EDUCATIONAL INVESTMENT AND ITS IMPACT ON ECONOMIC DEVELOPMENT - A COMPARISON OF EXPERIENCE IN 15 INDIAN STATES

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Certified that the dissertation entitled "EDUCATIONAL INVESTMENT AND ITS IMPACT ON ECONOMIC DEVELOPMENT - A COMPARISON OF EXPERIENCE IN 15 INDIAN STATES" submitted by Miss Lipika Priyadarsini in partial fulfilment of the requirements for the award of the degree of MASTER OF PHILOSOPHY, has not been previously submitted for any other degree of this or, any other University and is her own work.

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INTRODUCTION

Economic development of a positive and steady nature has been the consistent goal of almost all the countries since the second world war. While economic development for developed countries refers to reduced unemployment and increase in the welfare of the community as a whole, it has a slightly different connotation for developing economies. It has the additional objectives of raising the standard of living of the people and reducing the rate of poverty and deprivation.

Pepple are both the end and means of economic development. Economic development must be for the sake of people; to provide them with a better, fuller and more secure life. But, economic development also depends upon the people, on their capacity to produce more and better.

Education is a key factor in socio-economic development. A rational educational system produces the skilled and trained personnel needed by the economy and the society; promotes science and technology and, even more important a scientific outlook. It increases the receptivity of population to modern ideas and improved techniques and enlarges their mental horizon; stimulates creative faculties; results in greater awareness of available

opportunities and mobility of labour.

In our present study the two terms, economic growth and economic development are used inter-changably though there are fundamental differences between the two. Economic development implies growth plus social change and necessarily involves changes in social attitudes and institutions along with growth. Hence economic development encompases the concept of growth. But, for our present study they are synonymous.

Many studies of economic growth in advanced countries confirm the importance of non-material investment. While investment in human beings has been a major source of growth in the advanced countries, the negligeable amount of human investment in underdeveloped countries has done little to meet the challenge of accelerated development. The characteristic of, "economic backwardness" is still manifest in several particular forms:[1] low labour efficiency, factor immobility, limited specialization in occupations and in trade, a

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1 Myint HLa, " An interpretation of the Economic Backwardness", Oxford Economic Papers, June 1954, pp. 133-63.

deficient supply of enterpreneurship, and customary values and traditional social institutions that minimises the incentives for social and economic change. The slow growth in knowledge is an especially severe restraint to progress. The economic quality of the population remains low when there is little knowledge of what natural resources are available, the alternative production techniques that are possible.

Recent experience with attempts to accumulate physical capital at a rapid rate without a commensurate growth in poor countries bears out the necessity of due attention to human capital. If there is underinvestment in human capital, the rate at which additional physical capital can be productively utilised will be limited, since technical, professional and administrative people are needed to make effective use of material capital. In many newly developed countries the absorptive capacity for physical capital has proved to be low because the extension of human capabilities has failed to keep pace with the accumulation of physical capital.[2]

Therefore in order to understand the growth process

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2 Horvat, B., " The Optimum Rate of Investment", Economic Journal, Dec. 1958, pp. 751-3.

economists have tried to examine the relative importance of investment in physical as well human capital stock, technical progress, changes in the size and quality of labour force and other factors.[3] It is assumed that human capital changes in the size and quality of labour force and the technical progress are positively influenced by investment in education. Often the two terms human capital investment and educational investment are used interchangeably. Henceforth in our analysis the use of the word human capital would imply investment in education only. This is in harmony with the contention of most researches that educational investment is an investment in human resources.

But can the rate of return on educational investment be compared with the rate of return on investment in some other alternative uses? As yet no satisfactory emperical procedures for answering these questions has been devised.[4] Secondly, the results materialise after a long time lag, which by definition requires a value

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3 Hicks, N.L., "Education and Economic Growth", (ed.), Psacharopolous, George., Economics of Education, Research and Studies, pergamon Press, New York, 1987, p. 101.

4 Meir, G.M., "Investment in Human Capital- Note", Leading Issues in Economic Development, Oxford University Press, 1984, p. 612.

judgement. Thus it is difficult to estimate the impact of educational investment precisely.

The importance of investment on education depends upon the stage of development of the economy. For example a high rate of increase in the quality of inputs comes at a fairly advanced stage of development. The industrial revolution in Europe was not preceded by a marked improvement in the knowledge and skills of the labour force. But, the contribution of education to American growth has been more pronounced in the recent decades while capital investment was important earlier.

The impact of education is not limited to manufacturing output only. As mentioned earlier it not only results in a growth of national income but is an important instrument of social change. Similarly, infusion of new skills and knowledge in to the agrarian sector should be accorded high priority. Growth in agricultural output in recent era has been due to improved productivity and not area growth. In many countries including India the agricultural transformation has been based predominantly upon new skills and useful knowledge required to develop a modern agriculture. In India the diffusion of knowledge of the seed fertiliser technology was the key to green revolution.

Awareness and understanding of new farm practices are linked to education. Because of comparative disadvantage in educational attainments an illiterate or semi-literate small farmer may be less prepared to adopt new techniques. However these disadvantages can be reduced through expenditure in non-formal extension education. So, the absorption of new tochniques and innovation can be expedited through wide spread non-formal extension education.

Eeducation of farm people regarded as an investment in human resources, is believed to contribute to farm productivity and result in differential rate of diffusion of technological change among farms. So, schooling of farm people is quite important to the exercise of entrepreneurial abilities, specially when production technology becomes modern. So, expenditure on education does have some impact on agricultural development.

Similarly education rids man from age old dogmas and superstitutions. The need for a small family is better appreciated by the educated than a superstitutions, illiterate. Similarly, better health facilities are a gift of medical education. Revolutionary inventions in the medical field and the spread of this newly acquired

knowledge has led to low death and infant mortality rates.

From the foregoing discussion it is clear that investment in human capital is essential for economic and social progress. Secondly, the demand for investment in education goes up with economic development. In a higher phase of development the demand for improved inputs including skilled labour is more. So, in a developed economy human capital investment is a vehicle of rapid progress. But, in case of developing economies heavy investment in education with out a commensurate increase in the absorptive capacity of the economy makes frustration and disolocation inevitable. Some economists criticise the extensive system of higher education in the developing nations. They contend that the effective demand for educated manpower in these economies is very low and it takes years to raise the absorptive capacity of the economy and hence investment in education may result in unemployment and frustration instead of progress.

Policy makers as well as administrators in developing economies are beseiged with another set of question. Resources being scarce educational outlays compete for resources that have an alternative use in directly

productivity activities. So, it is essential to determine what proportion of national income should go to education. And secondly, within the educational system itself, it is necessary to establish priorities for different levels and forms of education. While vocational and technical training and adult education rather than a greatly expanded system of formal education is more helpful from the standpoint of immediate accerelated development. A distortion of priorities may negate all our previous discussions about the beneficial effects of educational expenditure on economic development. So, we can conclude that what is true for developed economies regarding investment in human capital may not be true for developing economies.

However, the Indian planners as well as resource administrators also realized the importance of expenditure in education. This has found expression in many policy documents.

The Report of Education Commission of 1964-66 says:

"While the development of physical resources is a means to an end, that of human resources is an end in itself, and without it even the

> adequate development of physical resources is not possible. The realization of country's aspirations involves change in the knowledge, skills, interests and values of the people as a whole. This is basic to every programme of social and economic betterment of which India stands in need. If this 'change on a grant scale' is to be achieved without violent revolution (and even for that it would be necessary) there is one instrument, and one instrument only that can be used; Education". (Education Commission 1964-66).

Thus our aim is to analyse the growth of expenditure of education in real terms and to find out its impact on economic development in case of the 15 major Indian states. India is an agglomeration of a few relatively poor and not so poor states. Our main emphasis is to study the growth of educational expenditure of the poor states vis-a-vis the relatively rich states and their impact on development. Our aim is to find out whether the Indian experience is in harmony with the discussion we had earlier. It is worth mentioning again that returns to educational investment are very difficult to quantify

and shows results after a long time lag. Needless to add our analysis also suffers from many limitations, on these counts.

1.1 Methodology:

Our aim is two fold. Firstly, we propose to study the growth of educational expenditure during a particular time period. And secondly, to study the possible impact that the expenditure has on economic development of a future time period.

Firstly, for growth of educational expenditure our analysis covers the time period of 1968-69 to 1977-78 i.e. a period of ten yeas. We have divided the whole time period of ten years in to two time periods. First time period refers to (1968-73) and the second time period is (1973-78).

We have used the average per capita SDP of five years corresponding to the particular time period to club the 15 states into three different categories of states. They are (i) high income states (ii) mid-income states (iii) low-income states. Each category consists of five states. Punjab, Haryana, Gujarat, Maharashtra and West Bengal fall in the first category i.e. high

income states of group A. Andhra Pradesh, Tamil Nadu, Kerala, Karnataka and Rajasthan are in the second category of group B. The low-income states of group C are Assam, U.P., M.P., Orissa and Bihar. Due to relative stability of the ranks of various states according to per capita income, there has not been any inter-group movement.

The per capita educational expenditure which are arrived at by dividing the total educational expenditure by total population are then summed up in each category of states during both the time periods. Then they are divided by 5 to find out simple average per capita expenditure in each state and in each category of states during the first and second time periods. In this way we can know the educational expenditure in per capita terms during each time period of each state and different categories of states by different levels of education. Thus, we can find out the educational effort of poor income states vis-a-vis the high income states and mid-income states. This would also enable us to study the regional disparities in educational expenditure.

So far as the growth of educational expenditure is concerned we have used percentage deviation method from average to find out relative position of different states

and different categories of states. From those figures, we can find out the educational effort of different states and groups of states during both the time periods.

We have also computed annual average growth rate for each time period and growth rate of 2nd time period (1973-78) over the Ist time period (1968-73) to find out whether there is an increase in expenditure in the 2nd period over the Ist period or not ?

As we know the formula for simple growth rate of expenditure is -

$$\frac{\text{Change in expenditure}}{\text{Original expenditure}} \times 100$$

For an example, if we are interested to know about the growth of per capita educational expenditure during 1969-70 over 1968-69, then the formula would be -

$$\frac{\text{Expenditure (1969-70) - expenditure (1968-69)}}{\text{expenditure 1968-69)}} \times 100$$

In this way we can find out the growth rate of expenditure in each year. Annual average growth rate is

then found out by summing up all the growth rates during the first time period and then dividing it by 4. Similarly, we can find out the annual average growth rate for 2nd time period also.

Similarly, the formula for growth rate of 2nd period over the first period is -

$$\frac{\text{Average per capita expenditure, (1973-78)} - \text{Average per capita expenditure, (1968-73)}}{\text{Average per capita expenditure, (1968-73)}} \times 100$$

Like this we have computed the growth rate for each state and each groups of states in each 4 major levels of education namely - Elementary, Secondary, University and higher education, and Technical education, alongwith total educational expenditure.

For each level of education we have worked out the per capita expenditure. This would make the data more comparable across the states and also among different levels of education.

In order to show a real increase in the educational expenditure or growth of expenditure, during both the time periods, we have converted the expenditure data in

current prices to constant (1960-61) prices. This is done by using the purchasing power of rupee for different years starting from 1968-69 to 1977-78.

For an example , in 1960-61, the purchasing power of 1 rupee was = 100 units. But in 1977-78 it has come down to 32 units. In order to get the value of 1 rupee in 1977-78 in terms of the purchasing power of 1960-61, (in which 1 rupee = 100 units) we have to multiply the corresponding figure of expenditure of 1977-78 with .32 ($\frac{32}{100}$ = .32) In this way, we have converted the expenditure during the whole time period in to 1960-61 prices.

One point which should be noted is that, we have categorised the states in 2nd period according to per capita net SDP of (1973-78). We find that in mid-income category there is a slight change in the rank of different states. There is also a slight change in the rank of states in the low-income category. But since they have remained in the same group or category during both the periods we have encountered no problem in explaining the growth of expenditure. So, the above methods are used to show the real growth of expenditure.

At the second level of our analysis, we discuss the

impact of expenditure on economic development. In any modern capitalist economy, or with a mixed economic system of production investment plays a pivotal role in promoting economic development. So, the educational expenditure is one of the means and economic development is the end.

For economic development we have taken some of the important economic indicators like - (i) state domestic product (ii) agricultural production (iii) industrial production. We have also taken some of the important social indicators like (i) literacy rate (ii) birth rates (iii) death rates and (iv) infant mortality rates.

As we know that the effects of educational expenditure on economic development take several years to materialise. Therefore we have taken a lag of ten years to show the possible impact. So, the development indicators relate to year (1978-88) in our analysis.

Again the whole time period of ten years is divided in to two time periods i.e. (1978-83) and (1983-88). Educational expenditure during (1968-73) will be related to growth rates of SDP, Agriculture and industry during the time period of (1978-83). Similarly, we have linked the expenditure of (1973-78) with the growth indicators of (1983-88).

Educational expenditure is also linked with levels of development indicators. So, we have linked the expenditure during (1968-73) with the levels of development during (1982-83) and the expenditure of (1973-78) with the levels of development of (1987-88). In this case we have taken the absolute figures and not the growth percentages.

In case of literacy rate we have taken a lag of 3 years. We have used the literacy rate of 1981 census for this purpose. Similarly we have linked the educational expenditure during (1968-78) with the birth, death and infant morality figures of 1987. It can be assumed with reasonable accuracy that literacy rates can be altered in a relatively shorter time span which in turn affects birth, death and infant mortality rates after a time lag of another few years.

However, the entire analysis is done through the bivariate cross section regression analysis by using the data for 15 major Indian states.

In our analysis educational expenditure is the independent/explanatory variable, where as levels and

growth of SDP, Agriculture and industry are the dependent variables among the economic indicators. Literacy rate, birth, death and infant mortality rates are the dependent variables among social indicators.

We have taken all the dependent variables of economic indicators in current prices. In order to balance it, we have also taken the independent variable i.e. educational expenditure in current prices. Since comparision is possible only among variables of same units we have taken current prices both for dependent and independent variables in case of economic indicators.

But, the social indicators like literacy rate, birth, death and infant mortality rates are real figures and are not in monetary units it is imperative that the independent variable i.e. educational expenditure be in constant (1960-61) prices.

The regression equations are in the form -

1. $y_{At} = mx + c$ or,

$$y_A(1978\text{-}83) = \beta \times (1968\text{-}1973) + C \quad \ldots\ldots(1)$$

where, y_{At} = SDP annual average growth rate in current prices for the first time period.

X = total educational expenditure during (1968-73).

Similarly for the 2nd period we have another simple regression equation -

$$Y_A \text{ (1983-88)} = \beta \times \text{(1973-78)} + C \quad \ldots\ldots\ldots \text{(ii)}$$

2. For the growth rate of contribution of agriculture to national income we have two different sets of equation for two time periods -

$$Y_B \text{ (1978-83)} = \beta \times \text{(1968-73)} + C \quad \ldots\ldots\ldots \text{(iii)}$$

$$Y_B \text{ (1983-88)} = \beta \times \text{(1973-88)} + C \quad \ldots\ldots\ldots \text{(iv)}$$

3. Similarly the equations for industrial development indicators are -

$$Y_C \text{ (1978-83)} = \beta \times \text{(1968-73)} + C \quad \ldots\ldots\ldots \text{(v)}$$

$$Y_C \text{ (1983-88)} = \beta \times \text{(1973-78)} + C \quad \ldots\ldots\ldots \text{(vi)}$$

4. Now coming to levels of development the equations relating to SDP are -

$$Y_A \text{ (1982-83)} = \beta \times \text{(1968-73)} + C \quad \ldots\ldots\ldots \text{(vii)}$$

$$Y_A \text{ (1987-88)} = \beta \times \text{(1973-78)} + C \quad \ldots\ldots\ldots \text{(viii)}$$

5. Similarly the equations relating to Agriculture -

$$Y_B \ (1982\text{-}83) = \beta \times (1968\text{-}73) + C \ \ldots\ldots\ (ix)$$

$$Y_B \ (1987\text{-}88) = \beta \times (1973\text{-}88) + C \ \ldots\ldots\ (x)$$

6. The equations relating to industry -

$$Y_C \ (1982\text{-}83) = \beta \times (1968\text{-}73) + C \ \ldots\ldots\ (xi)$$

$$Y_C \ (1987\text{-}88) = \beta \times (1973\text{-}78) + C \ \ldots\ldots\ (xii)$$

7. The equations for literacy rate are -

$$Y_D = \beta \times (1968\text{-}78) + C \ \ldots\ldots\ (xiii)$$

where Y_D refers to the literacy ratio of the study during 1981.

8. The equations relating to birth rate is -

$$Y_E = \beta \times (1968\text{-}78) + C \ \ldots\ldots\ (xiv)$$

where Y_E refers to the birth rates of the states during 1987.

9. The equation for death rate -

$$Y_F = \beta \times (1968\text{-}78) + C \ \ldots\ldots\ (xv)$$

where Y_F refers to the death rates of the states during 1987.

10. The equation for infant mortality rate is -

$$Y_G = \beta \times (1968\text{-}78) + C \ldots\ldots\ldots (xvi)$$

Y_G refers to infant mortality rates of the states during 1987.

From the regression analysis we also get the correlation coefficient values. While correlation coefficient tells about the nature of relationship between independent and dependent variables, regression coefficient shows the degree of relationship in a cause and effect manner. We have also tested the various hypothesis with the help of 't' test.

While in case of economic indicators like SDP, Agriculture and industry, a positive and high regression coefficient and correlation coefficient indicates that a higher educational expenditure indeed is associated with high growth and levels of development, a negative coefficient indicates that educational expenditure has been a drag on the growth process. The interpretations would be same in case of literacy rate as positive values of coefficients would imply a direct relationship between literacy ratio and educational expenditure. But in case of birth, death and infant mortality rates a negative coefficient indicates that higher educational expenditure

is associated with a declining birth, death and infant mortality rates. And hence it is a welcome feature. On the other hand, a positive coefficient implies a negative impact on birth, death and infant mortality rates. In this way the above methods are used to show the possible effects of educatienal investment on economic development of a future period.

However, before concluding the methodology portion, some of the important points should be kept in mind regarding the educational expenditure.

1. The total educational expenditures (direct + indirect) are either incurred by different states or union territories and it does not include the expenditure incurred by the centre.

   Since we are concerned with educational expenditure and its impact on economic development in 15 states, educational expenditure in our study refers to expenditure incurred by these states alone and excludes the expenditure incurred by union territories as well as the centre.

2. Secondly, the expenditure which we have analysed

refers to the expenditure on revenue account only and hence excludes expenditure on capital account.

3. Again expenditure on revenue account is incurred by two types of agencies namely -

a) Central Ministry of Education and the State Education Department.

b) Secondly, by the 'other departments'.

We have taken the expenditure incurred by the education department as well as the other departments in our analysis.

1.2 Limitations of the Study:

1. Per capita net state domestic product as well as other indicators of economic and social development depends on many factors. Education is only one of them. So, the bivariate regression analysis suffers from this inherent defect that it links development indicators only with the educational expenditure. However, we have concentrated more on the correlation coefficients. In otherwords, we are more interested to know the nature of relationship that exists between the independent

and dependent variable rather than the precise degree of it.

2. We have excluded expenditure incurred by the central government on education. This is a limitation of our study.

3. We have excluded expenditure incurred in capital account by the states. This is certainly another limitation.

1.3 Data Base:

1. The per capita net state domestic product (at current prices) figures are collected from the SDP estimates prepared by the central statistical organisation.

2. The per capita budgeted expenditure on education and educational expenditure as a percentage of total revenue budget during the period 1960-61 are collected from 'Education in India', published by Ministry of Education, Education Department, Government of India, 1960-61.

3. Similarly, the per capita expenditure on education

and educational expenditure as a percentage of total revenue budget during 1985-86 are collected from 'Economic Information Year Book', 1988-89 A.N. Agrawal, R.C. Gupta and H.O. Varma, published by National Publishing House, New Delhi, 1986.

4. The actual per capita total educational expenditure, the actual per capita expenditure on elementary, secondary, university and higher education and on technical education are computed on the basis of data collected from 'Trends of Expenditure on Education', 1968-69 to 1978-79, a publication of Ministry of Education, Government of India, 1983 and Census Publications.

5. In order to convert the educational expenditure during (1968-78) to 1960-61 prices, we have used purchasing power of rupee of different years, which is collected from 'Economic Information Year Book' 1988-89, by A.K. Agrawal, R.C. Gupta and H.O. Varma, published by National Publishing House, New Delhi, 1986.

6. The population figures which are used to arrive at per capita educational expenditure figures are collected from Census Publications and from Reserve Bank of India's Annual Publication on "Currency and Finance".

7. The SDP, the contribution of agriculture to national income, the contribution of industry to national income are collected from SDP estimates of National Accounts Statistics prepared by Central Statistical Organisation.

8. The birth rates, death rates and infant mortality rates for all the 15 states for 1987 are collected from Registrar General of India; Provisional Data for 1987, SRS.

1.4 Scheme of Study:

In Chapter-I, we have discussed about economic development and the role of education as an investment and the relationship between the two. It dwells in detail about the experience of developed as well as developing nations. It discusses the importance of human capital vis-a-vis physical capital and its impact on economic development.

It also includes portions on methodology and data base . It also gives an account of the limitations of the analysis.

In Chapter-II, we discuss in detail about the financin

of educational system in India. Although we have tried to show financing of education during British period, our main emphasis is on its financing in post-independence era. The different sources of financing this expenditure are also discussed.

In Chapter-III, we deal with the growth of educational expenditure in real terms during (1968-78) in the fifteen major states of India. The educational effort of various states and categories of states are analysed in each level of education. It reflects the performance of the poor income states vis-a-vis the high income states and the mid-income states. More precisely the regional disparities in growth and levels of educational expenditure are discussed in this chapter.

Chapter-IV, analyses a number of regression equations with a view to analyse the impact of growth of expenditure on economic development. It also tries to find out whether Indian experience confirms the traditional view about the positive impact of educational expenditure on economic development or, not.

And finally, Chapter-V discusses the findings of each chapter and gives some concluding remarks about the growth of educational expenditure and its impact on economic development.

CHAPTER - II

FINANCING OF EDUCATION IN INDIA, SOME ASPECTS

We beging by noting the very basic fact that finance needed to run the education system can not be considered in isolation, for it is an important part of aggregate public expenditure, which is a crucial economic variable. If public expenditure is allowed to grow, it is probable that money spent on education will also rise and the converse is also true.

Financing of education in India deals with the mobilisation of resources for education and also with the pattern and processes of resource allocation among different sectors of the educational system.

While discussing the financing of education, the pattern of educational finance has to be understood in the context of the federal structure of the Indian economy and therefore, in terms of the division of responsibility between the Central and State government. It is also important to know about the various sources of educational finance and types of educational expenditure.

The issues relating to the financing of education are looked at by dividing the time period of our analysis in to two parts. The British period and the post-independence

era. But our main emphasis is on the post-independence era.

1.1 Financing of education involves consideration of resources which are of mainly two types, (i) human and physical capital resources and (ii) financial resources. Since human resource is concerned with skilled manpower and qualified personnel which are required for various productive purposes, the English rulers wanted to create a class of skilled manpower, Indian in blood and colour but English in tastes and intelect. They exploited them in order to fulfill their own needs. Although the demand for western education gradually increased among the Indian people, it arose infact as a response to the demand from the English rulers So, the British rulers demanded the skilled personnel and simultaneously they were responsible for the provision of western education. Mostly the British government wanted to employ the Indian skilled manpower for the white collar jobs in the government offices.

Thus, because of this employment opportunity mostly in the government services (and also in British owned companies), enhancing family income and standard of living the Indian people began to be attracted to secondary

education. Later on people sought higher education in order to get higher post of greater responsibilities that were available then for Indians.

Eventually, the need of personnel with industrial training was set by the British government, particularly during the first world war. This attracted the people towards technological and vocational studies.

The desire of high official posts for their sons in the Indian and Provincial Civil Services, by the parents of mid-income and high-income families increased the demand for higher education.

Indian people gradually became more and more interested in the field of law education. Becuase they saw the chances of getting jobs in that field also. As a result of which it led to an increased demand for law education and finally to the establishment and expansion of law institutions.

Similarly there was an increased demand for education in the field of medicine and also in Engineering.

Moreover, the Indian leaders demanded more higher education to produce the necessary leaders. Their

nationalist sentiment which was favouring new industries in the country and, an increased demand for technical education was nothing but to enable the economic basis of political independence to be secured.

However, according to the Educational Despatch of 1854 the purpose was to "teach the natives of India the marvellous results of the employment of labour and capital, rouse them to emulate us in the development of the vast resources of their country and gradually confer upon them all the advantages which accompany the healthy increase of wealth and commerce; and at the same time secure to us a larger and more certain supply of many articles necessary for our manufacturers and extensively consumed by all class of our population, as well as an almost inexhaustable demand for the produce of British labour".[5]

Thus, British rulers provided the western education and as a result of which the Indian people as productive agents supplied and produced the products wanted by the English rulers.

1.1.1 Education at that time remained no more dependent

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5 As quoted in Misra. A., The Financing of Indian Education, Asia Publishing House, Bombay, 1967, p. 176.

on the religious institutions or the sweet will of the monarch. State assistance to education became most important which provided statutory and a stable maintenance for education. Tuition fees became the second most important source of educational finance. The resources for educational expenditure during the British period were (i) State revenue (ii) student fees (iii) Taxes on public, (iv) Local bodies and (v) other sources.

The Charter Act of 1813 contained the first legislative admission of the right of education in India to participate in the public revenues. The responsibility shifted to provinces with the introduction of decentralisation of administration in 1871. However, there was an increase in both central and provincial grants to education. Although the state revenues declined due to the little monetary power in the hands of Indian Minister, it was the provincial autonomy of 1937 which granted the power to Indian Ministers to handle the purse which led to an acceleration in educational expenditure.

The second important source of educational finance was the imposition of fees from students which served two desired purposes.(i) It helped filteration theory of educating a class only (ii) and also increased the

revenues for education. It was the government of Bengal in 1844 made the payment of fees as compulsory, which was followed by Bombay presidency. Finally, the educational despatch of 1854 made the payment of fees a condition for grants-in-aid to schools. Thus tuition fees became an important source and began to be charged in all institutions.

Lack of funds for the development and improvement of educational system led to the imposition of taxes on public during the British period.

So far as the local bodies are concerned, during the British period it became necessary to meet the deficit from local taxation by developing the institution of local-self-govt as the provincial government could not finance the education system properly. The local bodies which are called muncipalities in urban areas and rural or local board funds in rural areas were responsible for financing education. The most important educational duty of local bodies was to improve and to expand the primary education in the country as declared by the Indian Education Commission in 1882.

Under the heading of other sources, the state fees

and local bodies were grouped together. The contribution from people declined drastically as (i) the government took over the responsibility fully and declared education as being secular or ungodly, thereby removing it from the clutches of clergy.

1.1.2 After analysing briefly about the different possible sources of educational finances, during the British period, new the question arises what is the basis for all these finances for education at all ? This can be answered if we go through the different objects of educational expenditure both during the British period and the post-independence era.

The expenditure on education can be broadly classified in to two types, namely, (i) direct and (ii) indirect. The 'direct' expenditure refers to the operational cost of instruction at various stages of education namely primary, secondary, higher and professional and technical education. The 'indirect' expenditure refers to the outlays on buildings, furniture equipment, educational administration and scholarships. The universities were previously examining bodies only. But when they assumed teaching and research functions and examinations began to be looked upon as a part of instruction the expenditure

on universities began to be classifed as direct expenditure from the year 1937-38. Same thing happened from the boards of intermediate and secondary education.

Direct Objects During the British Period.

Primary Education:

It continued to be neglected till 1854 when educational Despatch desired this education to be supervised by the government. The finance matter was looked after by the Revenue Authorities.

Secondary Education:

Although some English schools were started by the missionaries the actual graded system of education was introduced after 1854. These schools were financed either by the government fully or by private bodies with grant-in-aid from the government.

Higher Education:

The beginning of higher education in India was with the establishment of first institution of Anglo-Sanskrit College at Calcutta in 1816. But a serious action was taken for the establishment of three major universities at Calcutta, Bombay and Madras in 1857. There were 4

universities and 67 colleges with 6 thousands students in 1881-82 which considerably increased to 21 universities and 496 colleges with nearly 2 lakhs of student in the last year of British rule in India.

Professional and Technical Education:

So far as the professional and technical education is concerned the British rulers were responsible for the development of this level of education. Engineering, industrial, agriculture and arts schools were started at the end of the nineteenth century. By the end of British rule in India there were 16 law colleges, with 9 thousand students, 30 medical and veterinary colleges with 9.5 thousand students, 24 colleges of engineering and technology with 5.7 thousand students and 19 institutions of agriculture with 1.5 thousand students.

1.2 After analysing briefly the educational finances during the British time, it is necessary to throw some light in to the post-independence era for which we are interested in.

1.2.1 Sources of educational finance continued to be the same as in the pre-independence period. The various possible sources of educational finances in India after the independence can be classified as[6].

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6 Tilak, J.B.G., Education Finances in India NIEPA, New Delhi, 1985.

1. The Public Sector :

   a) Central Government

   b) State Government

   c) Local Government/Bodies (Zila Parishads, Muncipalities and Panchayats).

2. The Private Sector :

   a) Students/Parents, e.g. Fees/Maintenance Costs.

   b) Endowments and Donations,

   c) Other sources including foreign aid.

i) Central Government:

The central government appointed a commission for university education in 1948 and another for secondary education in 1952. This was supplemented by a committee to suggest ways and means of financing education in 1949. Indian universities started receiving finances as grants from central government. Students received scholarships for training and research in physical and applied sciences. The University Grants Commission was established in 1953 in order to maintain high academic standards and to allocate grants. Apart from this the central government gave proportional or matching grants and sometime financed the entire cost of some educational projects and schemes in various state. It also maintained its own educational institutions and looked after education in the union territories.

ii) State Government:

After India freed itself from the colonial yoke the responsibility of education lay with the state government, it being part of the state list. The state governments were interested in reconstructing and expanding various sectors of education and initiating new programmes. After 1976, both the centre and the state shouldered the responsibility of education consequent upon its inclusion in the concurrent list.

Different states depending upon their resource endowment, priorities in development, population, size and various other socio-economic factors spend different amounts on education. A rich state is normally expected to spend more than a poor state on education. Similarly a highly literate state where the demand for expenditure on education is more than a State with low literacy rate will keep aside more for educational expenditure. Let us now analyse whether the Indian experience confirms this or not. This would also enable us to analyse the regional variations in educational expenditure. The Table 2.1, Table 2.2 best illustrates the point and depicts the inter-state variation.

From the table it is clear that the high income states

like Punjab, Maharashtra, Gujarat, West Bengal have spent more during 1960-61 on education in per capita terms. Where as the poor states like Bihar, M.P., Orissa and U.P., have spent little by the same yardstick. poor states are far below the national average. The situation remains the same in 1985-86. This is also reflected from the fact that the poor income states on an average have spent much less than the high income states as well the All India average during both 1960-61 as well as 1985-86. The mid-income states have spent more than the all India average during both 1960-61 and 1985-86. Of course this is understandable since the capacity to spend of poor states is definitely low in comparision to the high income states. So the %age of budget allocated to education is a better indicator of educational efforts by the fifteen major states. But, it has been found that while the allocation in education of some poor states is less than the all India average in percentage terms (%age of budget expenditure on education, to total) during 1960-61, it is not so during 1985-86. Some of the poorest states like Bihar have allocated a bigger proportion of their budget to education than many high income states in 1985-86. That is significantly higher than the all India average too. Even

Orissa, Assam and U.P. are very close to the all India average. But many high income states are significantly below the all India average. But in 1960-61 most of the rich states had allocated a greater proportion of their budget to education than the poor states. During 1960-61 Maharashtra and Kerala were Ist and 2nd respectively in per capita, expenditure terms as well as in %age terms (%age of Revenue budget allocated to education) During 1985-86 Kerala has spent the maximum in per capita terms as well as in percentage terms. Nowonder it has the highest literacy rate. It has allocated more than 30% of its budget during both the years. However, the states on an average are allocating around 20% of their budget to education.

The poor states as a group have allocated less in both the years, though the gap has declined in 1985-86. While the poor income states as a group were below the all India average in %age terms in 1960-61, in 1985-86 they are equal to the all India figure.

Another indicator which reflects the state effort is the per capita expenditure on education as a %age of per capita SDP. Kerala again tops the list both during 1960-61 as well as 1985-86. The efforts of poor

TABLE 2. 1 : EDUCATIONAL EFFORTS BY THE STATES IN INDIA (1960-61)

States	Per Capita SDP	Per Capita Budgeted	Educational Exp. as %age of SDP	Educational Exp. as %age of total (Rev) Budget.
Maharashtra	409	12.4	3.0	25.2
West Bengal	390	9.8	2.5	37.1
Assam	382	7.6	2.0	21.1
Punjab	366	9.3	2.5	20.6
Gujarat	362	9.2	2.5	23.4
GROUP: A	-	9.70	2.5	25.5
Tamil Nadu	334	9.4	2.8	23.3
Karnataka	296	7.5	2.5	21.2
Rajasthan	284	6.3	2.2	24.5
Andhra Pradesh	275	7.1	2.6	23.2
Kerala	259	11.5	4.4	36.0
GROUP: B	-	8.4	2.9	25.6
Uttar Pradesh	252	5.4	2.1	14.5
Madhya Pradesh	252	6.2	2.5	24.2
Orissa	217	4.3	2.0	12.8
Bihar	215	4.9	2.3	18.9
GROUP: C	-	5.2	2.2	17.6
All India	326	7.8	2.4	22.5

Source : Col. (1) is collected from National Account Statistics, State Domestic Product, C.S.O. Col. (2) and (4) are collected from Education in India (1960-61), Ministry of Education, Education Dept., Government of India.

TABLE : 2.2 : EDUCATIONAL EFFORTS BY THE STATE IN INDIA (1985-86)

States	Per Capita SDP	Per Capita Budgeted exp, on education	Educational exp. on education a %age of SDP	Educational exp. as %age of Total (Rev) Budget
Punjab	4416	146.2	3.3	20.8
Haryana	3669	199.9	5.4	17.2
Maharashtra	3430	120.5	3.5	16.7
West Bengal	2813	97.3	3.5	22.8
Gujarat	2772	147.2	5.3	24.1
GROUP: A	-	142.2	4.2	20.3
Tamil Nadu	2353	108.4	4.6	20.0
Kerala	2287	148.4	6.5	30.0
Andhra Pradesh	2184	101.1	4.6	18.8
Karanataka	2136	109.3	5.1	18.7
Rajasthan	2043	99.1	4.9	25.0
GROUP: B	-	113.2	5.1	22.5
Assam	2017	99.7	4.9	22.6
Uttar Pradesh	1988	64.3	3.2	19.4
Madhya Pradesh	1988	82.2	4.1	15.7
Orissa	1628	76.7	4.7	18.5
Bihar	1548	64.3	4.2	24.3
GROUP: C	-	77.4	4.2	20.1
All India	2735	100.4	3.7	20.1

Source : Col (1) is collected from National Account Statistics, State Domestic Product, C.S.O Col (2) and (4) are from Economic Information Year Book 1988-89, Agrawal, A.N., Gupta R.C. and Varma, H.O., National Publishing House, New Delhi, 1986.

income states as a group studied through this indicator also reflects that they are below the high income states in 1960-61. But in 1985-86 they are equal to the high income states.

It is also true that most of the mid-income states like Karnataka, Tamil Nadu, Rajasthan have a better record in this regard. So the second indicator confirms the result of the first one.

To sum up educational effort of different states have been studied through the two indicators i.e. per capita expenditure on education as a %age of per capita SDP. Second one is the Budgeted expenditure on education as %age of Total (Revenue) budget.

The main findings are:

1. The educational effort of Kerala is the best among all the 15 major states both during 1960-61 and 1985-86. Nowonder it has the highest literacy rate.

2. Punjab though one of the richest states has not spent enough on education. Expenditure as a %age of Revenue budget is less than the all India average both during 1960-61 and 1985-86. As a %age of SDP it is below the all India average in 1985-86.

3. The efforts of poor income states is below the other two groups of states both during 1960-61 and 1985-86. This is reflected by both the indicators. But their effort is better in 1985-86. Their effort is almost at par with the high income states. As a proportion of SDP they are at par with the high income states.

4. The mid-income states have a better track record in this regard.

5. So, the educational efforts of all the states have changed for the better in 1985-86, as most of the states are spending a greater proportion of their SDP on education than in 1960-61. The all India figure was 3.7 in 1985-86 while it was 2.4 in 1960-61. But, in terms of expenditure as a proportion of total revenue budget the situation has changed for the wrose from 22.5% to 20.1%. Poor income states are spending more through both the indicators in 1985-86 and thereby closing the gap between different groups of states.

iii) Local Governments:

This source which includes muncipal and panchayat boards, is also an important one among others. Although

there is no uniform policy of allocating funds for education and although different rules are prevalent in different states, the muncipalities are primarily responsible for expansion and improvement of primary education. But at the same time they spend sometime on secondary education also. So far as the recent data is concerned, which is given in the Table 2.3 which shows that the proportional share shoulder by the muncipalities has been steadily decreasing. This may be due to the important contribution of other sources particularly the responsibilities of states for primary education.

The panchayats are given authority in the administration of primary education. Certain states gave them discretionary authority while others made it an obligatory duty on them to finance primary education.[7] Because of limited resources the panchayats can only exercise superficial control on primary education.

iv. Fees:

Fees are one of the most important source of

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7 Misra, A., op.cit., p. 224.

finance which is second to state government, and which mainly depends on size of enrolment and the rate of fees. Increased enrolment is nothing but the result of growing demand for higher education in India. And as the cost of living is rising the fee rates are also increasing. Although a bulk of income is coming from this particular source this rise is certainly limited by the free primary education and other fees concessions given to backward class students.

Fees can be of various types, namely, tuition fee, admission fee, library fee, examination fee, medical fee and etc. Although the fee structure is fixed in government institutions, the rates of fee vary from state to state, But if we see the available data is given in the Table number 2.3 it is observed that the fees in per cent has been decreasing over the years. This is mainly due to as more and more students concessions are given and also due to the increased government expenditure on education to some extent.

v. Endowments and Others:

The percentage of endowments and other have been decreasing gradually over the years. This is because

people after the independence, (when they had their own government) did not try to realize their obligation.

While talking about the assistance for education outside the country like foreign aid, we receive the help of international bodies like UNO, UNESCO and several philanthropic organizations. They help in the form of (i) providing expert personnel (ii) aiding certain projects and (iii) giving scholarships and travel grants for studies abroad.[8]

By the help of Table number 2.3 we can observe the sector-wise contribution of resources to education during the time period 1950-51 to 1980-81. The share of the government sector i.e. the central and the state has increased from 57% at the very beginning of the plan period i.e. from 1950-51 to 80% by the year 1980-81. But on the other hand, the share of local government, fees and endowment has declined considerably.

1.2.2 Objects of Expenditure during Post-Independence period:

After the independence the objects of expenditure remained the same as in the pre-independence period. But the educational system was classified in to three

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8 Misra, A., op.cit., p. 228.

TABLE 2-3 : SECTOR-WISE CONTRIBUTION OF RESOURCES TO EDUCATION IN INDIA

(in per cent)

Sector	1950-51	1960-61	1970-71	1980-81
I. Government Sector:				
Central and State Government.	57.1	68.0	75.6	80.0
Local Governments (Zila Parishads, Muncipalities and Panchayats)	10.9	6.5	5.7	5.0
II. Private Sector:				
Fees	20.4	11.2	12.8	12.0
Endowments etc.	11.6	8.3	5.9	3.0
TOTAL	100.0	100.0	100.0	100.0

SOURCE : Discriminating pricing in Education, Tilak, J.B.G. and Verghese, NIEPA, New Delhi, 1984.

categories: (i) general education (primary, secondary and higher (ii) professional or vocational education and (iii) special education. These are all included under the heading of Direct expenditure. Indirect expenditure during the post-independence also includes the same as -

a) Scholarships and concessions,
b) Direction and inspection,
c) Buildings and furniture,
d) Hostel charges,
e) Miscellaneous

i) Elementary Education:

It includes primary and middle school education from class I to VIII. Free and compulsory education to all children in India upto the age of fourteen years is provided by the Article 45 of the Indian Constitution. After the independence, when Government decided to adopt basic education as the national pattern at primary stage, all new schools opened were of the basic type and the old ones began to be converted into the basic pattern.

For the development of primary and middle schools and also the enrolment rate, please refer to the Table number 2.4 and 2.5.

ii) Secondary Education:

The Secondary Education Commission, under the chairmanship of Dr. A.L. Mudaliar, in 1953 recommended that[9] -

a) the period of school education preceeding a three years degree course should be eleven years, eight years of elementary and three years of higher secondary education;

b) multipurpose schools should be started with diversified course in humanities, science, technology, commerce, agriculture etc. and

c) educational and vocational guidance should be provided. After the independence, the reconstruction and improvement aspects of secondary education were managed by a number of organizations.

iii) Higher Education:

The model of higher education was recommended by the Radhakrishnan Commission in 1949. For the purpose of development, maintenance of standard of instruction, etc, the University Grants Commission was established

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9 Misra, A., op.cit., p. 234.

in 1953, which is also responsible for allocating funds to various institutions. As a result of which the number of students goes up year by year which leads to inefficient management of institutions followed by a low standard of instruction etc. So, this is one of the important problems that has been arising. But an important development in higher education was an adequate provision for research and post-graduate studies.

iv) Professional Education:

This refers to agriculture, commerce, engineering, law, medicine, physical education, technology and etc., which is made at college level and also at school level. The All India Council of Technical Education in 1945, the Medical Council of India and the Indian Council of Agriculture Research and etc. were set up for the purpose of development and improvement in the field of technology, Medical Science and Agriculture, and others respectively.

The development of educational institutions, along with the increased number of students (which are the basis of objects of educational expenditure) can be better understood from the table 2.4 and 2.5 respectively.

1.2.3 So far as the type of educational expenditure is

TABLE - 2-4: NUMBER OF EDUCATIONAL INSTITUTIONS
(numbers)

Item	1950-51	1960-61	1970-71	1980-81	1985-86
Primary Schools	2,09,671	3,30,399	4,08,378	4,85,538	5,39,266
Middle Schools	13,596	49,663	90,621	1,16,447	1,34,074
High/Higher Secondary Schools	7,288	17,257	36,738	51,594	66,110
Art, Science and Commerce colleges	548	1,161	2,587	3,393	4,078
Professional Institutions.	147	381	1,017	1,382	2,153
Universities	28	44	93	123	120

Source: Seventh Five Year Plan, 1985-90.
Selected Educational Statistics, Deptt of Education, 1987.

TABLE - 2.5 : NUMBER OF STUDENTS BY STAGE OF INSTITUTIONS
(00nos)

Stage	1950-51	1960-61	1970-71	1980-81	1985-86
Primary	19,155	34,994	57,045	72,888	86,465
Middle	3,120	6,705	13,315	19,846	28,125
High/Hr. Secondary Intermediate	1,481	3,483	7,167	11,281	16,970
University and above	174	557	1,956	2,752	3,351

Source : Seventh Five Year Plan, 1985-90.
Selected Educational Statistics, Deptt. of Education, 1987.

concerned, it is devided in to two categories:

i) Plan expenditure

ii) Non-Plan expenditure.

Plan expenditure are for the further development of education which also includes construction of new buildings, facilities for new enrolment, expenditure on innovations etc. Where as , Non-plan expenditure refers to maintenance expenditure incurred in the existing educational infra-structure. It is the non-plan expenditure which has accounted for more than four-fifth of the total educational expenditure almost uniformly throughout the plan era (Refer Table 2.6). On the other hand plan expenditure accounts for barely 15% of the total educational expenditure though the year 1960-61 is an exception, (Refer Table: 2.6).

Before concluding this chapter, it would be better to sum up the discussion on financing of education during both the British period and also the post-independence era. Certain significant achievements of British era are firstly, the enactment of legislations for the appropriation of state revenues in financing education. Secondly, their most important contribution was alienating education from religion and there by making it more secular. Thirdly,

TABLE - 2.6 : PLAN AND NON-PLAN EXPENDITURE ON EDUCATION IN INDIA

(Rs. Crores)

Year	Plan Expenditure	Non-Plan expenditure	Total
1950-51	20 (17.5)*	94 (82.5)	114 (100)
1960-61	80 (26.2)	254 (73.8)	344 (100)
1970-71	115 (10.3)	1,000 (89.7)	1,118 (100)
1980-81	520 (13.9)	3,226 (86.1)	3,746 (100)
1984-85	800 (13.3)	5,200 (86.7)	6,000 (100)
1985-86)E	926 (12.1)	6,716 (87.9)	7,642 (100)

* = Figures in brackets show percentage.

Source = Computed on the basis of Seventh Five Year Plan, 1985-90. Collected from Economic Information Year Book, 1988-89, Agrawal, Gupta, Varma, National Publishing House, New Delhi, 1986.

shifting of emphasis among the financial resources of education like fees began to be realized on a compulsory basis during the British period. Fourthly, graded system in educational institutions was introduced.

During the post-independence era, the sources of educational finance was divided into (i) the public sector, (ii) the private sector and (iii) other sources. Out of the public sector, the central and state govt's share in the total educational finances increased over the years. This is mainly due to the fact that it is the responsibility of the government to build a new, modern, progressive egalitarian socio-economic system in the country. Secondly, a large amount of finances goes as subsidies to weaker sections leading to growth of educational expenditure on the part of central and state government. So far as the educational effort of the state is concerned, on an average the states are allocating around 20% of their budget to education.

Objects of educational expenditure are divided into 'Direct' and 'Indirect' categories during the post-independence era. Direct object refers to (i) general education which includes primary, secondary and higher education, (ii) professional education (iii) special education. On the

other hand the Indirect objects refers to the direction, inspection, scholarships etc. The types of educational expenditure is also classified into Plan and non-Plan categories. Non-Plan expenditure accounts for nearly 80% of the total educational expenditure during the entire plan era.

From all this one can say that financing of education during the British period was systematized like the post-independence era though not to the same extent.

CHAPTER - III

GROWTH OF EDUCATIONAL EXPENDITURE IN INDIA. A REGIONAL ANALYSIS.

The decisions about the level of public expenditure depend in part on how well the economy is doing. There is a general view that a State with a better economic condition, or more specifically a high income state, is expected to spend more resources on public services such as education. On the other hand, a poor income state spends comparatively less on education. So far as the mid-income states are concerned, their educational effort lies in between these two extreme cases.

However, in this chapter our main objective is to study the growth of educational expenditure in different 15 major states of India during the time period 1968-78. Along with this, our aim is also to study whether this growth of expenditure depends on the economic condition of the concerned state or, not. We would also try to find out whether the hypothesis that a high income state spends more on education holds good in the Indian context, or, not.

For the sake of better understanding and to give a bird's eye view of the results we have devided the 15 major states in to 3 groups, namely - High income, mid-income and low income states. This is done on the basis of per capita net state domestic product. The average of

net SDP (current prices) of the first five years (i.e. 1968-73) of the total time period and the average of net SDP of next five years (i.e. 1973-78) is taken into account to find out the rank of different states for the two time periods. Each group of state consists of 5 states. The per capita net SDP (current prices) figures and the ranks are given in Table-3.1 and Table-3.2 respectively. States have been ranked in the two tables according to per capita net SDP(current) prices. This classification is used in subsequent portions of the analysis. Group A stands for high income states and consists of Punjab, Haryana, Maharashtra, Gujarat and West-Bengal. Group B stands for mid-income states and consists of Karnataka, Rajasthan, Kerala, Tamil Nadu and Andhra Pradesh, Orissa, Assam, U.P., M.P. and Bihar are clubbed in Group-C and are the poor income states.

On the basis of this classification we will proceed to find out the growth of educational expenditure in the 15 states and the 3 groups of states.

In order to study the growth of expenditure it is necessary to have a state wise breakdown of per capita expenditure for different time periods during 1968-78.

TABLE- 3.1 : PER CAPITA AVERAGE NET SDP (1968-73) AT CURRENT PRICES. (1968-73)

CATEGORY	STATES	AVERAGE SDP	RANK
High Income States	PUNJAB	1061.4	1
	HARYANA	859.6	2
	MAHARASHTRA	776.2	3
= Group - A	GUJARAT	743.6	4
	WEST BENGAL	730.8	5
Mid- Income States.	KARNATAKA	632.2	6
	TAMIL NADU	586.6	7
	ANDHRA PRADESH	577.2	8
= Group - B	KERALA	577.0	9
	RAJASTHAN	553.4	10
Low-Income States	ASSAM	533.0	11
	U.P.	505.2	12
	ORISSA	496.2	13
= Group - C	M.P.	495.6	14
	BIHAR	415.0	15

Source : Computed on the basis of Estimates of State Domestic Product, National Account Statistics, C.S.O.

TABLE - 3.2 : PER CAPITA AVERAGE NET SDP (1973-78) AT CURRENT PRICES.
(1973-78

CATEGORY	STATES	AVERAGE SDP (1973-78)	RANK
High Income States	PUNJAB	1828.0	1
	HARYANA	1470.6	2
	MAHARASHTRA	1402.8	3
Group - A	GUJARAT	1260.6	4
	WEST BENGAL	1133.4	5
Mid-Income States	KARANATAKA	992.2	6
	RAJASTHAN	952.2	7
	KERALA	945.4	8
Group - B	ANDHRA PRADESH	926.0	9
	TAMIL NADU	882.2	10
Low Income States	ASSAM	816.2	11
	M.P.	813.0	12
	U.P.	778.0	13
Group - C	ORISSA	735.6	14
	BIHAR	666.8	15

Source : Computed on the basis of Estimates of State Domestic Product, National Account Statistics, C.S.O.

The whole time period is dived into two periods - (1968-73) and (1973-78).

The per capita expenditure figures which we have calculated have also been converted into 1960-61 prices by using the purchasing power of rupee index for different years starting from 1968-69 to 1977-78. Then the variations of per capita expenditure in different states and groups of states are analysed by the percentage deviation method. Any value of more than 100% i.e. the all India average, implies that the particular state spends that per cent more than the all India average and instantly reflects its educational effort. The educational efforts of the poor income state vis-a-vis the high-income states and the mid-income states are also analysed with the help of these figures. In this way the regional disparities in educational expenditure is analysed for both the time periods and it is also found out whether they have accentuated or, not.

The growth of educational expenditure is analysed with the help of annual average growth rates for both the time periods i.e. (1968-73) and (1973-78). Secondly we have also calculated the growth rate of 2nd period (1973-78) over the Ist period (1968-73).

The above mentioned exercises are carried on for 4 major levels of education. They are -

i) Elementary, ii) Secondary
iii) University and other higher education
iv) and Technical education.

Of course total per capita expenditure includes all these 4 major levels plus special education, adult education and etc. etc.. But we have taken into account only the expenditures incurred for these 4 major levels of education apart from the total educational expenditure.

However, before attempting any inter-state analysis the following points should be kept in mind.

i) It may be noted that the total educational expenditure (Direct expenditure + indirect expenditure) relates either to the expenditure incurred by different states or Union territories and does not include the expenditure incurred by the centre.

Since our aim is to study the growth of expenditure in only 15 major states, there is no question of our taking into account the expenditure incurred by the Union territories in our analysis.

ii) Secondly, the analysis relates only to the expenditure on revenue account and not the expenditure incurred on capital account.

Expenditure on revenue account is incurred - by two types of agencies namely -

a) Central Ministry of Education and State Education Department.

b) Secondly by the 'Other depts', such as agriculture, industry, health, labour, community development social welfare etc. This head is mainly on training and extension education. We have taken expenditures incurred by both education department, and the 'other departments' in our analysis.

3.1.1. Expenditure on Elementary Education:

It can be seen from the Table 3.3 that there has been a steady increase of per capita expenditure in real terms on elementary education in case of all the 3 groups of states and almost all the 15 states, during the Ist period i.e. 1968-73.

However, on an average it is the mid-income states

that have spent the highest in per capita terms (Rs.4.98), which is much above the all India average (Rs.3.66). And the mid-income states have spent on an average 36.07% more on elementary education than the all India average during the first period. Similarly the mid-income state's annual average growth rate is 8.1%, which is above the all India average (7.3%) and the growth rate of the other two groups of states.

On the other hand, the high-income states of Group A which is expected to spend more has spent on an average Rs.3.64 which is less than the Group B's average expenditure, but more than that of the low-income states. Its average is just below the all India average. However, it is 0.55% less than the all India average and hence the difference is not significant. The annual average growth rate of high-income states as a group is the least among the 3 groups of states; with 4.4% where as the all India figure is 7.3%.

Although the poor income states have spent the least i.e. Rs.2.93 which is below the all India average of Rs.3.66 their growth rate is 7.1% which is more than that of high income states of Group A but less than Group B's growth rate. Of course their growth rate is almost equal to the

all India average figure of 7.3%. But they have spent 20% less on elementary education than the all India average.

Similarly, for the 2nd period (1973-78), which can be seen from the Table 3.4, there has also been a steady increase of per capita expenditure in all the 15 states and also in the 3 Groups of states.

Although the mid-income states have spent the highest (Rs.5.90), which is also above all India average (Rs.4.54), its growth rate of 8.1% is just below the all India average (8.3%), and the growth rate of the other two groups. But it has spent 29.95% more than the all India average during the 2nd period which more than that of the other two groups. Of course this is due to the Kerala's contribution. Because Kerala alone has spent 119.38% more than the all India average. Though in terms of levels of expenditure the performance of the mid-income states is satisfactory it is not so in terms of growth.

On the other hand the high income states have spent on an average Rs.4.85 which is just above the all India average (Rs.4.54). Although it has spent less than Group B its growth rate of 14.1% is much more than the all India average growth rate, and has the highest growth rate among all the 3 groups. So, unlike the mid-income states growth

of educational expenditure is satisfactory in case of high-income states, whereas the same cannot be said regarding levels of educational expenditure.

Although the annual average growth rate of the low-income states of Group C is 11.7% is above the all India average of 8.3%, they have spent on an average Rs.3.60 which is below the all India average of Rs.4.54. In percentage terms it is 20.7% less than the all India average. They have spent the least, but their growth rate is more than Group B's growth rate, but less than of Group A's growth rate.

By summarising the results of the two time periods, we can have an overview of results which is given in the Table 3.5. The main findings are:

1. The per capita expenditure on elementary education has shown an increasing trend in real terms in both the time periods in all the 3 groups as well as the 15 states. The average per capita expenditure of high income states in both the time periods are just near the all India average, whereas, the poor-income states are below the all India average in both the time periods. Only the mid income states have spent more than the all India average.

2. Although the mid-income states of Group B have spent on an average the highest among all the 3 groups of states, during both the time periods, their growth rate of 2nd period (1973-78) over the Ist period is the least i.e. 18.47% only, which is below the all India average as well as the growth of remaining two groups. This is due to their poor performance in the 2nd time period. Though their growth performance was satisfactory in the Ist time period, it is not so during the 2nd time period.

3. The high income states with a growth rate of 33.24% (2nd period over the Ist period) top the list. (All India average - 24.04). Of course for this high growth rate of Group A states, the credit goes to Haryana which has the growth rate of 69.17%.

4. It can be seen from the table 3.5 that mid-income states on an average have spent 36.07% and 29.95% more than all India average during the Ist and 2nd time periods respectively which is the highest among all the 3 groups of states. But its annual average growth rate has stagnated around 8.1% in

both the time periods. In relative terms their growth performance was better during Ist period, but poor during the 2nd time period.

5. In the poor income states, there has been a remarkable increase in annual average growth rate from 7.1% in 1968-73 to 11.7%, in 1973-78. Of course they have spent nearly 20% less than the all India average during both the time periods, on elementary education. But, this growth rate has not been enough to reduce the regional disparities in levels of educational expenditure.

6. Kerala a mid-income state has spent the highest in per capita terms on elementary education, which is even more than that of Punjab, the richest of the 15 states. It has spent 143.17% and 119.38% more than all India average during the Ist and 2nd period respectively. No wonder it has the highest literacy rate in India.

7. States like Karnataka, Tamil Nadu, Gujarat and Maharashtra are in a better position than the high income state of Punjab if we see the per cent deviation column.

8. We can conclude the analysis of expenditure on elementary education by saying that although the mid-income states have shown a great effort by spending more in per capita terms in both the time periods, their growth rate both interms of annual average and the 2nd period's over the Ist period are not so impressive compared to the other two groups of states.

3.1.2 Expenditure on Secondary Education:

Unlike the expenditure on elementary education the high income states have spent the most in case of expenditure on secondary education during the Ist period (1968-73) which can be clearly observed from the table 3.6. So the relative position of the high income and the mid income states have altered with low income states again remaining at bottom. It is seen from the table 3.6 that the high income states have spent the highest among all the 3 groups of states. On an average they have spent Rs.4.01 in 1968-73 period which is above the all India level and which is more than that of Group B's Rs.2.81 (just above the all India average) and Group C's Rs.1.72 which is below the all India average of Rs.2.48.

Although, the low-income states of Group C have spent

TABLE - 3.3 : PER CAPITA ACTUAL EXPENDITURE ON ELEMENTARY EDUCATION (REVENUE ACCOUNT) (IN 1960-61 PRICES).

(in Rs.)

(1968-73)

States	1968-69	69-70	70-71	71-72	72-73	Average Per Capita Exp. on Elementary Edu. 1968-73	Per cent Deviation from average 1968-73	Annual average Growth rate 1968-73
Punjab	3.2	3.2	3.3	3.0	3.5	3.24	88.52	2.7
Haryana	2.4	2.5	2.4	2.3	2.4	2.4	65.57	0.1
Maharashtra	3.9	4.8	5.2	4.8	5.1	4.76	130.05	7.5
Gujarat	4.3	4.7	4.8	5.3	4.9	4.8	131.15	3.6
West Bengal	2.4	3.0	3.1	3.4	3.2	3.02	82.51	8.0
GROUP - A	3.24	3.64	3.76	3.76	3.82	3.64	99.45	4.4
Karnataka	4.2	4.4	5.4	4.9	5.5	4.88	133.33	7.6
Tamil Nadu	3.9	4.3	4.7	5.0	4.9	4.56	124.59	6.0
Andhra Pradesh	2.3	2.9	3.5	3.4	3.1	3.04	83.06	8.8
Kerala	8.3	9.0	9.2	9.2	8.8	8.9	243.17	1.6
Rajasthan	3.0	3.0	3.4	3.1	5.0	3.5	95.63	16.5
GROUP - B	4.34	4.72	5.24	5.12	5.46	4.98	136.07	8.1
Assam	4.0	4.0	3.7	3.5	3.4	3.72	101.64	-3.9
U.P	1.9	2.3	2.3	2.9	3.2	2.52	68.85	14.4
Orissa	2.3	2.2	2.4	2.7	2.6	2.44	66.67	3.4
M.P.	2.7	3.0	3.0	3.1	3.5	3.06	83.61	6.8
Bihar	2.1	2.9	3.1	3.0	3.5	2.92	79.78	14.6
GROUP - C	2.6	2.88	2.9	3.04	3.24	2.93	80.05	7.1
ALL INDIA	3.1	3.4	3.8	3.9	4.1	3.66	100.00	7.3

TABLE - 3.4: PER CAPITAL ACTUAL EXPENDITURE ON ELEMENTARY EDUCATION (REVENUE ACCOUNT) (IN 1960-61 PRICES) (1973-78)

(in Rs.)

States	1973-74	74-75	75-76	76-77	77-78	Average Per Capital Exp. on Elemen-tary Edu. 1973-78	Per cent Deviation from average	Annual Average Growth rate 1973-78
Punjab	3.9	3.9	5.6	5.7	6.2	5.06	111.45	13.6
Haryana	2.3	4.0	4.6	4.5	4.9	4.06	89.43	23.9
Maharashtra	4.8	5.1	6.3	5.9	6.1	5.64	124.23	6.7
Gujarat	4.3	4.7	5.6	9.0	7.5	6.22	137.00	18.1
West Bengal	2.7	3.1	3.4	3.5	3.7	3.28	72.25	8.3
GROUP - A	3.6	4.16	5.1	5.72	5.68	4.85	106.83	14.1
Karnataka	4.9	5.0	5.6	5.9	6.2	5.52	121.59	6.1
Rajasthan	4.5	4.6	5.4	5.4	6.1	5.2	114.54	8.2
Kerala	8.0	8.8	11.0	11.2	10.8	9.96	219.38	8.3
Andhra Pradesh	3.4	2.9	3.9	4.1	4.4	3.74	82.38	8.1
Tamil Nadu	4.1	4.7	5.1	5.5	5.9	5.06	111.45	9.6
GROUP - B	4.98	5.2	6.2	6.42	6.68	5.90	129.95	8.1
Assam	3.2	4.4	4.0	3.9	6.0	4.3	94.71	19.9
M.P.	3.4	3.5	3.7	3.6	3.9	3.62	79.74	3.6
U.P.	2.7	3.4	4.2	3.5	3.7	3.5	77.09	9.6
Orissa	2.3	3.0	3.6	3.6	3.6	3.22	70.93	12.6
Bihar	3.5	3.1	3.6	2.3	4.2	3.34	73.57	12.8
GROUP - C	3.02	3.48	3.82	3.38	4.28	3.60	79.30	11.7
ALL INDIA	3.8	4.1	4.8	4.8	5.2	4.54	100.0	8.3

TABLE - 3.5 : AN OVERVIEW OF THE RESULTS: (PER CAPITA ACTUAL EXPENDITURE, ON ELEMENTARY EDUCATION REV. ACCOUNT IN 1960-61 PRICES. 1968-73 AND 1973-78

States	Average Per capita Exp. on elele- mentary edu. 1968-73	Average Per Capital Exp. on elemen- tary Edu. 73-78	Per Cent Deviati- on from average 68-73	Per cent Deviati- on from average 68-73	Annual Avera- ge growth rate 68-73	Annual Average growth rate 73-78	Growth rate of 2nd period (1973-78) over Ist period 1968-73)
Punjab	3.24	5.06	88.52	111.45	2.7	13.6	56.17
Haryana	2.4	4.06	65.57	89.43	0.1	23.9	69.17
Maharashtra	4.76	5.64	130.05	124.23	7.5	6.7	18.49
Gujarat	4.8	6.22	131.15	137.00	3.6	18.1	29.58
West Bengal	3.02	3.28	82.51	72.25	8.0	8.3	8.61
GROUP - A	3.64	4.85	99.45	106.83	4.4	14.1	33.24
Karnataka	4.88	5.52	133.33	121.59	7.6	6.1	13.11
Rajasthan	3.5	5.2	95.63	114.54	16.5	8.2	48.57
Kerala	8.9	9.96	243.17	219.38	1.6	8.3	11.91
Andhra Pradesh	3.04	3.74	83.06	82.38	8.8	8.1	23.03
Tamil Nadu	4.56	5.06	124.59	111.45	6.0	9.6	10.96
GROUP - B	4.98	5.90	136.07	129.95	8.1	8.1	18.47
Assam	3.72	4.3	101.64	94.71	-3.9	19.9	15.59
M.P.	3.06	3.62	83.61	79.74	6.8	3.6	18.30
U.P.	2.52	3.5	68.85	77.09	14.0	9.6	38.89
Orissa	2.44	3.22	66.67	70.93	3.4	12.6	31.97
Bihar	2.92	3.34	79.78	73.57	14.6	12.8	14.38
GROUP - C	2.93	3.60	80.05	79.30	7.1	11.7	22.87
ALL INDIA	3.66	4.54	100.0	100.0	7.3	8.3	24.04

lowest (Rs.1.72) on an average, their annual average growth rate is the highest among all the 3 groups(All India average 9%). Of course they have spent 30.65% less on secondary education than the all India averegge. Compared to this, the high income states - the mid income states have spent on an average 61.69% and 13.31% more than the all India average respectively during the Ist period.

It should be noted that Punjab alone has spent 153.23% more on secondary education than the all India average which is much more than that of Kerala's contribution of 32.26% more than the all India average. Haryana has also spent 112.90% more on secondary education than the all India average.

Similarly during the 2nd period (1973-78), (Refer to Table 3.7) high income states top the list of spending Rs.4.46. Compared to this the mid-income states and low-income states have spent Rs.2.98 and Rs.2.28 respectively which are below the all India average of Rs.3.04.

Again it is clear from Table 3.7 that during the 2nd period also the annual average growth rate of low income states is the highest (14.7%), although they have spent the least. Compared to this the growth rate of high

income states which have spent the most, is less than that of mid-income states and both of them are below the all India average of 7.9%. So, there is a tendency towards reduced disparities in levels of educational expenditure.

Although the annual average growth rate of high income states of Group A is the lowest one still it has spent 46.71% more on secondary education than the all India average. Compared to this both the mid-income states and the low-income states have spent 1.95% and 25% less than the all India average respectively during the 2nd period. Now we would proceed to give a few concluding remarks about the expenditure on secondary education during both the periods.

For a synoptic view please refer to the Table 3.8 :

1. There has been a steady increase in per capita expenditure in real terms during both the time periods in all the groups of states and also in individual states.

2. Although the low-income states of Group C have spent the least, still they top the list in terms of the growth rate of 2nd period over the first period (32.56%). The high-income states and low-income

states are much below the all India average of 22.58%.

3. Although the low-income states have the highest growth rates (2nd period over Ist period as well as annual average growth rate) during both the time periods, they have spent 35.65% and 25% less than the all India average during the Ist (1968-73) and 2nd (1973-78) period respectively. Compared to this, the high income states have spent on an average 61.69% and 46.71% more on secondary education than the all India average during both the time periods respectively. In other words disparities in levels of educational expenditure between Group A and Group C is declining. The same is also true in case of mid-income states and low income states.

4. Unlike the per capita expenditure on elementary education, Kerala has spent less on secondary education during both the time periods. It has spent only 32.26% and 46.05% more on secondary education than the all India average during the Ist and 2nd period which is much less than that of 143.17% and 119.38% on elementary education during the Ist and 2nd period respectively. As outlined

earlier primary education is more important for removing illiteracy whereas secondary education is associated with better employment opportunities and growth. On the other hand, Punjab, a high income state, whose effort was less on elementary education compared to Kerala, has spent 153.23% and 135.53% more on secondary education than the all India average during Ist and 2nd period respectively. Punjab and Haryana's effort, have pushed up the average figure of Group A to the top place among all the 3 Groups of States. So, the Indian experience only strengthens the traditional hypothesis that expenditure on secondary education is more important from the point of growth and employment.

5. In sharp contrast to the effort of Kerala, Punjab and Haryana, a poor income state like Bihar has spent much less than the all India average. So, there is certainly a direct relationship between educational expenditure on secondary education and per-capita income. Thus, it can be concluded that, in case of secondary education, the relative position of the groups of states in terms of educational effort can be observed according to the economic condition of the respective group of states. This was not the case

in case of elementary education.

3.1.3 Expenditure on University and Other Higher Education:

Like the expenditure on elementary and secondary education the expenditure on university and higher education has increased in real terms during the first period (1968-73) in all the individual states and also in all the 3 groups of states. This can be seen clearly with the help of Table 3.9.

Like the expenditure on secondary education, the high-income states of Group A have spent on an average Rs.1.00 during the Ist period which is above the all India average and which is also more than that of Group B's Rs.0.97 and Group C's Rs.0.68 (All India average - Rs.0.76).

Although the low-income states have spent very little on university and other higher education with an annual average growth rate of 12.1% they are above the growth rate of high income states (8.1%). The growth rate of mid income states is 13.6%. But the high income states have allocated 31.58% more on University and higher education than the all India average. Compared to this the mid income states have spent 27.63% more than the all India average while the low-income states have spent 10.53% less than the all India average.

Similarly for the 2nd period (please refer to Table 3.10), the expenditure has increased in real terms.

TABLE 3.6 : PER CAPITA ACTUAL EXP. ON SECONDARY EDUCATION, (REV. ACCOUNT) (IN 1960-61 PRICES)
(1968-73)

(in Rs.)

State	1968-69	69-70	70-71	71-72	72-73	Average Per-Capita Exp. on Secondary Edu. 1968-73	Per cent Deviation from Average 1968-73	Annual average Growth rate 1968-73
Punjab	5.7	5.9	6.2	6.2	7.4	6.28	253.23	7.0
Haryana	4.7	5.2	5.6	5.5	5.4	5.28	212.90	3.7
Maharashtra	3.0	3.2	3.7	3.6	3.7	3.44	138.71	5.6
Gujarat	1.4	1.5	2.5	2.5	2.8	2.14	86.29	21.5
West Bengal	2.1	2.4	3.6	3.4	3.2	2.94	118.55	13.2
Group - A	3.38	3.64	4.32	4.24	4.5	4.01	161.69	10.2
Karnataka	1.7	1.7	2.0	2.0	2.2	1.92	77.42	6.9
Tamil Nadu	2.8	2.9	3.0	3.2	3.2	3.02	121.77	3.4
Andhra Pradesh	2.2	2.3	2.6	2.5	2.4	2.4	96.77	2.4
Kerala	2.8	3.2	3.4	3.4	3.6	3.28	132.26	6.6
Rajasthan	3.1	3.4	3.7	4.0	2.9	3.42	137.90	-0.2
Group - B	2.52	2.7	2.94	3.02	2.86	2.81	113.31	3.8
Assam	2.5	3.1	2.9	2.9	2.7	2.82	113.71	2.7
U.P.	1.0	1.2	1.2	1.5	1.6	1.3	52.42	12.9
Orissa	1.4	1.6	1.9	2.0	2.2	1.82	73.39	12.1
M.P.	1.9	2.1	2.2	2.2	2.3	2.14	86.29	5.0
Bihar	0.3	0.6	0.6	0.5	0.6	0.52	20.97	25.8
Group - C	1.42	1.72	1.76	1.82	1.88	1.72	69.35	11.7
ALL INDIA	2.0	2.2	2.6	2.8	2.8	2.48	100.0	9.0

TABLE- 3.7 : PER CAPITA ACTUAL EXP. ON SECONDARY EDUCATION, (REV. ACCOUNT) (IN 1960-61) PRICES (1973-78

(in Rs.)

State	1973-74	74-75	75-76	76-77	77-78	Average Per Capital Exp. on Secondary Edu. 1973-78	Per cent Deviation from Average 1973-78	Annual average Growth rate 1973-78
Punjab	6.9	6.9	7.2	7.3	7.5	7.16	235.53	2.1
Haryana	5.0	4.1	4.7	4.4	5.1	4.66	153.30	1.5
Maharashtra	4.1	3.5	4.1	4.1	4.2	4.0	131.58	1.2
Gujarat	2.4	2.8	3.3	4.5	3.9	3.38	113.18	14.4
West Bengal	2.8	2.8	3.4	3.1	3.5	3.12	102.63	6.4
Group - A	4.24	4.02	4.54	4.68	4.84	4.46	146.71	5.1
Karnataka	2.0	1.9	2.3	2.2	2.4	2.16	71.05	5.2
Rajasthan	2.2	2.3	2.5	2.5	2.8	2.46	80.92	6.3
Kerala	3.6	3.9	4.8	5.0	4.9	4.44	146.05	8.4
Andhra Pradesh	2.4	2.2	2.7	2.8	3.0	2.62	86.18	6.3
Tamil Nadu	2.7	3.0	3.3	3.5	3.7	3.24	106.58	8.2
Group - B	2.58	2.66	3.12	3.2	3.36	2.98	98.03	6.9
Assam	2.5	2.9	3.0	2.8	4.1	3.06	100.66	14.8
M.P.	2.3	2.3	2.5	2.5	2.7	2.46	80.92	4.2
U.P.	1.3	2.0	2.2	2.4	2.6	2.1	69.08	20.3
Orissa	2.2	2.4	3.1	3.3	3.5	2.9	95.39	12.7
Bihar	0.6	0.7	1.2	0.9	1.1	0.9	29.61	21.3
Group - C	1.78	2.06	2.4	2.38	2.8	2.28	75.0	14.7
ALL INDIA	2.6	2.7	3.2	3.2	3.5	3.04	100.0	7.9

TABLE - 3.8 : AN OVERVIEW OF RESULTS: (PER CAPITA EXPENDITURE ON SECUNDARY EDUCATION (REV. ACCOUNT) (IN 1960-61 PRICES) (1968-73 and 1973-78)

State.	Average per Capita exp. on Secondary Edu. 1968-73	Average for Capital exp. on Secondary Edu. 1973-78	Per Cent Deviation from average 68-73	Per cent Deviation from average 73-78	Annual Average growth rate 68-73	Annual average growth rate 73-78	Growth rate of 2nd period (1973-78) over Ist period 68-73
Punjab	6.28	7.16	253.23	235.53	7.0	2.1	14.01
Haryana	5.28	4.66	212.90	153.30	3.7	1.5	-11.74
Maharashtra	3.44	4.0	138.71	131.58	5.6	1.2	16.28
Gujarat	2.14	3.38	86.29	113.18	21.5	14.4	57.94
West Bengal	2.94	3.12	118.55	102.63	13.2	6.4	6.12
Group- A	4.01	4.46	161.69	146.71	10.2	5.1	11.22
Karnataka	1.92	2.16	77.42	71.05	6.9	5.2	12.5
Rajasthan	3.42	2.46	137.90	80.92	-0.2	6.3	-20.07
Kerala	3.28	4.44	132.26	146.05	6.6	8.4	35.37
Andhra Pradesh	2.4	2.62	96.77	86.18	2.4	6.3	9.17
Tamil Nadu	3.02	3.24	121.77	106.58	3.4	8.2	7.28
Group B	2.81	2.98	113.31	98.03	3.8	6.9	6.05
Assam	2.82	3.06	113.71	100.66	2.7	14.8	8.51
M.P.	2.14	2.46	86.29	80.92	5.0	4.2	14.95
U.P.	1.3	2.1	52.42	69.08	12.9	20.3	61.54
Orissa	1.82	2.9	73.39	95.39	12.1	12.7	59.34
Bihar	0.52	0.9	20.97	29.61	25.8	21.3	73.08
Group C	1.72	2.28	69.35	75.00	11.7	14.7	32.56
ALL INDIA	2.48	3.04	100.00	100.00	9.0	7.9	22.58

During the 2nd period the mid-income states are in a comparatively better position by spending on an average Rs.1.41 which is more than that of Group A's Rs.1.14 and Group C's Rs.0.85 (below the all India average)

Although during the 2nd period the mid-income states have spent more than any other group, their annual average growth rate is the least among all the 3 groups which is very close to the all India average. But they have spent 30.56% more on university, and higher education than the all India average. Compared to this the high income states have spent only 5.56% more. But unfortunately, the poor income states have spent 21.3% less than the all India average.

Now summarising the results of both the periods it can be seen (Refer Table 3.11) that:

1. There has been an increase in per capita expenditure on university and higher education in real terms in all the 3 groups of states.

2. During the Ist period (1968-73) the high income states have allocated the most on an average in percapita terms. But during the 2nd period it is the mid-income states who are in the top place.

3. Although there has been an increase in expenditure in all the 3 groups during both the time periods, the growth rate of 2nd period over the first period in case of mid-income states is the highest (45.36%) (all India average 42.11%). Compared to this, the growth rate of high income and low income states are 14% and 25% respectively. Except for mid-income states for which the annual average growth rate has declined from 13.6% to 9.4% in the 2nd period, in case of both the high income states and low income states it has increased.

4. It can be seen from the Table 3.11 that Punjab allocated 100% and 50% more on university and higher education than all India average during Ist and 2nd period respectively. But it should be noted that Punjab has allocated less on this level of education than on secondary education during both the time periods.

5. But Kerala a mid-income state, has allocated 44.74% (less than that of Punjab's effort) during the Ist period and 90.74%(more than that of Punjab's effort) during the 2nd period than the all India average on university and higher education. But it should

be noted that Kerala has allocated more on university and higher education than that of secondary education during both the time periods.

6. It is clear that from among the poor income states Assam has allocated 31.58% more than the all India average during the Ist period. But during the 2nd period it has spent 11.11% less than the all India average. Bihar and U.P. have allocated the lowest.

7. Thus, it can be concluded that the high income states which have allocated more on secondary education during both the time periods have shown a poor effort in case of university and higher education. On the other hand, the mid-income states and low income states have allocated more on unversity and higher education than on secondary education during both the time periods.

3.1.4 Expenditure on Technical Education:

So far as the expenditure on Technical education is concerned, it can be seen from the Table 3.12 that the per capita expenditure has increased in real terms upto 1970-71 and then declined slightly in all the 3

TABLE - 3.9 : PER CAPITA ACTUAL EXP. ON UNIVERSITY AND OTHER HIGHER EDUCATION (REV. ACCOUNT) (IN 1960-61 PRICES)
(1968-73)

in Rs.

States	1968-69	69-70	70-71	71-72	72-73	Average Per Capita Exp. on University Higher Edu. 68-73	Per cent Deviation from average 68-73	Annual average Growth rate 68-73
Punjab	1.2	1.5	1.7	1.6	1.6	1.52	200.00	8.1
Haryana	0.7	0.9	1.0	1.3	0.9	0.96	126.32	9.7
Maharashtra	0.6	0.6	0.7	0.7	0.7	0.66	86.84	4.2
Gujarat	0.4	0.6	0.8	0.8	0.9	0.7	92.11	24.0
West Bengal	1.5	1.3	0.9	1.1	1.1	1.18	155.26	-5.5
Group - A	0.88	0.98	1.02	1.1	1.04	1.0	131.58	8.1
Karnataka	0.8	0.8	1.0	1.0	1.3	0.98	128.95	13.8
Tamil Nadu	0.6	0.7	0.7	0.9	0.8	0.74	97.37	8.6
Andhra Pradesh	0.7	0.9	1.0	1.1	1.1	0.96	126.32	12.4
Kerala	0.7	0.7	1.1	1.2	1.8	1.1	144.74	29.1
Rajasthan	0.9	1.0	1.3	1.1	1.0	1.06	139.47	4.2
Group - B	0.74	0.82	1.02	1.06	1.2	0.97	127.63	13.6
Assam	0.8	1.0	1.1	1.1	1.0	1.0	131.58	6.5
U.P.	0.4	0.3	0.4	0.4	0.7	0.44	57.89	20.8
Orissa	0.7	0.7	0.8	0.8	0.8	0.76	100.00	3.6
M.P.	0.6	0.7	0.7	0.7	0.8	0.7	92.11	7.8
Bihar	0.3	0.5	0.5	0.5	0.6	0.48	63.16	21.7
Group - C	0.56	0.64	0.7	0.7	0.78	0.68	89.47	12.1
All India	0.6	0.7	0.8	0.8	0.9	0.76	100.0	10.9

TABLE - 3.10 : PER CAPITA ACTUAL EXP. ON UNIVERSITY AND OTHER HIGHER EDUCATION (REV. ACCOUNT) (60-61 PRICES)
(1973-78)

(in Rs.)

States	1973-74	74-75	75-76	76-77	77-78	Average Per Capita Exp. on University, Higher Edu. 73-78	Per cent Deviation from average. 73-78	Annual Average Growth rate 73-78
Punjab	1.4	1.4	1.7	1.7	1.9	1.62	150.0	8.3
Haryana	0.9	0.8	1.1	1.8	1.1	1.14	105.56	12.8
Maharashtra	0.8	0.7	0.7	1.2	1.4	0.96	88.89	18.9
Gujarat	0.5	0.6	0.8	0.9	1.1	0.78	72.22	22.0
West Bengal	0.9	1.0*	1.2*	1.4*	1.5*	1.2	111.11	13.7
Group- A	0.9	0.9	1.1	1.4	1.4	1.14	105.56	15.1
Karnataka	1.2	1.3*	1.5*	1.6*	1.9*	1.5	138.89	12.3
Rajasthan	0.9	1.0	1.3	1.1	1.0	1.06	98.15	7.8
Kerala	1.9	1.7	2.3	2.2	2.2	2.06	190.74	5.1
Andhra Pradesh	1.3	1.3*	1.5*	1.7*	1.9*	1.54	142.59	10.1
Tamil Nadu	0.8	0.8	0.8	0.9	1.2	0.9	83.33	11.5
Group- B	1.22	1.22	1.48	1.5	1.64	1.41	130.56	9.4
Assam	0.9	0.9	0.9	0.9	1.2	0.96	88.89	8.3
M.P.	0.7	0.7	0.7	0.8	0.8	0.74	68.52	3.6
U.P.	0.4	0.5	0.6	0.7	0.9	0.62	57.41	22.6
Orissa	0.7	0.8	1.1	1.1	1.2	0.98	90.74	15.2
Bihar	0.7	1.0	0.9	1.0	1.1	0.94	87.04	13. 5
Group-C	0.68	0.78	0.84	0.9	1.04	0.85	78.70	12.6
ALL INDIA	0.9	0.9	1.1	1.2	1.3	1.08	100.00	9.9

* includes pre university.

TABLE- 3.11 : AN OVERVIEW OF RESULTS : (PER CAPITA EXPENDITURE ON UNIVERSITY AND OTHER HIGHER DUCATION (REV. ACCOUNT) (IN 1960-61 PRICES)
1968-73 and 1973-78

State	Average Per Capita Exp. on Univ, & Higher Edu. 1968-73	Average Per Capita Exp. on Univ,& Higher Edu. 73-78	Per Cent Deviation from average. 68-73	Per Cent Deviation from Average 73-78	Annual Average Growth rate 68-73	Annual Average Growth rate 73-78	Growth rate of 2nd period (1973-78) over Ist period 68-73
Punjab	1.52	1.62	200.00	150.00	8.1	8.3	6.58
Haryana	0.96	1.14	126.32	105.56	9.7	12.8	18.78
Maharashtra	0.66	0.96	86.84	88.89	4.2	18.9	45.45
Gujarat	0.7	0.78	92.11	72.22	24.0	22.0	11.43
West. Bengal	1.18	1.2	155.26	111.11	-5.5	13.7	1.69
Group - A	1.0	1.14	131.58	105.56	8.1	15.1	14.0
Karnataka	0.98	1.5	128.95	138.89	13.8	12.3	53.06
Rajasthan	1.06	1.06	139.47	98.15	4.2	7.8	0.0
Kerala	1.1	2.06	144.74	190.74	29.1	5.1	87.27
Andhra Pradesh	0.96	1.54	126.32	142.59	12.4	10.1	60.42
Tamil Nadu	0.74	0.9	97.37	83.33	8.6	11.5	21.62
Group - B	0.97	1.41	127.63	130.56	13.6	9.4	45.36
Assam	1.0	0.96	131.58	88.89	6.5	8.3	-4.0
M.P.	0.7	0.74	92.11	68.52	7.8	3.6	5.71
U.P.	0.44	0.62	57.89	57.41	20.8	22.6	40.91
Orissa	0.76	0.98	100.00	90.74	3.6	15.2	28.95
Bihar	0.48	0.94	63.16	87.04	21.7	13.5	95.83
Group - C	0.68	0.85	89.47	78.70	12.1	12.6	25.0
ALL INDIA	0.76	1.08	100.00	100.0	10.9	9.9	42.11

groups of states during the Ist time period. However, on an average the high income states and mid income states have spent Rs.0.33 and Rs.0.32 respectively, which is above the all India average. Where as the low incoke states on an average have spent less than the all India average of Rs.0.29. Of couse the difference is not significant during the Ist period.

It is observed that both the high income and mid-income states en an average have spent almost equal to each other but the annual average growth rate of high income states (8.92%) is more than thet of the mid-income state (7.66%). But in case of low income states except Bihar all the states have shown negative annual growth rate which makes the average figure a negative one during the Ist period. During the first period both the higheincome and mid income states have allocated 13.79% and 10.34% more on technical education than the all India average. But low income states have spent 20.69% less than the all India average.

During the 2nd period (1973-78) except for 1974-75 the expenditure on Technical education has increased considerably in all the groups of states, which can be observed from the Table 3.13. The annual average growth

rate being positive for all the three categories of states. The highest growth rate has been recorded by mid-income states. During this period unlike high income states the mid-income states have allocated more of per capita terms (Rs.0.34). As already mentioned their annual average growth is also the highest (7.81%) and above the all India average.

Although the low-income states (Rs.0.19) have spent less on an average thanthe high-income states(Rs.0.30) their annual average growth rate is 5.19% which is more than that of 4.31% of the high income states. It can be seen that mid-income states have allocated 21.43% more on Technical education than the all India average. Compared to this the high income states have spent 7.14% more than the all India average and low income states are 32.14% behind the all India average.

By summarising the two time periods we can say that (refer to the Table 3.14):

1. Only in case of mid-income states of Group B the per capita expenditure on an average on Technical educational has increased in real terms from Ist period to 2nd period. But in case of both the Group A and Group C it has declined in the

2nd period. This is indicated by the negative growth rates for these two categories of states. The growth rate is positive only for the mid-income states (6.25% second period over the Ist period). The growth rate for All India is negative too. This reflects the declining share of technical education in total educational expenditure during the 2nd time period in India.

2. The annual average growth rate in case of both mid-income and low-income states have increased from Ist period to 2nd period. But in case of high income states has declined in the 2nd period.

3. The mid income states have allocated 10.34% more than all India average during the Ist time period which increase to 21.43% during 2nd period in case of technical education.

4. During the Ist period the high-income states have allocated more than that Group B states but in the 2nd period the Group B states dominate the picture. Similarly the low income states have less than the all India average during both

the time periods.

5. It can be seen from the Table 3.14. Kerala as an individual mid-income state, has alone allocated 51.72% more than the all India average during the Ist period which has increased to 117.86% during the 2nd period. It has shown an increasing effort in the field of technical education compared to university and higher education, and secondary education. But for elementary education its effort is more than that of technical education. On the other hand Punjab has allocated 13.79% and 21.43% less on technical education than the all India average during the two time periods respectively. It is clear that except for secondary education, Punjab's effort in university and higher education and technical education is less than the general expectations.

6. Tamil Nadu has also spent more than all India average in per capita terms during both the time periods. Tamil Nadu is followed by the States like Maharashtra, Gujarat etc.

7. It can be concluded that mid-income states during

the 2nd period like university and higher education dominate the picture with a positive growth rate, so far as technical education is concerned.

Thus, these are the main 4 levels of education which we have discussed. But as earlier mentioned it should be kept in mind that expenditure on total education includes these 4 levels plus special education, adult education and etc, which we have not taken into account. However, before concluding this chapter it is necessary to give a picture of expenditure on total education in all the 15 states. This will enable us to get the total picture about educational expenditure in India.

From Table 3.15, it is clear that, on an average mid-income states have spent Rs.11.1 which is highest among all the 3 Groups. But the annual average growth rate is the least among the 3 groups and also below the all India average. But on an average the mid-income states have allocated 25.28% more than the all India average on total education which is more than that of the other two groups. So, in terms of levels of education the mid-income states top the list. But, in terms of growth of education expenditure, they lag behind.

TABLE - 3.12: PER CAPITA ACTUAL EXPENDITURE, ON TECHNICAL EDUCATION, (Rev. ACCOUNT) IN 60-61 PRICES

(in Rs.) (1968-73)

States	1968-69	69-70.	70-71	71-72	72-73	Average Per Capita Exp. on Technical Edu. 1968-73	Per cent Deviation from average 68-73	Annual average Growth rate. 68-73
Punjab	0.26	0.21	0.27	0.25	0.24	0.25	86.21	-0.52
Haryana	0.34	0.32	0.51	0.37	0.29	0.37	127.59	1. 11
Maharashtra	0.42	0.44	0.47	0.45	0-41	0.44	151.72	-0.39
Gujarat	0.32	0.32	0.34	0.36	0.33	0.33	113.79	0.95
West Bengal	0.11	0.28	0.40	0.33	0.31	0.29	100.00	43.46
Group A	0.29	0.31	0.39	0.35	0.32	0.33	113.79	8.92
Karnataka	0.26	0.44	0.30	0.27	0.30	0.31	106.89	9.63
Tamil Nadu	0.27	0.43	0.42	0.62	0.62	0.47	162.07	26.14
Andhra Pradesh	0.25	0.24	0.27	0.27	0.23	0.25	86.21	-1.58
Kerala	0.39	0.36	0.59	0.45	0.42	0.44	151.72	6.45
Rajasthan	0.13	0.12	0.15	0.11	0.11	0.12	41.38	-2.32
Group B	0.26	0.32	0.35	0.34	0.34	0.32	110.34	7.66
Assam	0.23	0.23	0.23	0.22	0.19	0.22	75.86	-4.51
U.P.	0.20	0.23	0.23	0.22	0.21	0.22	75.86	1.53
Orissa	0.28	0.28	0.31	0.26	0.17	0.26	89.66	-15.37
M.P.	0.30	0.32	0.30	0.31	0.29	0.30	103.45	-0.68
Bihar	0.12	0.13	0.13	0.13	0.13	0.13	44.83	2.08
Group - C	0.23	0.24	0.24	0.23	0.19	0.23	79.31	-3.39
ALL INDIA	0.24	0.28	0.32	0.32	0.30	0.29	100.00	6.18

TABLE 3.13: PER CAPITA ACTUAL EXPENDITURE ON TECHNICAL EDUCATION (REV. ACCOUNT) (IN 1960-61 PRICES)

(in Rs.) (1973-78)

States	73-74	74-75	75-76	76-77	77-78	Average Per Capita exp. on Technical Edu. 73-78	Per cent Deviation from average 73-78	Annual avergae Growth rate 73-78
Punjab	0.21	0.22	0.22	0.23	0.24	0.22	78.57	3.42
Haryana	0.26	0.27	0.29	0.31	0.31	0.29	103.57	4.54
Maharashtra	0.40	0.35	0.40	0.42	0.42	0.39	139.29	1.69
Gujarat	0.29	0.29	0.34	0.43	0.40	0.35	125.00	9.18
West Bengal	0.25	0.22	0.27	0.26	0.27	0.25	89.29	2.71
GROUP A	0.28	0.27	0.30	0.33	0.33	0.30	107.14	4.31
Karnataka	0.27	0.29	0.35	0.38	0.41	0.34	121.43	11.14
Rajasthan	0.09	0.09	0.10	0.10	0.11	0.09	32.14	5.27
Kerala	0.40	0.49	0.68	0.70	0.76	0.61	217.86	18.19
Andhra Pradesh	0.22	0.22	0.27	0.27	0.30	0.26	92.86	8.46
Tamil Nadu	0.55	0.36	0.37	0.39	0.43	0.42	150.00	-4.02
GROUP B	0.31	0.29	0.35	0.37	0.40	0.34	121.43	7.81
Assam	0.16	0.17	0.21	0.20	0.25	0.20	71.43	13.26
MPP.	0.28	0.24	0.27	0.26	0.28	0.27	96.43	0.55
U.P.	0.17	0.16	0.19	0.20	0.21	0.19	67.86	5.78
Orissa	0.16	0.14	0.17	0.15	0.16	0.16	57.14	0.96
Bihar	0.11	0.10	0.13	0.12	0.13	0.12	42.86	5.39
GROUP C	0.18	0.16	0.19	0.19	0.21	0.19	67.86	5.19
ALL INDIA	0.27	0.24	0.28	0.29	0.31	0.28	100.00	4.01

TABLE- 3.14 : AN OVERVIEW OF RESULTS: (PER CAPITA ACTUAL EXPENDITURE ON TECHNICAL EDUCATION (REV. ACCOUNT) IN 1960-61 PRICES
(1968-73 and 1973-78)

State	Average Per Capita Exp. on Technical Edu. 68-73	Average Per Capita Exp. on Tech. Edu. 73-78	Per cent Deviation from average 68-73	Per cent Deviation from average. 73-78	Annual average growth rate 68-73	Annual average growth rate 73-78	Growth rate of 2nd period (73-78) over Ist period 68-73
Punjab	0.25	0.22	86.21	78.57	-0.52	3.42	-12.0
Haryana	0.37	0.29	127.59	103.57	1.11	4.54	-21.62
Maharashtra	0.44	0.39	151.72	139.29	-0.39	1.69	-11.36
Gujarat	0.33	0.35	113.79	125.00	0.95	9.18	6.06
West Bengal	0.29	0.25	100.00	89.29	43.46	2.71	-13.79
GROUP A	0.33	0.30	113.79	107.14	8.92	4.31	-9.09
Karnataka	0.31	0.34	106.89	121.43	9.63	11.14	9.68
Rajasthan	0.12	0.09	41.38	32.14	-2.32	5.27	-25.00
Kerala	0.44	0.61	151.72	217.86	6.45	18.19	38.64
Andhra Pradesh	0.25	0.26	86.21	92.86	-1.58	8.46	4.00
Tamil Nadu	0.47	0.42	162.07	150.00	26.14	-4.02	-10.64
GROUP B	0.32	0.34	110.34	121.43	7.66	7.81	6.25
Assam	0.22	0.20	75.86	71.43	-4.51	13.26	- 9.09
M.P.	0.30	0.27	103.45	96.43	-0.68	0.55	-10.00
U.P.	0.22	0.19	75.86	67.86	1.53	5.78	-13.64
Orissa	0.26	0.16	89.66	57.14	-15.37	0.96	-38.46
Bihar	0.13	0.12	44.83	42.86	2.08	5.39	- 7.69
GROUP C	0.23	0.19	79.31	67.86	-3.39	5.19	-17.39
ALL INDIA	0.29	0.28	100.00	100.00	6.18	4.01	- 3.44

During the 2nd period (1973-78) the high income states on an average are comparatively in a better position than the mid-income states during Ist period. In other words, they have caught up with the mid-income states. The low income states have spent less than the high income and mid-income states in per capita terms. But their annual average growth rate which is above the all India average is close to that of the high income states and more than that of the mid-income states. But unfortunately they have allocated 21.88% less than the all India average on total education. On the other hand the high income states and mid-income states have allocated 20.11% and 17.60% more than the all India average on total education. So, the direct relationship between percapita income and total educational expenditure holds good during the 2nd period.

Now by summarising the results of the two time periods, we would be able to give a picture of the whole analysis. This can be clearly seen from table 3.17. The main findings are:

1. There is no doubt that the per capita expenditure on total education has increased in real terms in

all the individual states and also in the 3 groups of states. This indicates the high priority accorded to investment in human capital over the years in India.

2. Although the low income states have spent less on an average compared to the other groups, their growth rate of 2nd period over the Ist period is 19.18% which is of course below the all India average and high income states, but more than that of the mid-income states.

3. Even if the high income states have spent less compared to the mid-income states during the Ist period, still their growth rate of 2nd peried over the first period (22.27%) is the highest among all the 3 groups. This has enabled them to catch up with the mid-income states during the 2nd period, in which there is a direct relationship between per-capita income and educational expenditure.

4. So far as the annual average growth rate is concerned it has increased from 6.2% to 10.8% in case of high income states from 4.8% to 9.1% in case of mid-income states and 5.1% to 10.2% in low income states during

the Ist and 2nd period respectively. But it should be noted that during the first period all the groups of states are below the all India average but are above than the all India average in the 2nd period. It is clear that the increase in annual average growth rate in case of low income states is the highest among all the 3 groups of states.

5. It is clear that the mid-income states have allocated 25.28% more than the all India average compared to that of high income state's 19.07% during the Ist period. But during the 2nd period the high income states have allocated more than that of mid-income states, i.e. 20.11% in case of high income states whereas 17.60% in case of mid-income states. On the other hand the poor income states have allocated less than the all India average during both the time periods. In the Ist period the direct relationship between per-capita income and educational expenditure does not hold good unlike the 2nd period.

6. Kerala a mid-income state has spent Rs.16.52 and Rs.19.50 in per-capita terms during Ist and 2nd period respectively which is the highest among all the individual states. No doubt, Kerala's educational

effort is best among all the states of India and it perhaps explains why it is the most literate state in India. Expenditure in elementary education has a lion's share in the total educational expenditure in Kerala.

7. Punjab, a rich state on the other hand has shown its effort to be less than that of Kerala's but more than that of other states. But, as pointed out earlier in terms of secondary education it tops the list. This has implication in terms of more employment and growth.

8. Among the poor income states except for Assam in the Ist period, all other states (M.P., U.P., Orissa, Bihar) have spent much less than the all India average in terms of per capita expenditure during both the periods. In Indian context it is true that a poor income state has a low educational effort.

However, after analysing all the levels of education and also total education, we can draw the conclusion that the educational effort of Kerala as a mid-income state is the best among all the states. But the very basic

TABLE 3.15 : TOTAL PER CAPITA ACTUAL EXPENDITURE, ON EDUCATION (REVENUE ACCOUNT) (IN 1960-61 PRICES)
1968-73

(IN Rs.)

State	1968-69	69-70	70-71	71-72	72-73	Average Per Capita Exp. on Edu. (Total) 68-73	Per cent Deviation from average 68-73	Annual average growth rate 68-73
Punjab	11.9	12.5	13.0	13.5	15.6	13.3	150.11	7.1
Haryana	9.1	10.0	10.7	11.1	10.6	10.3	116.25	4.2
Maharashtra	9.5	10.6	11.5	11.1	12.2	10.98	123.92	6.7
Gujarat	7.8	8.6	10.0	10.3	10.2	9.38	105.86	7.2
West Bengal	7.4	8.5	9.4	9.5	9.1	8.78	99.09	5.6
GROUP A	9.14	10.04	10.92	11.1	11.54	10.55	119.07	6.2
Karnataka	8.8	9.3	11.2	10.4	10.8	10.1	113.99	5.7
Tamil Nadu	9.7	10.5	11.4	12.7	12.5	11.36	128.21	6.7
Andhra Pradesh	7.4	8.0	9.1	8.3	8.4	8.24	93.00	3.2
Kerala	15.1	16.4	17.1	17.4	16.6	16.52	186.45	2.5
Rajasthan	8.2	8.7	9.5	9.7	10.3	9.28	104.74	5.9
GROUP B	9.84	10.58	11.66	11.7	11.72	11.1	125.28	4.8
Assam	10.2	10.9	10.7	10.2	8.8	10.16	114.67	-3.3
U.P.	4.5	5.2	5.2	6.1	6.2	5.44	61.39	8.6
Orissa	6.3	6.7	7.3	7.6	7.4	7.06	79.68	4.2
M.P.	7.2	8.6	8.1	8.3	9.1	8.26	93.22	6.4
Bihar	3.9	5.0	5.2	5.0	5.5	4.92	55.53	9.6
GROUP C	6.42	7.28	7.3	7.44	7.4	7.16	80.81	5.1
ALL INDIA	7.5	8.2	9.2	9.6	9.8	8.86	100.0	7.0

TOTAL - 3.16: TOTAL PER CAPITA ACTUAL EXPENDITURE ON EDUCATION (REV. ACCOUNT) (In 1960-61 PRICES)

(in Rs.)

State	1973-74	74-75	75-76	76-77	1973-78 R.E. 77-78	Average Total Per Capita Exp. 73-78	Per cent Deviation from average 73-78	Annual average growth rate 73-78
Punjab	14.4	14.5	17.5	19.3	20.4	17.22	160.34	9.4
Haryana	10.1	10.1	11.9	13.8	14.9	12.16	114.15	10.5
Maharashtra	11.5	12.2	14.4	14.3	15.1	13.5	125.7	7.3
Gujarat	8.6	9.7	11.8	17.5	15.9	12.7	118.25	18.4
West Bengal	7.5	7.9	9.6	9.5	10.3	8.96	83.43	8.6
GROUP A	10.42	10.88	13.04	14.88	15.32	12.9	120.11	10.8
Karnataka	9.8	10.2	11.6	12.1	14.2	11.58	107.82	9.9
Rajasthan	8.7	8.9	10.4	10.8	12.0	10.16	94.6	8.5
Kerala	15.7	16.7	21.1	21.7	22.3	19.50	181.56	9.6
Andhra Pradesh	8.9	8.4	10.2	10.8	12.5	10.16	94.6	9.4
Tamil Nadu.	10.5	10.8	10.7	12.6	14.1	11.74	109.31	7.9
GROUP B	10.72	11.0	12.80	13.60	15.02	12.63	117.60	9.1
Assam	8.4	9.6	9.8	9.3	12.5	9.92	92.36	11.4
M.P.	8.4	8.4	8.9	9.0	9.9	8.92	83.05	4.3
U.P.	6.1	7.2	8.8	8.3	8.9	7.86	73.18	10.4
Orissa	7.0	7.7	9.7	10.1	10.9	9.08	84.54	12.0
Bihar	5.6	5.4	6.8	5.2	7.9	6.18	57.54	12.7
GROUP C	7.10	7.66	8.80	8.38	10.02	8.39	78.12	10.2
ALL INDIA	9.0	9.5	11.1	11.5	12.6	10.74	100.0	8.9

R.E. - Revised Estimates.

TABLE- 3.17 : AN OVERVIEW OF TOTAL PER CAPITA ACTUAL EXPENDITURE (REV. ACCOUNT) (IN 1960-61 PRICES) 1968-73 and 1973-78

States	Average Total Per Capita Exp, On Edu. 68-73	Averate Total Per Capita Exp. on Edu. 73-78	Pefcent Deviat- ion from Averggge 68-73	Percent Deviat- ion from average 73-78	Annual &verage Growth rate 68-73	Annual average Growth rate 73-78	Growth rate of 2nd period (1973-78) over Ist period 68-73
Punjab	13.3	17.22	150.11	160.34	7.1	9.4	29.47
Haryana	10.3	12.16	116.25	114.15	4.2	10.5	18.06
Maharashtra	10.98	13. 5	123.92	125.7	6.7	7.3	22.95
Gujarat	9.38	12.7	105.86	118.25	7.2	18.4	35.39
West Bengal	8.78	8.96	99.09	83.43	5.6	8.6	2.05
GROUP A	10.55	12.9	119.07	120.11	6.2	10.8	22.27
Karnataka	10.1	11.58	113.99	107.82	5.7	9.9	14.65
Rajasthan	9.28	10.16	104.74	94.6	5.9	8.5	9.48
Kerala	16.52	19.50	186.45	181.56	2.5	9.6	18.04
Andhra Pradesh	8.24	10.16	93.00	94.6	3.2	9.4	23.30
Tamil Nadu	11.36	11.74	128.21	109.31	6.7	7.9	3.34
GROUP B	11.1	12.63	125.28	117.60	4.8	9.1	13.78
Assam	10.16	9.92	114.67	92.36	-3.3	11.4	-2.36
M.P.	8.26	8.92	93.22	83.05	6.4	4.3	7.99
U.P.	5.44	7.86	61.39	73.18	8.6	10.4	44.49
Orissa	7.06	9.08	79.68	84.54	4.2	12.0	28.61
Bihar	4.92	6.18	55.53	57.54	9.6	12.7	25.61
GROUP C	7.16	8.39	80.81	78.12	5.1	10.2	17.18
ALL INDIA	8.86	10.74	100.0	100.0	7.0	8.9	21.22

question that arises is why then Kerala is in the mid-income states of Group B ? How can a mid-income state give so much importance to education. And, why the traditional direct relationship between income and educational expenditure does not hold good in case of Punjab and Kerala. Prima-facie it appears that priorities are perhaps different in case of these two states. While in case of Kerala the emphasis is on elementary education in case of Punjab the emphasis is on secondary education, though in terms of total Kerala is ahead. Secondary education is important from the view point of employment and growth. The negligible importance of secondary education has perhaps led to lower growth rates alongwith high literacy ratio. So, it would not be entirely correct to say that the traditional theory fails in case of Kerala. But, it would be too premature to jump into a definite conclusion, because we have not tried to estimate the precise impact of educational expenditure on economic development, which is done in the next chapter.

CHAPTER - IV

IMPACT OF EDUCATIONAL EXPENDITURE ON ECONOMIC DEVELOPMENT IN INDIA.

Education is a process whereby new knowledge is acquired. The development and growth of the economy depends to a large extent on this acquired knowledge. Government, therefore, invests in education with a view to promote economic development though there are other important social objectives too.

However, the interesting point is that the level of government expenditure is not determined by some objective analysis of absolute 'needs', but by the perceived level of needs in relation to the development and growth of the economy as a whole. Thus our main objective in this chapter is to find out the possible impact of educational expenditure on some of the important indicators of economic development and also some of the indicators of social development in India.

Before going to the details of the analysis of the coplex relationship it is necessary to give some theoretical idea about the possible contribution of education towards economic and social development in India.

Increase in total national product may be due to

the use of more labour, the use of more physical capital, the use of better labour, the use of better machines and the more efficient allocation and use of labour, materials and machines.[10]

Firstly,it should be realized that the use of more labour will contribute to such an increase in the per capita national product only if the ratio of working to non-working people increases. This ratio particularly depends on some important factors like the i) age composition of the population ii) the labour force participation rate iii) the employment rate and the length of the work week. These factors may be positively or negatively influenced by education. For an example, education has its impact on mobility of labour which in turn affects the employment rate.

Secondly,,since the use of physical capital depends on the saving habits and investment propensities of the people education may influence both saving and investment. But it may be positive or negative. Positive in the

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10 Machlup.,Fritz; " Education and Economic Growth", University of Nebraska Press, Lincoln, 1970,p.6.

sense that the propensity to save may increase. Similarly negative in the sense that the propensity to consume may increase.

Thirdly, when we are concerned with the use of better labour which clearly implies the quality of labour, education can play a singificant role. Improvement in the quality of labour depends upon some important factors like -

i) better working habits and discipline, which increase the labour efforts,
ii) better health through the sanitary ways of living,
iii) improved skills and increased efficiency,
iv) the adjustment habits with momentary changes,
v) increased willingness to move into more productive jobs when opportunities are there.

All these factors may be positively influenced by all levels of education and thereby can increase the quality of labour.

Fourth, in case of use of better machines, education can help the people by making them more interested in

improved machines and more capable of utilising it. And secondly through research and development people may be able to invent or develop new techniques and new machines.

Fifthly, though the efficient allocation and use of materials and other inputs may not directly depend on education, some of the factors upon which efficient allocation depends, can be positively influenced by education: For example, a) technical progress not embodied in the machines but advanced by trained personnel; b) efficiency in management and c) mobility of labour, etc. all depend on the quality and extent of education.

Thus, these are then five factors which may possibly be influenced by education and thereby increase the national product in the economy.

When we talk about agricultural production man is the central catalyst in the production process. He is the main decision-maker i.e. what to plant how to plant, how to protect it against pests and diseases etc.etc. So, man and his economic behaviour directly affects the agricultural growth.

In fact, education increases the farmers inquisitiveness which help them for self-discovery of new knowledge about the operation of his own farm. And this self-discovery is an important ingredient which is necessary for agricultural growth.

Similarly, education also provides a wider knowledge of different alternatives. For an example,a farmer who knows only one way to grow a crop can be provided by the help of extension education with a possible alternative crop. As a result of which his freedom of choice regarding the techniques of production will be widened.

However, the contribution of general education towards agricultural growth is at best a time-lagged one. But the contribution of basic education is immediate and a short-run one which provides the infractural skills i.e. reading, writing and arithmatic.[11] First they improve the transmission of further knowledge. Secondly, they help the farmers to keep records of farm operations and to make simple calculations inorder to determine optimum factor combinations and to reduce cost and to

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11 Wharton, Clifton. R.,"Education and Agriculture Growth: The role of Education in Early Stage Agriculture", (ed.), Anderson, A. and Bowman, M.J., Education and Economic Development, Aldine Publishing Company, Chicago, 1965, p. 208.

increase output.

Similarly, in case of industrial growth also education has some contribution. For example - the technical progress which is not embodied in machines, but certainly engineered by trained personnel, is an important ingredient of industrial growth. Education also improves the managerial ability of the management body which also positively influence the industrial production. These factors lead to a more efficient allocation of resources and hence reduce the cost and augment productivity and output.

Among the social indicators like the birth rates, death rates and infant mortality rates, education seems to influence positively as in the case of Kerala. This shows their awareness about the need for a small family and better health care. This has been made possible by education. Of course mass media can play an important role, but it is not sufficient enough to arouse the consciousness of the people. Therefore it can be rightly said that education and development are the best contraceptives.

However, it is true that development which is a

dependent variable depends on a number of independent variables and education is one of them. It is very difficult to quantify the contribution of different factors. But in this chapter we will try our best to find out the possible impact of expenditure on education on some of the important indicators of economic and social development. For an example, its effect on i)SDP, ii) agricultural production iii) industrial production iv) on birth rates, death rates, infant mortality rates and also v) its impact on literacy rate in the 15 major states of India. More specifically we are interested in the nature of relationship that exists between educational expenditure and the development indicators.

An important point which should be kept in mind is that, expenditure on education today can not have any immediate impact on the economy tomorrow. Rather the effects reveal themselves after some time lag. That is why in order to show the impact of educational expenditure during the period 1968-69 to 77-78 we have taken the development period as 1978-79 to 87-88, i.e. we have taken a lag of 10 years. But certain other results can be achieved in shorter time periods too. It can be assumed with reasonable accuracy that the educational expenditure,

can produce results in terms of literacy rate after a lag of 3 to 4 years. Now let us proceed to explain the variables and the results of regression and correlation analysis.

4.1 In the earlier chapter we had found out the growth rates of educational expenditure of different categories of States classified on the basis of income. In this chapter an attempt is made to find out the impact of educational expenditure of one period with the indicators of economic and social development of a future time period.

Specifically, we intend to study for an example, whether the expenditure on education during (1968-78) had any significant impact on the growth rates of different states during (1978-88). As explained earlier in methodology, we have divided the time period into two parts. The educational expenditure of 1968-73 is linked with the growth rates of 1978-83. Similarly, expenditure of 1973-78 is linked with the growth rates of SDP, Agriculture and Industry of 1983-88 period.

We have also linked the expenditure during (1968-73) with the levels of development during 1982-83 and expenditure

during (1973-78) with that of 1987-88. In this case we have taken the absolute figures and not the growth percentages.

In case of literacy rate, we have taken a lag of 3 years and in case of birth, death and infant mortality rates we have taken a lag of 10 years. In the case of these social indicators we have taken the total expenditure during the entire time period 1968-78. The analysis is done through bivariate cross-section regression analysis using the data for 15 major Indian states.

4.1.1 Dependent Variables

a) $$y_{At} = \frac{Y_{At} - Y_{At-1}}{Y_{At-1}} \times 100$$

where, y_{At} = Growth rate of net state Domestic product at factor cost of a state at current prices for the year t.

Y_{At} = net SDP at factor cost during a year t.

Y_{At-1} = Net SDP at factor cost during the year (At - 1).

b) Similarly the growth rate in contribution of Agriculture to SDP =

$$y_{Bt} = \frac{Y_{Bt} - Y_{Bt-1}}{Y_{Bt-1}} \times 100$$

where the subscript B refers to the contribution of agriculture and t refers to the year t.

c) Similarly the growth rate in contribution of Industry (manufacturing) to

SDP =

$$Y_{Ct} = \frac{Y_{Ct} - Y_{Ct-1}}{Y_{Ct-1}} \times 100$$

d) Similarly while relating the levels of development with educational expenditure the dependent variables are Y_A, Y_B and Y_C for SDP, Contribution of Agriculture and Contribution of Industry respectively and not the growth percentages.

e) Y_{Dt} refers to the literacy rates, Y_{Et}, Y_{Ft} and Y_{Gt} refers to Birth rate, death rates and infant mortality rates respectively.

4.1.2 Independent Variables

X = total education expenditure

We have taken total educational expenditure as the independent variables as we are interested to find out the degree of its relationship with the levels of development as well as growth.

4.1.3 The Equations:

We have two sets of regression equation for two different time periods.

1. $y_{At} = mx + C$ or,

y_A (1978-83) = β x (1968-73) + C .....(i)

where y_{At} = SDP annual average growth rate in current prices for the first time period (1978-83).

X = total educational expenditure during (1968-73). In other words we have taken a lag of ten years. We have related the SDP growth rate with the educational expenditure of the previous period, with a lag of 10 years.

Similarly, for the 2nd period we have another simple regression equation.

y_A (1983-88) = β x (1973-78) + C .....(ii)

2. Similarly the growth rate of contribution of Agriculture to national income, we have two different sets of equation. For two different time periods we have two sets of equation.

The independent variable remains same for

the two time periods. Only the growth rate of SDP is replaced by the growth in the contribution of agriculture to national income. The time lags also remain the same.

The equations are:

Y_B (1978-83) = β x (1968-73) + C ..... (iii)

Y_B (1983-88) = β x (1973-78) + C .....(iv)

3. Similarly the equations for industrial development indicator are:

Y_C (1978-83) = β x (1968-73) + C .....(v)

Y_C (1983-88) = β x (1973-78) + C .....(vi)

4. Now coming to the levels of development the equations relating to SDP -

Y_A (1982-83) = β x (1968-73) + C .....(vii)

Y_A (1987-88) = β x (1973-78) + C .....(viii)

5. Similarly the equations relating Agriculture -

Y_B (1982-83) = β x (1968-73) + C .....(ix)

Y_B (1987-88) = β x (1973-78) + C .....(x)

6. Similarly the equation relating to industry -

Y_C (1983-83) = β x (1968-73) + C .....(xi)

Y_C (1987-88) = β x (1973-78) + C .....(xii)

7. In case of social indicators we have not divided the total time into two periods. We have taken the educational expenditure during the whole time period (1968-78) and then tried to estimate its impact on the literacy rate (1981), and birth, death, and infant mortality rates of 1987.

It is assumed that literacy rate can be altered with a smaller time lag with more educational expenditure Unlike the previous 6 sets of equations we have taken educational expenditure during (1968-78) in constant prices and in percapita terms. In the earlier sets of equations both the dependent as well as the independent variables were in current prices and expressed in absolute monetary terms. But, in this case the dependent variables are expressed in percantages or, per thousand terms. So, it was imperative that the independent variables in this case be also expressed in percapita constant prices. The equations are -

$$Y_D = \beta \times (1968\text{-}78) + C \qquad \ldots\ldots \text{(xiii)}$$

as defined earlier Y_D refers to literacy rates of different states.

Similarly,

$$Y_E = \beta \times (1968\text{-}78) + C \qquad \ldots\ldots \text{(xiv)}$$

where Y_E refers to birth rates of different states, during 1987.

Similarly,

$$Y_F = \beta \times (1968\text{-}78) + C \qquad \ldots\ldots(xv)$$

where Y_F refers to the death rates of different states during 1987 and $Y_G = \beta \times (1968\text{-}78) + C$..(xvi)

where Y_G refers to the infant mortality rates of different states during 1987.

From the regression analysis we also get the correlation coefficient (r^2) values. While the correlation coefficient throws some light on the relationship between the dependent and the independent variables, the regression coefficient tells about the degree of their relationship in a cause and effect manner.

4.2 Correlation and Regression Analysis:

In this section we have linked the various explanatory/independent variables of our regression model with the dependent variable through Karl-Pearson's correlation coefficient (r) and regression coefficient (β). This will help us in knowing the nature and degree of relationship that exists between each explanatory/independent variable and the dependent variable. So, the correlation coefficient (r) would tell us whether high growth rates and levels of development are associated with high educational expenditure or, not. Similarly, the regression coefficient would tell us about the degree of their relationship.

4.2.1 Expenditure on Education and SDP:

The correlation coefficient for the first time period was negative (-.224) (Please refer to Table 4.1) implying that higher educational expenditure were not associated with high growth rates. Of course the value of correlation coefficient is not high enough to come to some definite conclusion. But the situation has changed for the better during the second period. This is reflected by the positive correlation coefficient of the second period (.41). This indicates that higher educational expenditure during (1973-78) is associated with the higher annual average growth rates of (1983-88). It should be borne in mind that the value of correlation coefficient is not only positive but also high unlike that of the previous period.

Now coming back to the levels of development we find that higher educational expenditure during (1968-73) and (1973-78) is associated with very high values of SDP during (1982-83) and (1987-88) respectively. This is reflected by high correlation coefficient of positive nature of (.83) and (.89) respectively for (1968-73) and (1973-78) periods.

Now analysing the regression coefficients related

TABLE - 4.1 : REGRESSION AND CORRELATION COEFFICIENT(ECONOMIC INDICATORS)

Independent variable - X Educational Expenditure Time Period		DEPENDENT VARIABLE with SDP Growth	with SDP level	with Agricultural Growth	with level of Agricultural development	with growth of industry	with level of industrial development.
1968-73	(r)	-.224	.83	-.3524	.503	0.195	.845
1973-78	(r)	. 41	.89	.2245	.692	.414	.843
1968-73	(β)	-2.29^{-07}	29.05*	-1.295^{-06}	6.883	5.57^{-07}	7.34*
	(t)	-.829	5.315	-1.357	2.098	.716	5.697
1973-78	(β)	2.262^{-07}	25.92*	5.356^{-07}	7.614*	3.12	6.720*
	(t)	1.605	7.194	.831	3.456	1.64	5.47

* = Significant at 1% level (two tailed test)

Table value t = (0.01, df = 13) = 3.012 (1% level of significance)

to growth and levels of development we find that in case of growth the results are not satistically significant. But in case of levels the results are statistically significant. Of course in case of levels it would be erroneous if we attribute the whole of β value to changes in X or, educational expenditure.

In other words, we should only conclude that since the positive β values are significant at 1% level there is some positive relationship between the educational expenditure and SDP levels. But same cannot be said about the relationship between educational expenditure and growth rates as β values are not statistically significant. But during the first time period it was negative and for the second time period it was positive.

In this case of growth rates the educational expenditure is in thousand rupees and growth rates are in percentages unlike in case of levels where both the dependent and independent variables are in same monetary units. So the β values shows the change in y for a thousand rupee change in educational expenditure and hence the β values are too small. But, from the negative value in the first time period and a positive

value in the 2nd period we can conclude that the situation has improved for the better.

4.2.2 Expenditure on Education and Agricultural Development:

The correlation coefficient for the first time period was - .35 (Please refer to Table 4.1) where as, for the second time period it was .22. So, like the SDP in case of Agricultural growth too we have found better results in the second time period. Of course the values are hot so high.

Coming to the levels of agricultural development, the correlation coefficients are both positive and high though second period has shown a slightly better result implying better impact of educational expenditure on agricultural development.

Like SDP, regression coefficients were negative for the first time period where as it was positive for the second time period. Of course they were statistically insignificant. But this confirms our earlier finding that educational expenditure , of second period had a better impact on agricultural growth. Similarly coming back to levels of development we have a better result for the second time period. The regression coefficients are also statistically significant.

4.2.3 Expenditure on Education and Industrial Development:

The correlation coefficients relating to industrial growth are .195 and .414 which can be seen from the Table 4.1, during the first and second time period respectively. Certainly this also implies a better impact for the second period. But in case of r relating to the levels we do not have any clear cut picture since correlation coefficients are high in both the time period and not significantly different. This implies that though higher levels of industrial development are associated with higher educational expenditure, higher growth rates of industrial value added is associated with it only during the second time period.

The regression coefficients associated with industrial growth are not statistically significant like SDP growth rates and agricultural value added growth rates. But, coming to the levels we find that the degree of relationship between it and educational expenditure is not only positive but also very high too in both the time periods.

4.2.4 Expenditure on Education and various Social Indicators:

Though it is very difficult to estimate the impact

of education on growth rates and levels of development in terms of SDP, contribution of agriculture to national income, contribution of industry to national income, it is indeed easier to estimate the impact of educational expenditure on social indicators like literacy rate, birth rate, death rate and infant mortality rates. Literacy rate is affected in the short run (a lag of 3/4 years) and in turn raises the level of awareness for the need of a small family. We are of the opinion that education can raise the consciousness of the people more than any media campaign. It is needless to add that expenditure on education can easily lead to higher literacy rates.

The analysis of correlation coefficients shows that (Please refer to Table 4.2) while it is positive and very high (.85) for literacy rates it is negative though very high for birth rate (-.74), death rate(-.56) and infant mortality rate (-.81) shows that higher educational expenditure are associated with high literacy rates, low birth and death rates and also low infant mortality rates.

Similarly the regression coefficient was positive (1.56) in case of literacy rate signifying the positive impact of educational expenditure on literacy rates.

TABLE 4.2 : REGRESSION AND CORRELATION COEFFICIENTS.
(Social indicators)

Independent Variable - X Expenditure, on Education Time Period.	DEPENDENT VARIABLE Literacy rate	Birth-rate per 1000.	Death - rate per 1000.	Infant - mortality rate per 1000.
1968-78 (r)	.84	-.75	-.56	-.81
1968-78 (β)	1.56*	-1.001	-0.83**	-6.27*
(t)	5.578	-4.051	-2.43	-4.909

* = Significant at 1% level (two talied test)

** = Significant at 5% level (two talied test)

N.B = In this case independent variable is in percapita constant prices where as in case of economic indicators they are in absolute current prices.

The t value is also significant at one per cent level.

But in case of other 3 indicators the coefficients are negative implying that educational expenditures have been the cause of reduced infant mortality, birth and death rates. It would not be totally out of place to mention that it is widely documented that family planning drives were most successful in Kerala which has a very high educational expenditure and high literacy rate. The impact is -.567 for birth rate and -.391 for death rate and -6.27, for infant mortality rate.

4.3 An Overview of Results:

1. The correlation coefficients and regression coefficients (though statistically insignificant) confirm that educational expenditure during the 2nd period (1973-78) had a better impact on different indicators of development namely SDP growth, value added growth in agriculture and value added growth in industries.

2. The impact of educational expenditure on growth rates of various indicators of development was found to be statistically insignificant though they were higher in case of second time period.

3. On another plane, we had tried to estimate the impact of educational investment on levels of economic development. But this is a very difficult exercise as levels of development as well as growth depend on many factors of which educational investment is only one. So, higher coefficient values should not lead us to any definite conclusion. But we can afirm that higher levels of development relating to all the three indicators are associated with high educational expenditure of the previous period. This certainly tells us that the educational expenditure does have a positive impact on the levels of development. But how much it is very difficult to predict.

4. But it is easier to estimate the relationship of educatioal expenditure with the social indicators like literacy rate, death, birth and infant mortality rates. The correlation coefficient and regression coefficients were very high reflecting a higher degree of relationship between the two variables. High educational expenditure is certainly associated with high literacy rate, low birth, death and infant - mortality rates of a future time period. In other

words we can definitely say that higher educational investment has raised the literacy ratio lowered the birth, death and infant mortality rates. Now we can affirm that education is the best contraceptive. The classic example being provided by Kerala.

In other words, the Indian experience confirms that education not only raises the awareness about a small family it also gives a protective cover to the infants. It can be concluded that education is the vehicle of social change.

CHAPTER - V

C_O_N_C_L_U_S_I_O_N

The idea that education was beneficial was accepted as a universal truth from the days of Adam Smith and Alfred Marshall. Marshall the most articulate of the classicists emphasized the role of skills in increasing productivity and specifically identified education not only as a target but also as an instrument of economic development.[12]

Education is regarded both as a condition and stimulant for economic development. Investment in education is a means; knowledge, skills and attitudes of the people are the final product. The economists world over have realized that education is not merely a consumption good, it is a means to an end and would enable man to get the best out of his environment.

Therefore in developing economies education and educationists are making increasingly larger claims on scarce public resources. And India is no exception either. Naturally the authorities are also seeking answers to questions like what are the productive returns from the educational expenditure. Education is no longer considered

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12 Rao, V.K.R.V., "Education and Economic Development", Education and Human Resource Development, Allied Publishers Private Limited, New Delhi, 1966, p. 57.

as an end in itself, nor is it confined to imparting of knowledge and development of personality. The criteria that are applicable to investment in general are also considered relevant in case of education.

The Indian planners and resource administrators had also realized that development of physical resources or, economic growth itself depended on investment in physical inputs as well as human resources. Therefore education came to be regarded as an important investment in the plan era.

Educational investment can come from the public sector, the private sector or other sources which include foreign aid also.

One aim of our analysis was to study the financing of education through the different sources of educational expenditure.

Since education is regarded as an investment and as an important productive factor, there should be a real growth in educational expenditure in the economy which in turn would promote economic development in the

economy.

Our second aim therefore was to study the real growth of educational expenditure in 15 major Indian states during the time period of 1968-78; a period of ten years.

As the economy develops it allocates more on each type of investment including education. In otherwords, as the economy develops, both the indices of educational growth and economic growth tend to move in the same direction. Although it says nothing about the train of causation but still we know that some educational effort leads to increased productivity. This ultimately increases the national income of the economy as a whole and thereby raises the standard of living of the people. On the other hand as income rises, people's want for better education goes up.

Thus, there are two effects; one is the effect of growth of educational expenditure on national income. This effect we may say is not so well established. But there is the other effect, that of rising incomes of the nation on growth of educational expenditure which is

much faster and more certain in nature.[13]

However, both the growth of educational expenditure and growth in national income are interdependent and also interrelated. Our final and third aim was to study this complex relationship between education and economic development in 15 major Indian states. We have tried our best to find out the possible impact of educational expenditure during (1968-78) on various economic and social indicators of a future time period, i.e. (1978-88).

Summary of Conclusion:

The major findings of our analysis are the followings:

5.1 Financing of Education:

Although we have taken into account the financing of education during British period, our main emphasis was on the financing during post-independence period.

Certain significant achievements during the British period were -

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13 Machlup. Fritz, "Education and Economic Growth", University of Nebrasaka Press, Lincoln, 1970, p.2.

1. The enactment of legislations for the appropriation of state revenues in financing education.

2. Their most important contribution was alienating education from religion and thereby making it more secular.

3. Shifting of emphasis among the financial resources of education like fees began to be realized on a compulsory basis.

4. The graded system in educational institutions was introduced.

5. During the post-independence era, the sources of educational finance are classified as -[14]

   i) the public sector:

      a) central government

      b) state government

      d) Local government/bodies (zila Parishads, Mucipalities and Panchayats).

   ii) the private sector:

      a) students/parents, e.g. fees/maintenance costs.

      b) Endowments and donations.

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14 Tilak J.B.G., 'Education Finance in India', NIEPA, New Delhi, 1985.

iii) Other sources including foreign aid.

6. Out of the public sector, the share of the central and state goverhment in the total, educational finances increased over the years.

7. The growth in the educational finances on the part of government is mainly due to the responsibility of the government to build a new, modern progressive egalitarian socio-economic system in the country. And secondly, a large amount of finances goes as subsidies to weaker sections of the society.

8. So far as the educational effort is concerned, the states on an average are allocating at around 20% of their budget to education.

9. The objects of educational expenditure are divided into direct and indirect categories during the post-independence period.

10. The direct object refers to -

i) General education

ii) Professional education

iii) Special education

The indirect object refers to direction, inspection scholarships etc.

11. The types of educational expenditure are classified as plan and non-plan expenditure. It is the non-plan expenditure, which alone accounts for nearly 80% of the total educational expenditure during the entire plan era.

5.2 Growth of Educational Expenditure:

1. There has been a steady increase in the per capita expenditure on total education in real terms in all the individual states and groups of states. The increase in expenditure in real terms has taken place in elementary, secondary, university and higher education and also in technical education.

2. The low income states have allocated less on total education on an average compared to other groups of states. But their growth rate of 2nd period (1973-78) over the Ist period (1968-73) is more than the mid-income states. Of course the growth rate of low income states is below the all-India average.

3. The high income states of group A have spent less than the mid-income states on total education during the Ist period (1968-73). But still their growth rate of 2nd period (1973-78) over the Ist period (1968-73) is the highest among all the 3 groups of states. Their growth rate is also above the all India average figure.

4. So far as the annual average growth rate of total education is concerned, it was below the all India average during the Ist period in all the 3 groups of states. But it has increased in real terms in all the three groups of states during the 2nd period (1973-78). The increase is more in case of low-income states than the other two groups of states.

5. During the Ist period (1968-73) the mid-income states have allocated more on total education than other two groups of states. But during the 2nd period (1973-78) the high income states have spent more than the mid-income and low income states. But the poor income states have shown a poor educational effort during both the time periods.

6. Kerala a mid-income state, has allocated the most

among all the individual states on total education both during Ist (1968-73) and 2nd (1973-78) period. There is no doubt that the educational effort of Kerala is the best among all the states in India.

7. On the other hand Punjab a high-income state has not spent enough on total education. Of course its position is above the low-income states and some of the mid-income states.

8. Unlike the expenditure on elementary education, Kerala has spent less on secondary education during both the time periods. This accounts for its high literacy ratio.

9. Where as Punjab whose effort was less on elementary education than Kerala, has spent more on secondary education both during the Ist (1968-73) and 2nd (1973-78) period. Expenditure on secondary education is a crucial determinant for employment and growth. Punjab being a high growth state spends more on secondary education.

10. Kerala has allocated more on university and higher education than the secondary education during both

the time periods. During the 2nd period it has shown a better educational effort than Punjab in case of university and higher education.

11. The high income states as a whole have shown a declining effort in case of university and higher education than secondary education. But the mid-income and low-income states have allocated more on university and higher education than on secondary education during both the time periods. As mentioned earlier expenditure on secondary education is more important for growth.

12. So far as technical education is concerned, Kerala has shown an increasing effort in the field of technical education compared to secondary, university and higher education. But its effort for elementary education is more than any other education during both the time period.

13. But Punjab, a high income state, has not spent enough on technical education in omparision with mid-income states. Except for secondary education, Punjab's effort for university and higher education and technical education is less than the general expectations.

5.3 Impact of education expenditure on Economic Development:

1. The correlation coefficients and regression coefficients (though statistically insignificant) confirm that educational expenditure during the second time period (1973-78) had a better impact on different indicators of development. The indicators are SDP growth, value added growth in agriculture and value added growth in industry.

2. The impact of educational expenditure on growth rates of various economic indicators of development was found to be statistically insignificant though they were higher in case of the second time period.

3. The impact of educational expenditure on levels of development which we had tried to estimate is a difficult exercise. Because levels of development as well as growth depend on many factors, and educational investment is only one of them.

4. Therefore, higher coefficient values should not lead us to any definite conclusion. But we can

affirm that higher levels of development relating to all the three economic indicators are associated with high educational expenditure. This certainly tells us that educational expenditure does have a positive impact on the levels of development. But by how much; it is very difficult to predict.

5. But so far as the social indicators like literacy rate, birth, death and infant mortality rates are concerned, it was easier to estimate the relationship. In other words, the impact of educational expenditure on literacy rate,birth, death and infant mortality rates has shown a relatively clear picture than economic indicators.

6. In case of social indicators, the correlation coefficients and regression coefficients were very high. This implied a higher degree of relationship between the two variables. High educational expenditure is certainly associated with high literacy rates, low birth, death and infant mortality rates of a future time period.

7. So we can affirm that education is the best contraceptive. The classic example being provided by

the mid-income state of Kerala. In otherwords, the Indian experience confirms that education not only raises the awareness about a small family, it also gives a protective cover to the infants. It can be concluded that education is the vehicle of social change.

BIBLIOGRAPHY

Books/Articles/Journals/Documents:

Anderson, C.Arnold and Bowman, M.J., (ed.), Education and Economic Development, Aldine Publishing Company, Chicago, 1965.

Atkinson, G.B.J., The Economics of Education, Hodder and Stoughton, London, 1983.

Azad, J. L., Financing of Higher Education in India, Sterling Publishers, 1975.

_____, Financing of Higher Education in Indian States. (A Case Study of Andhra Pradesh, Gujarat, Haryana and Orissa) New Delhi: NIEPA (Mimeo) 1985.

Bluag, Mark., An Introduction to Economics of Education, New York: Penguin Books, 1970.

_____(ed.), Economics of Education (2) Selected Readings, Penguin Books Ltd. Harmondsworth, Middlesex, England, 1969.

Becker, Garry. S., Human Capital, Princeton: Princeton University Press, 1964.

Dhar and Illchman, Education and Employment in India, Calcutta: South Asia Books, 1976.

Gill, K.S., Evolution of the Indian Economy, NCERT, New Delhi, 1977.

Goel, S.C., Education and Economic Growth New Delhi: MacMillan Company, 1975.

Government of India, Analysis of Budgeted Expenditure on Education by Centre and States, Ministry of Education, Various Volumes.

_____, Education in India, Ministry of Education, Various Volumes.

_____, Hand Book of Educational and Allied Statistics, Ministry of Education, Various Volumes.

_____, Selected Educational Statistics, Ministry of Education, Various Volumes.

_____, Trends of Expenditure on Education, 1968-69 to 78-79 Ministry of Education, 1983.

Hariss, Seymov. E., Higher Education: Resources and Finances, New York, McGraw Hill, 1962.

Horvat, B., "The Optimum rate of Investment", Economic Journal, Dec. 1958.

Kamat, A.R., Education and Social Change in India, Somaiya Publication Bombay, 1985.

Majumdar, Tapas., Investment in Education and Social Choice, Cambridge: Cambridge University Press, 1983.

_____., Investment in Literacy for a High-Technology Society, Economic and Political Weekly, July 29, 1989.

Machlup, Fritz., Education and Economic Growth, University of Nebraska Press, Lincoin, 1970.

Meir, G.M., Leading Issues in Economic Development, Oxford University Press, 1984.

Misra, A. , Educational Finance in India, Bombay: Asia Publishing House, 1962.

_____., The Financing of Indian Education, Bombay: Asia Publishing House, 1967.

Mukerji, S.N., Administration of Education, Planning and Finance. (Theory and Practice), Acharaya Book Dept., Borada, 1970.

Pandit, H.N., Effectiveness and Financing of Investment in Indian Education Ph.D. Thesis, University of Delhi, 1972.

_____., "Financing of Education in India", Economic and Political Weekly, Special Number, August, 1972.

Psacharapoulos, George, (ed.), Economics of Education, Research and Studies, Pergamon Press, New York, 1987.

Rizvi, F.H., Financing of Higher Education in Less Developed Countries, Aligarh Muslim University, 1960.

Rao, V.K.R.V., Education and Human Resource Development, Allied Publishers Private Limited, New Delhi, 1966.

Sing, Baljit.,(ed.), Education as Investment, Meerut: Meenakshi Prakasthan, 1967.

Thurow, Lester., Investment in Human Capital, Belmont, California: Wardsworth, 1970.

Tilak, J.B.G. and Verghese, N.V., Resources for Education in India, New Delhi: NIEPA, Occasional Papers, 1983.

Tilak, J.B.G., Educational Finances in India, NIEPA, 1985.