reforms- *Journal of Educational Planning and Administration.* vol VIII No-1 January (page no.96).

their oven qualifying exams, a university degree is no longer taken on its face value for either awards of scholarships or offer of employment opportunities by many employers both in the public and the private sector.

4) Reducing the cost of admission on different courses- for printing application forms, prospectus to various courses of studies- a huge amount is spent and as students apply in more than one institution- it unnecessarily maximizes the workload and expenditure of processing the application forms. What could be done is to pool in together, all the seats in different courses of studies available with different universities as in the IIT's and IIM's firstly on a regional basis and then on a national basis. This would ensure uniforms standards and also minimize the expenditure on processing of application forms and other related activities.

E Reducing the demand by diverting enrolment to distance learning mode

The ministry of education 1963 recommended to initiate correspondence courses, as such many conventional universities started to launch such programs. But they worked within academic and administrative constraints where they were treated like 2nd grade courses. But on the lines of the Open University in UK and the recommendation of ministry of education 1974, IGNOU was established after 11 years in 1985 [8]. This is a better way to promote pursuance of higher education especially the general courses as the cost of distance higher education through postal correspondence is about one fourth of the conventional method of education and is largely self-financed. Hence the entire burden of financing education of additional students could be shifted on to the beneficiary groups. It would also greatly reduce the government's burden (or current subsidy) regarding supporting higher education and would minimize the growth expenditure on conventional universities.

F Privatisation of higher education

In many nations, growth of the private sector has occurred in the recent past in many fields of social and economic life. In India in the field of education its not a new

[8] Menon.S.B.(1989-1990). A nation wide distance education system. *Journal of higher education* , vol.15.

phenomenon as a large number of colleges were set up in states by private entrepreneurs, mainly by providing capital facilities. These however, depended on government funds for day to day running of business. These were basically the private aided colleges, where academic structure was controlled by the affiliating university and financial structure by the government. But a considerable amount of "Public failure"[9] in bearing the expenses has led to the emergence of a new category of institution in a free market economy, the whole trend of privatization of education can be understood from the following-

Fi. Establishment of capitation fee/ self-financing educational institute- Dr. T.M. Pai was the pioneer in giving practical shape to such colleges. Till now may such institute have been established in the technical and the professional fields. This is basically the 'advance fees' *sans* subsidies that is paid to the institute. The chief characteristic of such institute is that they have an ideal infrastructure, higher level of internal efficiency, and are responsive to the manpower requirements of the economy. But it has also been criticized on many grounds like promoting mediocrity instead of merit creating a dual system of providing higher education (Public and private), which will compel to redefine the role of UGC. They are also criticized for being profit oriented and might have a tendency to sacrifice investments in R & D activities[10]. The criticisms however don't recommend their abolition but further spread of it by establishing such courses also which are offered by the traditional universities in the field of general education.

Fii. Establishment of private universities- another strategy to shift the burden on the beneficiaries of higher education is through the mechanisms of establishment. Private universities will create additional facilities in the field of higher and university education. The Indian government introduced " the private universities (establishment and regulation) bill" of 1995 in the Rajya sabha in 1995. The bill provided for the established and incorporation of self financing universities and for regulation of their functioning and for matters connected there with or incidental there to. This bill however could not get

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[9]Levy.D.C(1993)- Problems of privatization of higher education in India- *Journal of Educational Planning and Administration* .vol VII no-3 July - (page 279).
[10] Bawa.M.S(2000)-Trends in financing higher education in India- *University News*- vol 38 no.11, 2000 page-10,

through and the potential dangers thought to be associated with it are- commercialization of higher education and placing quality of higher education beyond the reach of the poor and the weaker sections of the society as theses universities do not show any concern for equality and social accountability[11].

Fiii. International partnership arrangements with foreign universities with the globalization of education the more developed countries take advantage to create and exploit market demands in developing countries for profit making, as students prefer to have a foreign tag added to their degrees.

These partnerships should however be carefully promoted after proper evaluation in the light of following questions: -

- Will there be a two-way flow of benefits in favors of both the developed and developing countries.
- How to ensure real value addition to the faculty that is being sent abroad through exchange programmes.
- How far the accessibility is being maintained in the era of globalization.
- How are national and local priorities retained.

Fiv. Also a large number of industries are coming to India with globalization and liberalization of the economy, heavy investment is foreseeable in the sectors like energy, communications, housing, food technology, software etc. All this will be requiring a huge trained manpower. So we also have the option of spending parallel amount of money in starting new institute or integrate investment for development with the investment for education. In the 2nd alternative- new industries can become training grounds for the pupils pursuing education in the respective fields in universities and colleges. Thus large investments for development will be in directly available for education[12].

[11] Xavier.L.(2000)- Changing nature of higher education- *Social Action*- Vol 50. (October-December).
[12] Venkateshwaran.S(1995)-Private initiatives for higher education-in policies of higher education-.AIU-(page 65).

CHAPTER 6

SUMMARY OF CONCLUSIONS

This study was done with the purpose to view regional dimensions and the equitability in distribution of thee educational and higher educational resources across the states. Though India has a long history of glorious years when the higher education system attracted scholars from across the world. But gradually things have changed right from the contents of higher education to the construct and the funding process. Higher education system is not the same. The regional patterns have also changed and disparities have crept in, in the form of different levels of expenditure strength in terms of enrolment of the colleges and universities to accommodate the students, efficiency in terms of infrastructure and many such variables. In the light of all this, this paper has studies the pattern of expenditure in higher education, the available in the light of decreasing resources and also the regional implications of all this.

Chapter 2 is a literature survey which studies the kinds of work done to measure equitability and efficiency in expenditure on higher education by using different indicators and different methods. Mostly they measure the governmental expenditure in terms of GNP and SDP, in terms of institutional wealth or in terms of budgetary deficits of sample universities as case studies.

Chapter 3 forms one of the core chapters of the study, which traces the history of higher education development in India with greater emphasis on the period after the advent of the British. This has been done with a view to analyze the changes of the present in the background of the recent past as the sociological and behavioral changes take place in the society at a slow pace and India has still to come out of the colonial legacy.

The chapter also traces the growth of higher education institutions in terms of number of universities, affiliated colleges and university colleges after independence along with the increase in enrolments.

Chapter 4 analyses the expenditure on higher education with respect to total expenditure on education as proportion of GNP and SDP over a period of time to see how the growth in higher education expenditure is behaving with respect to the above mentioned dynamic terms. It also analyses the growth rates of all of them in the interval periods of the landmark educational policies in India to see how have the priorities changed for higher education and how it is related with the growth of GNP and SDP.

Chapter 5 precipitates down to one type of higher educational institutions that is the state universities to analyze the income and expenditure patterns since the late 70s up to 2001-02. This study was limited due to the non-availability of the data for the aggregate figures at the state level for item-wise income and expenditure in the year 2001-02. Hence a sample of 19 state universities have been taken to see as to how far they confirm to the state level patterns of the earlier period. The samples have also been selected on the basis of the availability of data for the universities.

Chapter 6 also looks at the alternative methods of mobilizing resources for the state universities in the light of decreasing government support. These methods include resource generation from the existing university infrastructure and private sources of financing.

Lastly in the present chapter, i.e. chapter 7 an effort has been made to measure the disparity across the states since 1970s to see whether such disparities in terms of higher education performance indicators have reduced or not. The indicators have been selected for three time periods depending on the availability and comparability of the data. The indicators are as follows:

1. Higher education expenditure as percent of SDP.

2. Higher education expenditure as percent of total education expenditure of the states.
3. Expenditure per student.
4. Universities per 10 lakh of population.
5. Universities per 1000 of enrolment.
6. Student teacher ratio at the tertiary level.
7. Per teacher expenditure.
8. Number of girls as percent to total enrolment.

By analyzing the three time periods and by looking at the graphs, it can be said that overall disparities have reduced among the states but there are outliers for all the three time periods, and the most notable thing is that one of the states is really moving far from others and the gap between developed and the developing has enlarged.

Though it was observed by the Education Commission report[1] that in the initial stages of development the total expenditure on education is generally low and the bulk of it is spent on school education as societies become industrialized the total expenditure on education begins to grow and an increasingly larger part of it comes to be devoted to higher education and research. India being on the path to industrialization and development still has to prove this.

As far as equity is concerned, it depends on more or less equal opportunities in access to higher education, better availability of education institute across the states, higher enrolments and more investments in terms of money. Considering these aspects, 7 variables have been selected and their variability across the states have been measured for 3 time periods covering the whole period of this study i.e., 1976-77, 2986-87 and 1999-2000. A distance square matrix has been constructed for all the 3 time periods. Which shows the distance between observations in the Euclidean space in terms of similarities and dissimilarities. More similarity in relation to the variables considered will mean more homogeneity across the region and lesser D^2 values and more dissimilarity will be

[1]Education and National Development (Kothari) Commission Report, 1964-66, p. 469.

indicated by more heterogeneity across the region and higher D^2 values. The D^2 values are relatively compared to the previous time periods. The values show that over a period of time all the states are coming closer in terms of higher education spending and providing facility to their population still s one or two states have not shown much improvement and that might be related to other 'external' like investment made in more economically productive sectors there by neglecting higher education sector.

Though the providers have become more aware of what is to be given at an optimal level so that there is maximum consumer satisfaction and the consumers have also become aware of the varied number of alternatives that are available to them, the future scenario might emerge to be more homogenous in terms of finances, functioning and opportunities for all.

1999-2000														
Categories	States													
0-2.5	ANDHRA	ASSAM	GUJRAT	HARYANA	J&K	KAR'TAKA	KERELA	MP	MAHA'TRA	ORISSA	PUNJAB	TN	UP	WB
2.5-5	RAJ'THAN													
5-7.5	BIHAR													

1986-87												
Categories	States											
0-2.5	ASSAM	BIHAR	GUJRAT	HARYANA	KAR'TAKA	MP	MAHA'TRA	ORISSA	PUNJAB	TN	UP	WB
2.5-5	ANDHRA	J&K	KERELA	RAJ'THAN								
5-7.5												

1976-77										
Categories	States									
0-2.5	ASSAM	BIHAR	GUJRAT	HARYANA	MP	MAHA'TRA	ORISSA	PUNJAB	RAJ'THAN	TN
2.5-5	ANDHRA	J&K	KAR'TAKA	UP	WB					
5-7.5	KERELA									

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APPENDIX

(MASTER TABLES)

TABLE - I

		CENTRE	STATES	(CENTRE + STATES)
	G.N.P. (1993-94	Expdt on edu by	Expdt on edu by	Expdt on edu by
	(at factor cost)	edu dept (rev + capt)	edu dept (rev + capt)	edu dept (rev + capt)
	(constant prices)	(constant prices)	(constant prices)	(constant prices)
YEARS	(Rs in crore)	(Rs in crore)	(Rs in crore)	(Rs in crore)
1951-52	143399	58.28	862.05	920.24
52-53	147544	49.38	1025.74	1075.13
53-54	156590	62.34	1097.88	1160.22
54-55	163126	151.68	1389.91	1541.60
55-56	167535	231.01	1690.56	1921.57
56-57	177006	279.33	1630.30	1909.63
57-58	174756	291.18	1794.48	2085.66
58-59	187925	372.45	1948.40	2320.87
59-60	191717	476.55	2219.94	2696.50
60-61	205196	556.50	2487.57	3044.08
61-62	211287	322.88	2908.87	3231.75
62-63	215601	334.70	2968.68	3303.38
63-64	226577	331.99	3087.02	3419.00
64-65	243472	418.54	3282.89	3701.43
65-66	234394	455.49	3533.25	3988.74
66-67	236846	449.03	3549.88	3998.91
67-68	255843	466.51	4001.09	4467.60
68-69	262687	322.74	4435.41	4758.16
69-70	279791	393.64	5002.24	5395.88
70-71	293933	462.16	5792.17	6254.33
71-72	296688	480.81	6132.19	6612.99
72-73	295752	527.64	6287.91	6797.48
73-74	309950	402.24	6154.85	6557.09
74-75	314509	446.87	6463.02	6909.90
75-76	343173	573.52	7736.31	8309.83
76-77	347530	617.82	8016.29	8634.11
77-78	373464	615.01	8604.63	9219.64
78-79	394335	820.23	9442.55	10262.78
79-80	374640	716.60	9278.51	9995.12
80-81	401970	689.54	9845.38	10534.92
81-82	425168	684.00	10078.36	10762.35
82-83	436577	790.27	11660.50	12450.77
83-84	469293	849.77	12248.63	13098.64
84-85	489206	985.44	13389.44	14374.87
85-86	511058	1089.62	14532.10	15621.72
86-87	532021	1247.97	15305.18	16553.15
87-88	551409	2115.46	16425.56	18541.03
88-89	607207	2591.96	17828.81	20420.78
89-90	648108	2267.24	20642.85	22910.53
90-91	683670	2232.97	21484.32	23717.29
91-92	691143	2046.61	20636.57	22683.18
92-93	726375	1999.73	21777.60	23777.34
93-94	769265	2156.48	22068.28	24224.76

TABLE-2

		CENTRE	STATES	(CENTRE + STATES)	
	G.N.P. (1993-94	Expdt on edu by	Expdt on edu by	Expdt on edu by	
	(at factor cost)	edu dept (rev + capt)	edu dept (rev + capt)	edu dept (rev + capt)	GNP
	(Current prices)	(Current prices)	(Current prices)	(Current prices)	DFLT
YEARS	(Rs in crore)	(Rs in crore)	(Rs in crores)	(Rs in Crores)	
1951-52	10045	4.08	60.39	64.4623	0.07
52-53	9916	3.32	68.94	72.2563	0.07
53-54	10805	4.30	75.76	80.0571	0.07
54-55	10139	9.43	86.39	95.817	0.06
55-56	10322	14.23	104.16	118.39	0.06
56-57	12317	19.44	113.44	132.8819	0.07
57-58	12590	20.98	129.28	150.258	0.07
58-59	14071	27.89	145.89	173.7762	0.07
59-60	14759	36.69	170.90	207.5852	0.08
60-61	16148	43.79	195.76	239.5552	0.08
61-62	17018	26.01	234.29	260.2999	0.08
62-63	18194	28.24	250.52	278.7634	0.08
63-64	20804	30.48	283.45	313.9283	0.09
64-65	24291	41.76	327.53	369.2884	0.10
65-66	25422	49.40	383.21	432.6124	0.11
66-67	28893	54.78	433.05	487.8296	0.12
67-68	33967	61.94	531.20	593.141	0.13
68-69	35837	44.03	605.10	649.13	0.14
69-70	39420	55.46	704.77	760.23	0.14
70-71	41938	65.94	826.42	892.36	0.14
71-72	44632	72.33	922.49	994.82	0.15
72-73	**49113**	87.62	1044.18	1128.8	0.17
73-74	60235	78.17	1196.12	1274.29	0.19
74-75	70992	100.87	1458.85	1559.7247	0.23
75-76	75454	126.10	1701.00	1827.0951	0.22
76-77	81148	144.26	1871.80	2016.0579	0.23
77-78	92648	152.57	2134.61	2287.1844	0.25
78-79	99667	207.31	2386.58	2593.8865	0.25
79-80	109080	208.65	2701.53	2910.1734	0.29
80-81	130523	223.90	3196.88	3420.7754	0.32
81-82	152096	244.69	3605.35	3850.0312	0.36
82-83	168891	305.72	4510.90	4816.6158	0.39
83-84	197686	357.96	5159.64	5517.6992	0.42
84-85	221281	445.74	6056.40	6502.1408	0.45
85-86	248118	529.01	7055.31	7584.3248	0.49
86-87	276453	648.48	7953.00	8601.4811	0.52
87-88	313374	1202.25	9334.89	10537.1445	0.57
88-89	373995	1596.46	10981.24	12577.7005	0.62
89-90	432289	1512.25	13768.81	15281.3596	0.67
90-91	503409	1644.21	15819.62	17463.8327	0.74
91-92	579009	1714.56	17288.40	19002.9638	0.84
92-93	661576	1821.34	19834.85	21656.1893	0.91
93-94	769265	2156.48	22068.28	24224.7608	1.00

TABLE - 3

		CENTRE	(STATES)	CENTRE + STATES
	G.N.P. (1993-94)	HIGHER EDU	HIGHER EDU	HIGHER EDU
	(at factor cost)	ACTUAL EXPNDT	ACTUAL EXPNDT	ACTUAL EXPNDT
	(Rs in crore)	(Rs in crore)	(Rs in crore)	(Rs in crore)
YEARS	(Constant prices)	(Constant prices)	(Constant prices)	(Constant prices)
1951-52	143399	13.00	90.26	103.25
52-53	147544	15.50	109.96	125.47
53-54	156590	13.48	108.80	122.29
54-55	163126	16.55	124.12	140.75
55-56	167535	45.30	133.89	179.28
56-57	177006	51.90	130.59	182.56
57-58	174756	50.70	171.73	222.33
58-59	187925	86.30	181.79	268.06
59-60	191717	110.32	206.68	316.84
60-61	205196	107.63	220.15	327.85
61-62	211287	142.26	285.94	428.21
62-63	215601	130.87	284.40	415.23
63-64	226577	129.84	267.64	397.29
64-65	243472	142.05	257.71	399.75
65-66	234394	164.07	274.89	439.16
66-67	236846	152.26	297.48	449.88
67-68	255843	154.23	328.89	482.95
68-69	262687	156.21	424.47	580.49
69-70	279791	180.76	475.71	656.68
70-71	293933	227.38	540.41	768.03
71-72	296688	226.46	583.17	809.43
72-73	295752	235.43	657.72	891.15
73-74	309950	187.52	654.88	842.59
74-75	314509	224.82	699.30	926.62
75-76	343173	291.00	822.37	1115.18
76-77	347530	322.38	933.90	1259.72
77-78	373464	332.29	1082.46	1417.98
78-79	394335	360.41	1210.53	1574.31
79-80	374640	325.70	1234.97	1564.24
80-81	401970	304.16	1203.10	1509.65
81-82	425168	311.63	1329.34	1641.26
82-83	436577	329.47	1449.40	1779.22
83-84	469293	340.16	1526.18	1866.56
84-85	489206	400.78	1683.05	2087.23
85-86	511058	424.52	1764.20	2193.29
86-87	532021	487.33	1859.58	2352.20
87-88	551409	580.69	1984.21	2567.93
88-89	607207	913.93	2073.49	2995.73
89-90	648108	729.14	2629.90	3365.56
90-91	683670	646.22	2537.30	3189.98
91-92	691143	591.88	2358.76	2955.62
92-93	726375	553.53	2515.31	3072.03
93-94	769265	495.56	2456.20	2953.00

TABLE 4

		CENTRE	(STATES)	CENTRE + STATES	
	G.N.P. (1993-94)	HIGHER EDU	HIGHER EDU	HIGHER EDU	
	(at factor cost)	ACTUAL EXPNDT	ACTUAL EXPNDT	ACTUAL EXPNDT	GNP
	(Rs in crore)	(Rs in crore)	(Rs in crore)	(Rs in crore)	DFLT
YEARS	(Current Prices)	(Current Prices)	(Current Prices)	(Current Prices)	
1951-52	143399	0.91	6.32	7.23	0.07
52-53	147544	1.04	7.39	8.43	0.07
53-54	156590	0.93	7.51	8.44	0.07
54-55	163126	1.03	7.71	8.75	0.06
55-56	167535	2.79	8.25	11.05	0.06
56-57	177006	3.61	9.09	12.70	0.07
57-58	174756	3.65	12.37	16.02	0.07
58-59	187925	6.46	13.61	20.07	0.07
59-60	191717	8.49	15.91	24.39	0.08
60-61	205196	8.47	17.32	25.80	0.08
61-62	211287	11.46	23.03	34.49	0.08
62-63	215601	11.04	24.00	35.04	0.08
63-64	226577	11.92	24.57	36.48	0.09
64-65	243472	14.17	25.71	39.88	0.10
65-66	234394	17.79	29.81	47.63	0.11
66-67	236846	18.57	36.29	54.88	0.12
67-68	255843	20.48	43.67	64.12	0.13
68-69	262687	21.31	57.91	79.19	0.14
69-70	279791	25.47	67.02	92.52	0.14
70-71	293933	32.44	77.10	109.58	0.14
71-72	296688	34.07	87.73	121.77	0.15
72-73	295752	39.10	109.22	147.99	0.17
73-74	309950	36.44	127.27	163.75	0.19
74-75	314509	50.75	157.85	209.16	0.23
75-76	343173	63.98	180.82	245.20	0.22
76-77	347530	75.27	218.06	294.14	0.23
77-78	373464	82.43	268.53	351.77	0.25
78-79	394335	91.09	305.96	397.90	0.25
79-80	374640	94.83	359.57	455.44	0.29
80-81	401970	98.76	390.66	490.20	0.32
81-82	425168	111.48	475.55	587.13	0.36
82-83	436577	127.45	560.70	688.29	0.39
83-84	469293	143.29	642.89	786.27	0.42
84-85	489206	181.28	761.29	944.11	0.45
85-86	511058	206.10	856.52	1064.84	0.49
86-87	532021	253.23	966.29	1222.27	0.52
87-88	551409	330.02	1127.66	1459.39	0.57
88-89	607207	562.91	1277.12	1845.15	0.62
89-90	648108	486.34	1754.15	2244.83	0.67
90-91	683670	475.83	1868.30	2348.89	0.74
91-92	691143	495.85	1976.06	2476.09	0.84
92-93	726375	504.15	2290.93	2797.98	0.91
93-94	769265	495.56	2456.20	2953.00	1.00

TABLE 5

YEARS	HGH EDU AS % OF GNP	EDU AS % OF GNP
1951-52	0.07	0.64
52-53	0.09	0.73
53-54	0.08	0.74
54-55	0.09	0.95
55-56	0.11	1.15
56-57	0.10	1.08
57-58	0.13	1.19
58-59	0.14	1.23
59-60	0.17	1.41
60-61	0.16	1.48
61-62	0.20	1.53
62-63	0.19	1.53
63-64	0.18	1.51
64-65	0.16	1.52
65-66	0.19	1.70
66-67	0.19	1.69
67-68	0.19	1.75
68-69	0.22	1.81
69-70	0.23	1.93
70-71	0.26	2.13
71-72	0.27	2.23
72-73	0.30	2.30
73-74	0.27	2.12
74-75	0.29	2.20
75-76	0.32	2.42
76-77	0.36	2.48
77-78	0.38	2.47
78-79	0.40	2.60
79-80	0.42	2.67
80-81	0.38	2.62
81-82	0.39	2.53
82-83	0.41	2.85
83-84	0.40	2.79
84-85	0.43	2.94
85-86	0.43	3.06
86-87	0.44	3.11
87-88	0.47	3.36
88-89	0.49	3.36
89-90	0.52	3.53
90-91	0.47	3.47
91-92	0.43	3.28
92-93	0.42	3.27
93-94	0.38	3.15

TABLE 6

			LOG VALUES			
	LOG 10 EDU	LOG 10 EDU	OG 10 ED	LOG 10 HGH ED	LOG 10 HGH ED	LOG 10 HGH EDU
LOG10 GNP	CENTRE	STATES	(C+S)	CENTRE	(STATES)	(C+S)
5.16	1.77	2.94	2.96	1.11	1.96	2.01
5.17	1.69	3.01	3.03	1.19	2.04	2.10
5.19	1.79	3.04	3.06	1.13	2.04	2.09
5.21	2.18	3.14	3.19	1.22	2.09	2.15
5.22	2.36	3.23	3.28	1.66	2.13	2.25
5.25	2.45	3.21	3.28	1.72	2.12	2.26
5.24	2.46	3.25	3.32	1.70	2.23	2.35
5.27	2.57	3.29	3.37	1.94	2.26	2.43
5.28	2.68	3.35	3.43	2.04	2.32	2.50
5.31	2.75	3.40	3.48	2.03	2.34	2.52
5.32	2.51	3.46	3.51	2.15	2.46	2.63
5.33	2.52	3.47	3.52	2.12	2.45	2.62
5.36	2.52	3.49	3.53	2.11	2.43	2.60
5.39	2.62	3.52	3.57	2.15	2.41	2.60
5.37	2.66	3.55	3.60	2.22	2.44	2.64
5.37	2.65	3.55	3.60	2.18	2.47	2.65
5.41	2.67	3.60	3.65	2.19	2.52	2.68
5.42	2.51	3.65	3.68	2.19	2.63	2.76
5.45	2.60	3.70	3.73	2.26	2.68	2.82
5.47	2.66	3.76	3.80	2.36	2.73	2.89
5.47	2.68	3.79	3.82	2.35	2.77	2.91
5.47	2.72	3.80	3.83	2.37	2.82	2.95
5.49	2.60	3.79	3.82	2.27	2.82	2.93
5.50	2.65	3.81	3.84	2.35	2.84	2.97
5.54	2.76	3.89	3.92	2.46	2.92	3.05
5.54	2.79	3.90	3.94	2.51	2.97	3.10
5.57	2.79	3.93	3.96	2.52	3.03	3.15
5.60	2.91	3.98	4.01	2.56	3.08	3.20
5.57	2.86	3.97	4.00	2.51	3.09	3.19
5.60	2.84	3.99	4.02	2.48	3.08	3.18
5.63	2.84	4.00	4.03	2.49	3.12	3.22
5.64	2.90	4.07	4.10	2.52	3.16	3.25
5.67	2.93	4.09	4.12	2.53	3.18	3.27
5.69	2.99	4.13	4.16	2.60	3.23	3.32
5.71	3.04	4.16	4.19	2.63	3.25	3.34
5.73	3.10	4.18	4.22	2.69	3.27	3.37
5.74	3.33	4.22	4.27	2.76	3.30	3.41
5.78	3.41	4.25	4.31	2.96	3.32	3.48
5.81	3.36	4.31	4.36	2.86	3.42	3.53
5.83	3.35	4.33	4.38	2.81	3.40	3.50
5.84	3.31	4.31	4.36	2.77	3.37	3.47
5.86	3.30	4.34	4.38	2.74	3.40	3.49
5.89	3.33	4.34	4.38	2.70	3.39	3.47

TABLE.7

		PER CAPITA LOG VALUES				
PER CAP ITA LOG10 GNP	PER CAP ITA LOG10 EDU EXP CENTRE	PER CAP ITA LOG10 EDU EXP STATES	ER CAP IT LOG10 EDU EXP (C+S)	PER CAP ITA GH EDU EXPD LOG10 CENTRE	PER CAP ITA GH EDU EXPD LOG10 STATES	PER CAP ITA GH EDU EXPD LOG10 (C+S)
3.60	0.21	1.38	1.41	1.11	1.96	2.01
3.60	0.13	1.44	1.47	1.19	2.04	2.10
3.62	0.22	1.47	1.49	1.13	2.04	2.09
3.63	0.60	1.56	1.60	1.22	2.09	2.15
3.63	0.77	1.64	1.69	1.66	2.13	2.25
3.65	0.85	1.61	1.68	1.72	2.12	2.26
3.63	0.86	1.65	1.71	1.70	2.23	2.35
3.66	0.95	1.67	1.75	1.94	2.26	2.43
3.66	1.05	1.72	1.81	2.04	2.32	2.50
3.68	1.11	1.76	1.85	2.03	2.34	2.52
3.68	0.87	1.82	1.87	2.15	2.46	2.63
3.68	0.87	1.82	1.87	2.12	2.45	2.62
3.69	0.86	1.83	1.87	2.11	2.43	2.60
3.71	0.95	1.84	1.90	2.15	2.41	2.60
3.69	0.98	1.87	1.92	2.22	2.44	2.64
3.68	0.96	1.86	1.91	2.18	2.47	2.65
3.71	0.97	1.90	1.95	2.19	2.52	2.68
3.71	0.80	1.94	1.97	2.19	2.63	2.76
3.73	0.88	1.98	2.01	2.26	2.68	2.82
3.74	0.94	2.03	2.07	2.36	2.73	2.89
3.73	0.94	2.05	2.08	2.35	2.77	2.91
3.72	0.97	2.05	2.08	2.37	2.82	2.95
3.73	0.85	2.03	2.06	2.27	2.82	2.93
3.73	0.88	2.04	2.07	2.35	2.84	2.97
3.76	0.98	2.11	2.14	2.46	2.92	3.05
3.75	1.00	2.12	2.15	2.51	2.97	3.10
3.78	0.99	2.14	2.17	2.52	3.03	3.15
3.79	1.11	2.17	2.21	2.56	3.08	3.20
3.76	1.04	2.15	2.18	2.51	3.09	3.19
3.78	1.01	2.17	2.20	2.48	3.08	3.18
3.79	1.00	2.17	2.20	2.49	3.12	3.22
3.80	1.05	2.22	2.25	2.52	3.16	3.25
3.82	1.08	2.23	2.26	2.53	3.18	3.27
3.83	1.13	2.26	2.30	2.60	3.23	3.32
3.84	1.17	2.29	2.32	2.63	3.25	3.34
3.84	1.22	2.30	2.34	2.69	3.27	3.37
3.85	1.44	2.33	2.38	2.76	3.30	3.41
3.88	1.51	2.35	2.41	2.96	3.32	3.48
3.90	1.45	2.41	2.45	2.86	3.42	3.53
3.92	1.43	2.41	2.46	2.81	3.40	3.50
3.91	1.38	2.39	2.43	2.77	3.37	3.47
3.93	1.37	2.40	2.44	2.74	3.40	3.49
3.94	1.39	2.40	2.44	2.70	3.39	3.47

TABLE 8

EXPENDITURE DATA	1976-77		1986-87		Univs 01-02	
	Absolute figs	%	Absolute figs	%	Absolute figs	%
	(RS in thousands		(RS in thousands		(Rs in lakhs)	
Total Expdt	**1354709**	**100**	**4961969**	**100**	**62651.88**	**100**
Salary Total	600169	44.3	2600507.0	52.4	32266.8	51.5
ST	360095	26.6	1578661.0	31.8	13410.6	21.4
SNT	240074	17.7	1021846.0	20.6	14736.7	23.5
Total Dev	**296256**	**21.9**	**615339.0**	**12.4**	**11640.8**	**18.6**
% Rec	112155	8.3	284696.0	5.7		0.0
Welfare	**18032**	**1.3**	**41911.0**	**0.8**	**638.7**	**1.0**
Cllg Grnt/S'Ship	**54237**	**4.0**	**106013.0**	**2.1**	**2897.8**	**4.6**
Other Rec	**336519**	**24.8**	**1225432.0**	**24.7**	**13401.4**	**21.4**
Oth Non Rec	**49496**	**3.7**	**372767.0**	**7.5**	**1806.3**	**2.9**

INCOME DATA	1976-77		1986-87		2001-02	
	Absolute figs	%	Absolute figs	%	Absolute figs	%
Total Income	**1543936**	**100**	**5269543**	**100**	**46367.157**	**100**
Tot Govt Income	92656	6.0013	494355	9.38136	362.05	0.78083
C	20461	1.3252	105562	2.00325	24.12	
M	72195	4.676	388793	7.37812	305.02	
State Govt	**756270**	**48.983**	**2695624**	**51.1548**	**19811.73**	**42.7279**
C	102508	6.6394	265439	5.03723	18774.31	
M	653762	42.344	2430185	46.1176	1037.4	
UGC	**208005**	**13.472**	**695154**	**13.1919**	**287.26**	**0.61953**
C	75805	4.9099	199415	3.78429	287.26	
M	132200	8.5625	495739	9.40763		
Loc Bodies	**16420**	**1.0635**	**41733**	**0.79197**	**48.87**	**0.1054**
C	314	0.0203	1427	0.02708	11.32	
M	16106	1.0432	40306	0.76489	37.55	
University	**90259**	**5.84**	**292419**	**5.54923**	**7358.34**	**15.8697**
C	8936	0.5788	22888	0.43435		
M	81323	5.2673	269531	5.11488		
Fees	**198995**	**12.889**	**590673**	**11.2092**	**958.337**	**2.06684**
Others + Endow	**141388**	**9.1576**	**350844**	**6.65796**	**17540.57**	**37.8297**
Others	**39993**	**2.5903**	**108741**	**2.06358**		

TABLE9

UNIVERSITY INCOME IN PERCENT (STATE WISE) 1976-77																		
STATES	GOVT %	M	C	ST GOVT	M	C	UGC	M	C	LOC	M	C	UNIV	M	C	ENDOW	FEES	OTHERS	TOTAL
										BOD									
Andhra	0.43	100.00	0.00	61.45	93.25	6.75	16.04	26.47	64.31	8.90	100.00	0.00	4.25	100.00	0.00	1.47	7.42	0.05	100.00
Assam	24.65	60.15	39.85	50.92	71.45	28.55	3.64	30.26	100.00	1.00	100.00	0.00	1.10	100.00	0.00	4.15	14.20	0.36	100.00
Bihar	0.40	22.86	77.14	73.83	88.20	11.80	8.61	45.22	76.77	0.00	0.00	100.00	3.90	99.76	0.24	4.57	5.24	3.45	100.00
Gujrat	0.83	79.38	20.62	34.35	86.91	13.09	5.68	499.92	68.49	0.32	100.00	0.00	29.57	96.07	3.93	3.50	24.60	1.15	100.00
Haryana	0.15	100.00	0.00	66.92	88.99	11.01	6.33	72.83	66.58	2.28	100.00	0.00	4.61	100.00	0.00	0.52	18.91	0.28	100.00
J & K	1.06	100.00	0.00	62.67	70.32	29.68	8.28	45.37	61.68	0.00	0.00	100.00	11.33	33.19	66.81	0.00	16.67	0.00	100.00
Karnataka	0.05	100.00	0.00	58.90	86.18	13.82	11.24	34.73	33.02	0.00	0.00	100.00	5.99	65.16	34.84	17.51	2.36	3.94	100.00
Kerela	9.00	99.90	0.10	45.48	86.27	13.73	11.62	0.00	34.16	0.49	47.49	52.51	0.00	0.00	100.00	5.08	24.55	3.78	100.00
Madhya Pr.	9.72	96.24	3.76	57.19	93.25	6.75	13.46	5.38	53.15	0.00	0.00	100.00	2.59	27.94	72.06	9.48	7.45	0.11	100.00
Maharashtra	11.83	45.13	54.87	36.12	96.67	3.33	0.00	0.00	0.00	1.38	100.00	0.00	2.23	50.16	49.84	20.52	24.87	3.05	100.00
Orissa	0.00	0.00	0.00	53.43	92.47	7.53	20.59	6.30	41.44	0.12	100.00	0.00	4.61	28.13	71.87	0.57	20.10	0.58	100.00
Punjab	1.06	99.21	0.79	63.36	88.69	11.31	8.62	26.74	34.06	1.13	100.00	0.00	2.36	97.67	2.33	0.00	23.34	0.13	100.00
Rajasthan	0.00	0.00	0.00	63.70	91.66	8.34	5.87	0.00	42.82	0.00	0.00	100.00	0.00	0.00	100.00	2.92	21.00	6.51	100.00
Tamil Nadu	1.32	38.20	61.80	16.48	73.73	26.27	21.69	129.71	62.42	0.00	0.00	100.00	29.58	95.14	4.86	17.76	12.89	0.28	100.00
Uttar Pr.	13.95	92.61	7.39	26.72	81.43	18.57	21.32	19.80	6.66	0.15	100.00	0.00	4.45	94.89	5.11	19.84	12.65	0.92	100.00
W. Bengal	5.51	0.00	100.00	54.27	75.75	24.25	18.22	8.10	23.13	0.00	0.00	100.00	1.48	100.00	0.00	2.89	6.56	11.08	100.00
%AGE	6.00	75.99	24.01	48.98	86.86	13.14	13.47	29.69	32.41	1.06	98.19	1.81	5.86	90.75	9.25	9.16	12.88	2.59	100.00

TABLE 10

UNIVERSITY INCOME IN PERCENT (STATE WISE) 1986-87

STATES	GOVT %	M	C	ST GOVT	M	C	UGC	M	C	LOC BOD	M	C	UNIV	M	C	ENDOW	FEES	OTHERS	TOTAL
Andhra	**4.88**	66.84	33.16	**64.35**	90.86	9.14	**9.95**	58.82	41.18	**0.51**	100.00	0.00	**2.34**	100.00	0.00	**4.25**	**11.42**	**2.29**	100.00
Assam	**2.01**	6.61	93.39	**52.49**	87.38	12.62	**3.54**	11.04	88.96	**0.00**			**8.28**	0.00	100.00	**15.49**	**18.02**	**0.18**	100.00
Bihar	**8.90**	95.45	4.55	**77.31**	93.30	6.70	**3.02**	62.48	37.52	**0.00**			**0.66**	33.58	66.42	**1.76**	**6.96**	**1.40**	100.00
Gujrat	**1.35**	97.11	2.89	**58.93**	98.57	1.43	**8.03**	67.19	32.81	**0.00**			**4.69**	100.00	0.00	**5.16**	**17.74**	**4.11**	100.00
Haryana	**0.08**	100.00	0.00	**70.79**	94.76	5.24	**3.48**	100.00	0.00	**1.60**	100.00	0.00	**0.00**			**14.83**	**9.21**	**0.00**	100.00
J & K	**0.14**	0.00	100.00	**75.60**	66.64	33.36	**11.42**	19.91	80.09	**0.00**			**3.95**	100.00	0.00	**0.00**	**8.89**	**0.00**	100.00
Karnataka	**18.09**	100.00	0.00	**42.92**	87.63	12.37	**8.34**	70.40	29.60	**0.00**			**5.89**	73.93	26.07	**19.18**	**2.74**	**2.84**	100.00
Kerela	**12.44**	48.47	51.53	**41.83**	90.01	9.99	**10.54**	46.86	53.14	**0.00**			**4.19**	100.00	0.00	**4.62**	**24.85**	**1.52**	100.00
Madhya Pr.	**0.50**	73.96	26.04	**48.31**	89.59	10.41	**12.87**	50.48	49.52	**0.00**			**1.86**	97.72	2.28	**7.28**	**26.33**	**2.84**	100.00
Maharashtra	**9.21**	14.78	85.22	**41.30**	98.44	1.56	**13.52**	17.42	82.58	**6.54**	100.00	0.00	**2.03**	77.25	22.75	**2.01**	**23.78**	**1.61**	100.00
Orissa	**3.80**	84.78	15.22	**49.94**	76.99	23.01	**11.18**	40.03	59.97	**1.37**	7.32	92.68	**2.60**	100.00	0.00	**2.77**	**26.84**	**1.51**	100.00
Punjab	**3.50**	84.10	15.90	**75.47**	98.43	1.57	**4.57**	98.43	1.57	**0.00**			**4.23**	100.00	0.00	**0.16**	**12.08**	**0.00**	100.00
Rajasthan	**18.81**	100.00	0.00	**58.61**	94.07	5.93	**6.10**	63.34	36.66	**0.00**			**0.00**			**2.86**	**13.62**	**0.00**	100.00
Tamil Nadu	**11.08**	60.42	39.58	**39.99**	75.98	24.02	**7.45**	54.12	45.88	**0.00**			**8.25**	91.38	8.62	**13.87**	**16.57**	**2.79**	100.00
Uttar Pr.	**15.07**	82.23	17.77	**29.20**	83.32	16.68	**31.93**	84.33	15.67	**0.06**	32.53	67.47	**6.24**	96.54	3.46	**10.18**	**5.83**	**1.49**	100.00
W. Bengal	**9.13**	87.93	12.07	**28.35**	94.29	5.71	**20.41**	87.35	12.65	**2.91**	99.71	0.29	**24.07**	100.00	0.00	**4.79**	**5.25**	**5.10**	100.00
INDIA	**9.38**	75.40	24.60	**51.15**	87.54	12.46	**13.19**	70.10	29.90	**0.79**	96.58	3.42	**5.54**	92.40	7.60	**6.67**	**11.22**	**2.06**	100.00

TABLE 11

				PERCENTAGE														
Universities	GOVT %	M	C	ST GOVT	M	C	UGC	M	C	LOC	M	C	UNIV	M	C	ENDOW	FEES	TOTAL
										BOD								
Kurukshetra	0.45	0.45	0.00	26.83	24.15	2.68	1.45	1.45	0.00	0.00	0.00	0.00	53.02	0.00	0.00	0.68	17.57	100.00
Sardar Patel	0.00	0.00	0.00	83.71	83.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.09	0.00	0.00	0.00	12.19	100.00
Bangalore	1.34	0.00	1.34	40.72	40.50	0.22	0.00	0.00	0.00	0.00	0.00	0.00	6.09	0.00	0.00	7.66	44.20	100.00
Devi Ahilya	0.00	0.00	0.00	41.04	41.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.00	0.00	0.01	58.52	100.00
Amravati	0.00	0.00	0.00	47.41	44.55	2.86	0.54	0.54	0.00	0.00	0.00	0.00	7.99	0.00	0.00	0.80	43.25	100.00
Shivaji	0.61	0.61	0.00	44.70	44.70	0.00	1.40	1.40	0.00	0.00	0.00	0.00	19.69	0.00	0.00	2.13	31.48	100.00
Sambalpur	0.00	0.00	0.00	80.63	79.93	0.70	0.00	0.00	0.00	0.79	0.79	0.00	1.80	0.00	0.00	0.12	16.67	100.00
Guru Nanak Dev	3.61	0.00	3.61	31.30	31.09	0.21	0.00	0.00	0.00	0.03	0.00	0.03	9.17	0.00	0.00	2.06	53.82	100.00
Bhartidasan	0.00	0.00	0.00	5.07	5.07	0.00	1.02	1.02	0.00	0.00	0.00	0.00	29.70	0.00	0.00	0.04	64.18	100.00
Madurai Kamraj	0.00	0.00	0.00	7.37	7.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.66	0.00	0.00	0.01	87.96	100.00
Kumaon	0.00	0.00	0.00	58.22	45.10	13.12	0.00	0.00	0.00	0.00	0.00	0.00	2.64	0.00	0.00	7.95	31.19	100.00
North Bengal	0.00	0.00	0.00	83.78	82.28	1.50	0.63	0.63	0.00	1.71	0.00	1.71	2.67	0.00	0.00	1.75	9.46	100.00
Rabindra Bharti	0.11	0.11	0.00	87.60	87.60	0.00	2.50	2.50	0.00	0.00	0.00	0.00	3.60	0.00	0.00	0.91	5.27	100.00
Bhavnagar	0.00	0.00	0.00	83.77	83.77	0.00	3.22	3.22	0.00	0.00	0.00	0.00	0.82	0.00	0.00	0.24	11.95	100.00
North Maharashtra	0.00	0.00	0.00	31.35	31.35	0.00	1.92	1.92	0.00	0.00	0.00	0.00	11.41	0.00	0.00	0.27	55.05	100.00
Kuvempu	0.00	0.00	0.00	63.23	54.72	8.51	0.00	0.00	0.00	0.00	0.00	0.00	14.76	0.00	0.00	0.06	21.94	100.00
Himachal	0.00	0.00	0.00	67.23	54.08	13.15	0.00	0.00	0.00	0.00	0.00	0.00	3.23	0.00	0.00	0.00	29.54	100.00

TABLE 12

States Expenditure in Percent (Universities) 1976-77

States	Salary Total	Salary (T)	Salary (NT	Total Dev	% Rec	Welfare	S'ship	Others (Rec)	Others (Non Rec)	TOTAL
Andhra	57.2	31.5	25.7	20.2	28.6	2.5	1.9	16.0	2.2	100.0
Assam	35.3	9.6	25.7	38.9	40.5	2.4	2.8	14.6	6.0	100.0
Bihar	56.2	50.0	6.2	22.2	14.9	1.0	2.4	16.3	1.9	100.0
Gujrat	45.6	24.4	21.2	15.1	37.3	1.7	4.0	31.3	2.3	100.0
Haryana	29.3	16.3	13.0	46.3	13.8	1.9	2.6	18.6	1.3	100.0
J & K	43.1	20.5	22.6	40.6	29.0	1.7	3.2	9.0	2.5	100.0
Karnataka	31.2	16.7	14.4	25.6	28.5	0.2	1.2	41.5	0.4	100.0
Kerela	20.6	6.0	14.6	25.6	70.8	1.9	1.8	42.1	8.1	100.0
Madhya Pr.	52.9	36.7	16.2	24.3	50.9	2.0	3.0	16.2	1.5	100.0
Maharashtra	45.4	22.2	23.2	17.1	62.1	0.7	3.8	27.3	5.7	100.0
Orissa	30.9	9.6	21.2	21.7	25.0	2.6	2.2	42.5	0.2	100.0
Punjab	46.1	24.1	22.0	16.9	59.4	1.5	1.5	34.0	0.0	100.0
Rajasthan	53.8	28.3	25.6	19.2	31.6	1.2	0.6	24.6	0.5	100.0
Tamil Nadu	36.4	18.6	17.8	21.4	39.3	1.0	6.6	29.5	5.1	100.0
Uttar Pr.	48.7	30.6	18.1	13.1	69.3	1.1	9.3	24.0	3.9	100.0
W. Bengal	38.4	18.9	19.5	31.7	12.6	0.8	1.3	17.0	10.7	100.0

TABLE 13

			EXPDT	(%)						
States Expenditure in Percent (Universities) 1986-87										
States	Salary Total	Salary (T)	Salary (NT	Total Dev	% Rec	Welfare	S'ship	Others (Rec)	Others (Non Rec)	TOTAL
Andhra	51.6	22.8	28.8	11.5	41.3	0.7	2.0	25.4	8.8	100.0
Assam	49.2	20.8	28.4	3.7	87.1	5.9	1.1	29.9	10.2	100.0
Bihar	73.9	68.7	5.3	7.7	57.2	0.1	1.3	13.1	3.4	100.0
Gujrat	38.0	12.8	25.5	11.3	83.0	3.0	1.6	44.0	2.1	100.0
Haryana	51.0	21.3	29.7	18.4	26.3	1.4	1.0	25.7	2.4	100.0
J & K	39.2	20.8	18.3	34.8	14.3	0.8	3.0	17.5	4.7	100.0
Karnataka	49.9	32.8	17.1	11.9	11.8	0.2	0.9	35.8	1.5	100.0
Kerela	37.1	14.6	22.5	15.0	39.6	0.5	3.2	34.8	9.4	100.0
Madhya Pr.	43.2	17.4	25.6	11.5	13.1	0.5	3.5	37.0	4.3	100.0
Maharashtra	38.3	14.3	24.0	7.2	43.3	0.3	0.7	29.7	23.7	100.0
Orissa	44.2	24.4	20.5	22.3	28.6	2.9	10.6	13.6	5.7	100.0
Punjab	72.6	43.9	28.7	10.4	81.4	1.1	2.4	12.9	0.5	100.0
Rajasthan	71.1	40.7	30.4	3.4	11.9	1.2	0.5	21.8	2.1	100.0
Tamil Nadu	40.5	24.4	16.1	20.2	56.2	0.1	4.5	24.8	9.9	100.0
Uttar Pr.	46.4	26.7	19.7	16.4	54.3	0.1	2.2	26.0	8.9	100.0
W. Bengal	60.2	34.0	26.2	7.2	36.8	2.6	1.7	22.5	5.8	100.0

TABLE 14

University Expenditure in Percent 2001-02

Universities	Salary Total	Salary (T)	Salary (NT	Total Dev	% Rec	Welfare	College grant	Others (Non Plan)	Others (Plan)	TOTAL
Kurukshetra	43.3	0.0	0.0	13.7	52.3	1.3	6.1	32.7	2.9	100.0
Sardar Patel	63.6	44.3	16.9	12.3	36.8	1.2	3.2	18.1	1.5	100.0
Bangalore	42.5	22.0	20.5	12.2	44.8	1.8	19.8	19.1	4.7	100.0
Devi Ahilya	49.8	14.1	27.0	15.0	67.5	2.1	0.0	33.0	0.0	100.0
Amravati	33.1	10.1	23.0	28.7	27.8	1.2	3.1	33.9	0.0	100.0
Shivaji	42.0	21.1	20.9	37.8	89.5	1.0	0.0	18.7	0.5	100.0
Sambalpur	74.9	33.1	32.5	15.4	47.6	0.4	0.6	8.7	0.0	100.0
Guru Nanak Dev	60.7	28.8	23.4	16.2	73.2	1.0	0.2	17.9	4.0	100.0
Bhartidasan	27.4	9.7	16.3	27.5	83.4	0.5	0.5	43.9	0.2	100.0
Madurai Kamraj	73.1	25.1	33.1	6.7	65.9	0.6	0.0	19.7	0.0	100.0
Kumaon	49.2	32.9	16.3	25.6	40.1	2.4	1.6	10.6	10.6	100.0
North Bengal	55.1	16.5	29.7	20.4	59.7	0.2	11.6	10.5	2.0	100.0
Rabindra Bharti	74.8	30.2	21.6	11.4	25.4	2.9	0.0	10.3	0.6	100.0
Bhavnagar	60.4	29.3	29.9	22.8	22.9	0.9	0.0	15.9	0.0	100.0
North Maharashtr	29.2	10.3	18.9	33.4	2.6	0.9	0.2	36.3	0.0	100.0
Kuvempu	56.4	37.9	17.9	20.1	16.0	1.1	0.0	21.2	1.2	100.0
Himachal	58.5	15.5	36.2	20.0	81.8	1.5	3.2	15.3	1.6	100.0

TABLE 15

UNIVERSITY INCOME IN PERCENT (STATE WISE) 1976-77									
STATES	GOVT %	ST GOVT	UGC	LOC C BOD	UNIV	ENDOW	FEES	OTHERS	TOTAL
Andhra	0.4	61.4	16.0	8.9	4.2	1.5	7.4	0.0	100.0
Assam	24.6	50.9	3.6	1.0	1.1	4.1	14.2	0.4	100.0
Bihar	0.4	73.8	8.6	0.0	3.9	4.6	5.2	3.5	100.0
Gujrat	0.8	34.4	5.7	0.3	29.6	3.5	24.6	1.1	100.0
Haryana	0.2	66.9	6.3	2.3	4.6	0.5	18.9	0.3	100.0
J & K	1.1	62.7	8.3	0.0	11.3	0.0	16.7	0.0	100.0
Karnataka	0.1	58.9	11.2	0.0	6.0	17.5	2.4	3.9	100.0
Kerela	9.0	45.5	11.6	0.5	0.0	5.1	24.6	3.8	100.0
Madhya Pr.	9.7	57.2	13.5	0.0	2.6	9.5	7.4	0.1	100.0
Maharashtra	11.8	36.1	0.0	1.4	2.2	20.5	24.9	3.1	100.0
Orissa	0.0	53.4	20.6	0.1	4.6	0.6	20.1	0.6	100.0
Punjab	1.1	63.4	8.6	1.1	2.4	0.0	23.3	0.1	100.0
Rajasthan	0.0	63.7	5.9	0.0	0.0	2.9	21.0	6.5	100.0
Tamil Nadu	1.3	16.5	21.7	0.0	29.6	17.8	12.9	0.3	100.0
Uttar Pr.	14.0	26.7	21.3	0.1	4.4	19.8	12.6	0.9	100.0
W. Bengal	5.5	54.3	18.2	0.0	1.5	2.9	6.6	11.1	100.0
AVG	5.0	51.6	11.3	1.0	6.8	6.9	15.2	2.2	
ST DEV	7.1	15.8	6.7	2.2	9.3	7.6	7.7	3.0	
C.V.	141.8	30.7	58.8	224.6	137.9	109.1	50.5	136.8	

TABLE 16.

UNIVERSITY INCOME IN PERCENT (STATE WISE) 1986-87									
STATES	GOVT %	ST GOVT	UGC	LOC BOD	UNIV	ENDOW	FEES	OTHERS	TOTAL
Andhra	4.9	64.3	10.0	0.5	2.3	4.2	11.4	2.3	100.0
Assam	2.0	52.5	3.5	0.0	8.3	15.5	18.0	0.2	100.0
Bihar	8.9	77.3	3.0	0.0	0.7	1.8	7.0	1.4	100.0
Gujrat	1.4	58.9	8.0	0.0	4.7	5.2	17.7	4.1	100.0
Haryana	0.1	70.8	3.5	1.6	0.0	14.8	9.2	0.0	100.0
J & K	0.1	75.6	11.4	0.0	4.0	0.0	8.9	0.0	100.0
Karnataka	18.1	42.9	8.3	0.0	5.9	19.2	2.7	2.8	100.0
Kerela	12.4	41.8	10.5	0.0	4.2	4.6	24.9	1.5	100.0
Madhya Pr.	0.5	48.3	12.9	0.0	1.9	7.3	26.3	2.8	100.0
Maharashtra	9.2	41.3	13.5	6.5	2.0	2.0	23.8	1.6	100.0
Orissa	3.8	49.9	11.2	1.4	2.6	2.8	26.8	1.5	100.0
Punjab	3.5	75.5	4.6	0.0	4.2	0.2	12.1	0.0	100.0
Rajasthan	18.8	58.6	6.1	0.0	0.0	2.9	13.6	0.0	100.0
Tamil Nadu	11.1	40.0	7.4	0.0	8.3	13.9	16.6	2.8	100.0
Uttar Pr.	15.1	29.2	31.9	0.1	6.2	10.2	5.8	1.5	100.0
W. Bengal	9.1	28.3	20.4	2.9	24.1	4.8	5.3	5.1	100.0
AVERAGE	7.4	53.5	10.4	0.8	5.0	6.8	14.4	1.7	
ST DEV	6.4	16.0	7.3	1.7	5.7	6.0	7.9	1.5	
C.V.	85.4	30.0	70.3	214.3	115.4	88.2	55.1	89.0	

TABLE 17

UNIVERSITY INCOME IN PERCENT (SAMPLE UNIVERSITIES) 2001-02								
Universities	GOVT %	ST GOVT	UGC	LOC C BOD	UNIV	ENDOW	FEES	TOTAL
Kurukshetra	0.5	26.8	1.4	0.0	53.0	0.7	17.6	100.0
Sardar Patel	0.0	83.7	0.0	0.0	4.1	0.0	12.2	100.0
Bangalore	1.3	40.7	0.0	0.0	6.1	7.7	44.2	100.0
Devi Ahilya	0.0	41.0	0.0	0.0	0.4	0.0	58.5	100.0
Amravati	0.0	47.4	0.5	0.0	8.0	0.8	43.3	100.0
Shivaji	0.6	44.7	1.4	0.0	19.7	2.1	31.5	100.0
Sambalpur	0.0	80.6	0.0	0.8	1.8	0.1	16.7	100.0
Guru Nanak Dev	3.6	31.3	0.0	0.0	9.2	2.1	53.8	100.0
Bhartidasan	0.0	5.1	1.0	0.0	29.7	0.0	64.2	100.0
Madurai Kamraj	0.0	7.4	0.0	0.0	4.7	0.0	88.0	100.0
Kumaon	0.0	58.2	0.0	0.0	2.6	7.9	31.2	100.0
North Bengal	0.0	83.8	0.6	1.7	2.7	1.7	9.5	100.0
Rabindra Bharti	0.1	87.6	2.5	0.0	3.6	0.9	5.3	100.0
Bhavnagar	0.0	83.8	3.2	0.0	0.8	0.2	12.0	100.0
North Maharashtr	0.0	31.3	1.9	0.0	11.4	0.3	55.0	100.0
Kuvempu	0.0	63.2	0.0	0.0	14.8	0.1	21.9	100.0
Himachal	0.0	67.2	0.0	0.0	3.2	0.0	29.5	100.0
AVERAGE	0.4	52.0	0.7	0.1	10.3	1.5	35.0	
ST DEV	0.9	26.8	1.0	0.4	13.4	2.5	23.1	
C.V.	252.5	51.6	136.8	298.6	129.7	172.0	66.2	

TABLE 18

States Expenditure in Percent (Universities) 1976-77									
States	Salary Total	Salary (T)	Salary (NT	Total Dev	Welfare	S'ship	Others (Rec)	Others (Non Rec)	TOTAL
Andhra	57.2	31.5	25.7	20.2	2.5	1.9	16.0	2.2	100.0
Assam	35.3	9.6	25.7	38.9	2.4	2.8	14.6	6.0	100.0
Bihar	56.2	50.0	6.2	22.2	1.0	2.4	16.3	1.9	100.0
Gujrat	45.6	24.4	21.2	15.1	1.7	4.0	31.3	2.3	100.0
Haryana	29.3	16.3	13.0	46.3	1.9	2.6	18.6	1.3	100.0
J & K	43.1	20.5	22.6	40.6	1.7	3.2	9.0	2.5	100.0
Karnataka	31.2	16.7	14.4	25.6	0.2	1.2	41.5	0.4	100.0
Kerela	20.6	6.0	14.6	25.6	1.9	1.8	42.1	8.1	100.0
Madhya Pr.	52.9	36.7	16.2	24.3	2.0	3.0	16.2	1.5	100.0
Maharashtra	45.4	22.2	23.2	17.1	0.7	3.8	27.3	5.7	100.0
Orissa	30.9	9.6	21.2	21.7	2.6	2.2	42.5	0.2	100.0
Punjab	46.1	24.1	22.0	16.9	1.5	1.5	34.0	0.0	100.0
Rajasthan	53.8	28.3	25.6	19.2	1.2	0.6	24.6	0.5	100.0
Tamil Nadu	36.4	18.6	17.8	21.4	1.0	6.6	29.5	5.1	100.0
Uttar Pr.	48.7	30.6	18.1	13.1	1.1	9.3	24.0	3.9	100.0
W. Bengal	38.4	18.9	19.5	31.7	0.8	1.3	17.0	10.7	100.0
AVERAGE	41.9	22.8	19.2	25.0	1.5	3.0	25.3	3.3	
ST DEV	10.7	11.1	5.4	9.6	0.7	2.2	10.7	3.1	
C.V.	25.6	48.8	27.9	38.6	44.8	73.0	42.4	94.4	

TABLE 19

States Expenditure in Percent (Universities) 1986-87									
States	Salary Total	Salary (T)	Salary (NT	Total Dev	Welfare	S'ship	Others (Rec)	Others (Non Rec)	TOTAL
Andhra	51.6	22.8	28.8	11.5	0.7	2.0	25.4	8.8	100.0
Assam	49.2	20.8	28.4	3.7	5.9	1.1	29.9	10.2	100.0
Bihar	73.9	68.7	5.3	7.7	0.1	1.3	13.1	3.4	100.0
Gujrat	38.0	12.8	25.5	11.3	3.0	1.6	44.0	2.1	100.0
Haryana	51.0	21.3	29.7	18.4	1.4	1.0	25.7	2.4	100.0
J & K	39.2	20.8	18.3	34.8	0.8	3.0	17.5	4.7	100.0
Karnataka	49.9	32.8	17.1	11.9	0.2	0.9	35.8	1.5	100.0
Kerela	37.1	14.6	22.5	15.0	0.5	3.2	34.8	9.4	100.0
Madhya Pr.	43.2	17.4	25.6	11.5	0.5	3.5	37.0	4.3	100.0
Maharashtra	38.3	14.3	24.0	7.2	0.3	0.7	29.7	23.7	100.0
Orissa	44.2	24.4	20.5	22.3	2.9	10.6	13.6	5.7	100.0
Punjab	72.6	43.9	28.7	10.4	1.1	2.4	12.9	0.5	100.0
Rajasthan	71.1	40.7	30.4	3.4	1.2	0.5	21.8	2.1	100.0
Tamil Nadu	40.5	24.4	16.1	20.2	0.1	4.5	24.8	9.9	100.0
Uttar Pr.	46.4	26.7	19.7	16.4	0.1	2.2	26.0	8.9	100.0
W. Bengal	60.2	34.0	26.2	7.2	2.6	1.7	22.5	5.8	100.0
AVERAGE	50.4	27.5	22.9	13.3	1.3	2.5	25.9	6.5	
ST DEV	12.6	14.2	6.6	7.9	1.6	2.4	9.1	5.6	
C.V.	25.0	51.7	28.8	59.6	117.4	96.8	35.2	87.2	

TABLE 20

University Expenditure in Percent 2001-02

Universities	Salary Total	Salary (T)	Salary (NT	Total Dev	Welfare	College gr	Others (Non Plan)	Others (Plan)	TOTAL
Kurukshetra	43.3	0.0	0.0	13.7	1.3	6.1	32.7	2.9	100.0
Sardar Patel	63.6	44.3	16.9	12.3	1.2	3.2	18.1	1.5	100.0
Bangalore	42.5	22.0	20.5	12.2	1.8	19.8	19.1	4.7	100.0
Devi Ahilya	49.8	14.1	27.0	15.0	2.1	0.0	33.0	0.0	100.0
Amravati	33.1	10.1	23.0	28.7	1.2	3.1	33.9	0.0	100.0
Shivaji	42.0	21.1	20.9	37.8	1.0	0.0	18.7	0.5	100.0
Sambalpur	74.9	33.1	32.5	15.4	0.4	0.6	8.7	0.0	100.0
Guru Nanak Dev	60.7	28.8	23.4	16.2	1.0	0.2	17.9	4.0	100.0
Bhartidasan	27.4	9.7	16.3	27.5	0.5	0.5	43.9	0.2	100.0
Madurai Kamraj	73.1	25.1	33.1	6.7	0.6	0.0	19.7	0.0	100.0
Kumaon	49.2	32.9	16.3	25.6	2.4	1.6	10.6	10.6	100.0
North Bengal	55.1	16.5	29.7	20.4	0.2	11.6	10.5	2.0	100.0
Rabindra Bharti	74.8	30.2	21.6	11.4	2.9	0.0	10.3	0.6	100.0
Bhavnagar	60.4	29.3	29.9	22.8	0.9	0.0	15.9	0.0	100.0
North Maharashtr	29.2	10.3	18.9	33.4	0.9	0.2	36.3	0.0	100.0
Kuvempu	56.4	37.9	17.9	20.1	1.1	0.0	21.2	1.2	100.0
Himachal	58.5	15.5	36.2	20.0	1.5	3.2	15.3	1.6	100.0
AVERAGE	52.6	22.4	22.6	20.0	1.2	2.9	21.5	1.8	
ST DEV	15.0	11.8	8.6	8.4	0.7	5.3	10.5	2.7	
C.V.	28.5	52.5	38.1	42.2	58.2	180.0	49.0	154.1	

TABLE 21

Proximity Matrix		76-77														
Euclidean Distance																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1		2.257	1.843	3.08	2.286	3.273	1.769	5.764	2.406	2.42	2.536	2.606	3.011	1.887	4.002	3.315
2	2.257		1.144	1.297	1.094	2.163	1.123	4.285	0.996	1.42	0.825	1.614	2.518	1.114	3.388	2.837
3	1.843	1.144		1.907	1.201	2.851	0.726	4.459	1.347	1.627	1.135	1.792	2.468	1.31	3.481	2.804
4	3.08	1.297	1.907		1.403	2.044	1.952	4.629	0.756	1.45	1.428	1.676	2.602	1.738	3.371	3.098
5	2.286	1.094	1.201	1.403		1.795	1.149	4.753	0.85	0.889	1.427	0.931	1.867	1.337	2.656	2.141
6	3.273	2.163	2.851	2.044	1.795		2.669	5.849	1.925	1.63	2.794	1.56	2.207	2.279	2.402	2.286
7	1.769	1.123	0.726	1.952	1.149	2.669		4.441	1.375	1.383	1.2	1.529	2.141	0.951	3.178	2.531
8	5.764	4.285	4.459	4.629	4.753	5.849	4.441		4.826	5.228	3.724	5.254	5.952	4.948	6.535	6.07
9	2.406	0.996	1.347	0.756	0.85	1.925	1.375	4.826		0.968	1.255	1.242	2.146	1.247	3.041	2.647
10	2.42	1.42	1.627	1.45	0.889	1.63	1.383	5.228	0.968		1.87	0.396	1.318	1.059	2.285	1.869
11	2.536	0.825	1.135	1.428	1.427	2.794	1.2	3.724	1.255	1.87		2.049	2.882	1.584	3.778	3.24
12	2.606	1.614	1.792	1.676	0.931	1.56	1.529	5.254	1.242	0.396	2.049		1.128	1.35	1.995	1.544
13	3.011	2.518	2.468	2.602	1.867	2.207	2.141	5.952	2.146	1.318	2.882	1.128		1.981	1.243	0.981
14	1.887	1.114	1.31	1.738	1.337	2.279	0.951	4.948	1.247	1.059	1.584	1.35	1.981		3.058	2.545
15	4.002	3.388	3.481	3.371	2.656	2.402	3.178	6.535	3.041	2.285	3.778	1.995	1.243	3.058		1.024
16	3.315	2.837	2.804	3.098	2.141	2.286	2.531	6.07	2.647	1.869	3.24	1.544	0.981	2.545	1.024	
	42.455	28.075	30.095	32.431	25.779	37.727	28.117	76.717	27.027	25.812	31.727	26.666	34.445	28.388	45.437	38.932
MEAN	2.83033	1.871667	2.00633	2.16207	1.7186	2.51513	1.8745	5.11447	1.8018	1.7208	2.1151	1.77773	2.29633	1.89253	3.0291	2.595467
dissimilarity matrix																

TABLE 22

Proximity Matrix		86-87														
Euclidean Distance																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1		2.353	2.023	3.39	2.391	3.695	2.427	3.58	2.623	2.615	2.335	2.531	3.761	2.032	3.338	2.454
2	2.353		0.583	1.62	0.711	2.72	1.727	2.098	0.867	0.447	0.858	0.764	2.57	0.779	2.198	1.37
3	2.023	0.583		1.84	0.934	2.988	1.728	2.438	0.909	0.735	0.85	1.038	2.652	0.794	2.264	1.47
4	3.39	1.62	1.84		1.612	3.167	2.964	1.857	1.386	1.514	2.155	1.67	3.698	1.847	3.305	2.649
5	2.391	0.711	0.934	1.612		2.292	1.526	2.11	1.048	0.773	1.063	0.488	2.577	0.613	2.118	1.152
6	3.695	2.72	2.988	3.167	2.292		2.327	3.572	2.683	2.717	2.506	2.616	2.49	2.48	2.248	2.073
7	2.427	1.727	1.728	2.964	1.526	2.327		3.268	2.181	1.924	1.635	1.732	2.033	1.48	1.317	0.725
8	3.58	2.098	2.438	1.857	2.11	3.572	3.268		2.383	2.186	2.622	1.831	4.102	2.142	3.922	2.969
9	2.623	0.867	0.909	1.386	1.048	2.683	2.181	2.383		0.65	0.9	1.276	2.605	1.106	2.352	1.796
10	2.615	0.447	0.735	1.514	0.773	2.717	1.924	2.186	0.65		0.84	0.827	2.509	0.968	2.188	1.517
11	2.335	0.858	0.85	2.155	1.063	2.506	1.635	2.622	0.9	0.84		1.245	1.968	0.918	1.839	1.242
12	2.531	0.764	1.038	1.67	0.488	2.616	1.732	1.831	1.276	0.827	1.245		2.757	0.809	2.371	1.358
13	3.761	2.57	2.652	3.698	2.577	2.49	2.033	4.102	2.605	2.509	1.968	2.757		2.594	1.124	1.847
14	2.032	0.779	0.794	1.847	0.613	2.48	1.48	2.142	1.106	0.968	0.918	0.809	2.594		2.201	1.275
15	3.338	2.198	2.264	3.305	2.118	2.248	1.317	3.922	2.352	2.188	1.839	2.371	1.124	2.201		1.356
16	2.454	1.37	1.47	2.649	1.152	2.073	0.725	2.969	1.796	1.517	1.242	1.358	1.847	1.275	1.356	
	41.548	21.665	23.246	34.674	21.408	40.574	28.994	41.08	24.765	22.41	22.976	23.313	39.287	22.038	34.141	25.253
MEAN	2.76987	1.444333	1.54973	2.3116	1.4272	2.70493	1.9329	2.73867	1.651	1.494	1.5317	1.5542	2.61913	1.4692	2.2761	1.683533
This is a dissimilarity matrix																

TABLE 23

ximity Matrix		99-00														
Euclidean Distance																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1		1.118	6.85	2.695	1.131	0.929	1.209	0.883	1.33	1.286	1.193	1.665	2.982	0.589	1.896	1.636
2	1.118		6.767	2.291	1.266	0.904	1.021	1.161	1.299	0.908	1.068	1.36	2.608	1.399	1.552	1.127
3	6.85	6.767		5.125	6.058	6.436	6.165	6.509	6.598	6.306	6.399	5.901	5.403	6.823	6.144	6.086
4	2.695	2.291	5.125		1.774	2.29	1.661	2.507	2.063	1.576	2.042	1.383	1.328	2.94	1.548	1.396
5	1.131	1.266	6.058	1.774		1.045	0.413	1.276	1.145	0.867	0.987	0.752	2.318	1.396	1.373	0.992
6	0.929	0.904	6.436	2.29	1.045		0.97	0.558	1.251	1.152	0.961	1.426	2.7	0.922	1.718	1.405
7	1.209	1.021	6.165	1.661	0.413	0.97		1.288	0.907	0.606	0.886	0.679	2.203	1.509	1.222	0.813
8	0.883	1.161	6.509	2.507	1.276	0.558	1.288		1.445	1.352	1.391	1.637	2.967	0.683	2.073	1.715
9	1.33	1.299	6.598	2.063	1.145	1.251	0.907	1.445		0.937	1.328	1.366	2.545	1.648	1.65	1.486
10	1.286	0.908	6.306	1.576	0.867	1.152	0.606	1.352	0.937		1.01	0.877	1.991	1.652	1.079	0.674
11	1.193	1.068	6.399	2.042	0.987	0.961	0.886	1.391	1.328	1.01		1.423	2.083	1.491	0.919	0.953
12	1.665	1.36	5.901	1.383	0.752	1.426	0.679	1.637	1.366	0.877	1.423		2.231	1.943	1.489	0.874
13	2.982	2.608	5.403	1.328	2.318	2.7	2.203	2.967	2.545	1.991	2.083	2.231		3.278	1.278	1.681
14	0.589	1.399	6.823	2.94	1.396	0.922	1.509	0.683	1.648	1.652	1.491	1.943	3.278		2.266	1.986
15	1.896	1.552	6.144	1.548	1.373	1.718	1.222	2.073	1.65	1.079	0.919	1.489	1.278	2.266		0.743
16	1.636	1.127	6.086	1.396	0.992	1.405	0.813	1.715	1.486	0.674	0.953	0.874	1.681	1.986	0.743	
	27.392	25.849	93.57	32.619	22.793	24.667	21.552	27.445	26.998	22.273	24.134	25.006	37.596	30.525	26.95	23.567
MEAN	1.82613	1.723267	6.238	2.1746	1.51953	1.64447	1.4368	1.82967	1.79987	1.4849	1.6089	1.66707	2.5064	2.035	1.7967	1.571133
This is a dissimilarity matrix																

TABLE 24

SCALE FREE BY DIVISION BY MEAN METHOD									
		1999-2000							
		INDICATORS							
		1	2	3	4	5	6	7	8
STATES		Univ edu as	hgh edu as	Per student Hg	%univ student	% Univ girls	Student Tea-	Univs per	univs per 10
		% of SDP	% of tot edu	Edu expdt	to Total popln	to Total popln	cher Ratio	'000 enrolment	lakh popln
ANDHRA	1	1.13	1.62	1.70	0.43	0.46	0.65	1.48	0.94
ASSAM	2	1.11	0.60	1.39	0.35	0.44	0.62	1.30	0.67
BIHAR	3	1.12	0.69	0.06	5.57	4.21	1.67	0.12	0.99
GUJRAT	4	0.42	0.50	0.27	1.23	1.64	1.40	0.59	1.07
HARYANA	5	0.95	1.40	1.00	0.85	0.86	0.59	0.91	1.14
J&K	6	1.55	0.98	1.46	0.57	0.80	0.72	1.41	1.20
KAR'TAKA	7	0.93	1.07	0.88	0.76	0.72	0.66	1.01	1.13
KERELA	8	1.34	1.09	1.89	0.56	0.96	0.71	1.59	1.30
MP	9	0.69	1.08	0.76	0.58	0.41	0.88	1.70	1.45
MAHA'TRA	10	0.61	0.86	1.04	0.57	0.72	1.00	1.10	0.93
ORISSA	11	1.50	1.19	0.97	0.58	0.49	1.14	0.95	0.81
PUNJAB	12	0.61	0.92	0.77	0.80	1.19	0.41	0.83	0.99
RAJ'THAN	13	0.68	0.62	0.30	1.28	1.08	2.38	0.28	0.53
TN	14	1.42	1.58	2.07	0.55	0.57	0.56	1.52	1.24
UP	15	1.02	0.98	0.59	0.68	0.58	1.59	0.57	0.58
WB	16	0.85	0.80	0.85	0.64	0.86	1.01	0.63	0.60

TABLE 25

		1986-87							
STATES		Univ edu as	hgh edu as	Per student Hg	%univ student	% Univ girls	Student Tea-	Univs per	univs per 10
		% of SDP	% of tot edu	Edu expdt	to Total popln	to Total popln	cher Ratio	'000 enrolment	lakh popln
		1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00
ANDHRA	1	1.64	1.60	0.00	0.00	0.00	0.00	0.00	1.18
ASSAM	2	0.97	0.68	1.12	0.67	0.67	0.95	1.02	0.81
BIHAR	3	0.86	1.00	0.79	0.57	0.41	0.91	0.93	0.63
GUJRAT	4	0.65	0.78	1.53	0.45	0.45	1.07	2.43	1.31
HARYANA	5	0.81	1.12	1.15	0.84	0.99	0.72	1.12	1.12
J&K	6	1.35	1.13	0.65	1.86	2.37	1.10	1.08	2.39
KAR'TAKA	7	0.95	1.02	0.45	1.76	1.20	0.21	0.38	0.80
KERELA	8	1.68	1.00	2.84	0.46	0.58	0.64	1.84	1.01
MP	9	0.84	0.99	0.85	0.60	0.60	1.54	1.42	1.02
MAHA'TRA	10	0.69	0.78	1.19	0.66	0.73	1.26	1.09	0.85
ORISSA	11	1.12	1.07	0.77	0.90	0.83	1.46	0.71	0.76
PUNJAB	12	0.79	1.11	1.55	0.72	0.97	0.65	1.03	0.89
RAJ'THAN	13	1.01	0.83	0.28	2.21	1.91	1.99	0.16	0.42
TN	14	1.17	1.30	1.05	0.94	0.60	0.75	0.94	1.05
UP	15	0.51	0.62	0.15	2.20	1.54	1.20	0.32	0.83
WB	16	0.97	0.97	0.62	1.29	1.55	0.57	0.53	0.80

TABLE 26

		1976-77							
STATES		Univ edu as	hgh edu as	Per student Hg	%univ student	% Univ girls	Student Tea-	Univs per	univs per 10
		% of SDP	% of tot edu	Edu expdt	to Total popln	to Total popln	cher Ratio	'000 enrolment	lakh popln
		1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00
ANDHRA	1	1.70	1.61	0.00	0.00	0.00	0.00	0.00	0.90
ASSAM	2	0.92	0.87	1.06	0.47	0.49	0.51	1.45	1.00
BIHAR	3	1.19	1.80	1.06	0.46	0.28	0.77	1.03	0.69
GUJRAT	4	0.56	0.50	0.92	0.50	0.43	1.62	1.71	1.26
HARYANA	5	0.91	1.28	0.88	1.01	0.66	1.03	0.97	1.43
J&K	6	0.24	0.21	0.09	1.36	1.31	0.80	1.03	2.06
KAR'TAKA	7	1.40	1.29	1.17	0.69	0.38	0.68	0.65	0.66
KERELA	8	1.94	0.97	5.00	0.23	0.27	0.44	2.72	0.94
MP	9	0.85	0.88	0.65	0.62	0.40	1.36	1.29	1.17
MAHA'TRA	10	0.68	0.82	0.57	1.05	0.87	1.27	0.63	0.97
ORISSA	11	1.36	1.03	1.51	0.37	0.24	0.86	1.67	0.91
PUNJAB	12	0.70	0.90	0.65	1.28	1.14	1.26	0.58	1.08
RAJ'THAN	13	0.90	0.96	0.26	2.06	1.26	1.39	0.18	0.55
TN	14	0.80	0.72	0.76	0.60	0.37	0.65	0.55	0.49
UP	15	0.73	0.84	0.11	3.06	1.75	1.40	0.23	1.04
WB	16	0.99	1.32	0.30	2.36	1.93	0.98	0.26	0.89