CHAPTER II

REVIEW OF LITERATURE
Jain (1981)\textsuperscript{19} studied the regional imbalances in the field of education in India. His study was based on the data from 1966-67 to 1975-76. Apart from expenditure, teacher-pupil ratio and availability of trained teachers, he also studied the average annual cost per pupil. He studied seventeen States in the country from primary level of education to higher secondary level of education. He used the data based population figures and literacy and statistics like educational facilities provided at primary, middle, secondary and senior secondary level. Jain studied the regional imbalance in education in different States and assigned rank to highest scoring and lowest scoring State. He categorized the States as ‘advanced’, ‘moderately-advanced’, ‘backward’ and ‘most-backward’ States. From the expenditure and cost point of view he found:

1. Average annual cost per pupil was quite high in Rajasthan. Yet the State was far behind in education in comparison to other States.
2. The State Governments of Orissa, Assam, Andhra Pradesh, Rajasthan and Bihar were spending a huge amount on education yet adequate facilities in primary schools were not available.
3. Per capita income in more then twelve States was not very much related to educational development.

Nair (1980)\textsuperscript{20} studied whether the existing education system in Kerala promotes the development of human resources or not. He assessed the employability of students in industries after school education. Nair administered a questionnaire to industrialists, educational-administrators, teachers and industrial

\textsuperscript{19} Jain KP, A Study of Regional Imbalances in Education in India, Banaras Hindu University, 1981.

\textsuperscript{20} Nair PK, Education in Kerala and the Development of Human Resources, Kerala University, 1980.
workers. Through the questionnaire and personal interviews he concluded in his study:

(a) The school course and syllabus should be a two-tier system, namely, academic and technical.
(b) The course should be linked to local crafts and industries.
(c) The course should be divided into three major groups, namely-commercial, agricultural and engineering groups.
(d) Students should be sent compulsorily once in a week to local trade centers or industries.

Ramanujam, Raghavan (1979)\textsuperscript{21} and others carried out a study on the pattern of expenditure and per student cost in educational institutions in Jammu and Kashmir in 1979. The per student cost at various levels of education including engineering, teacher-training and post-graduate was estimated in 1973-74. Data was collected through a well structured questionnaire. Study was aimed specially for policy formation with a view to facilitating future enrolment policies in the State. The findings of the study were:

(a) At the middle level of school education the average per student recurring cost was Rs 232. Of this cost 85.9 percent was accounted for salaries and allowances of the teaching staff. 8.7 percent was accounted for the salaries and allowances of non-teaching staff.
(b) Proportionally the expenditure on library, other operating cost, and on scholarships was estimated very small.
(c) The per-student cost of higher secondary level of education was estimated Rs. 271. Of this 83.2 percent was accounted for salaries and allowances of teaching staff and 10.9 percent for salaries and allowances of the non-teaching staff.

(d) The per-student cost in higher secondary schools located in urban areas was more than the schools located in rural areas.

A case study was taken up by Shah and Inamdar\(^{22}\) in 1977-78 in the University of Poona and calculated the unit cost of post-graduate students of humanities, social sciences and natural sciences. Only the major heads of recurring expenditure were considered. The study had its own limitations. The depreciation charges on buildings and other equipments were not taken into account. Expenditure on library books etc was also considered. The major findings were:

1. The cost per-pupil was highest in the Science faculty.
2. In Humanities the cost was estimated lowest.
3. In 1977-78, cost per-student in the Humanities, Social Sciences and Natural Sciences were Rs. 1728, Rs. 2757 and Rs. 3462 respectively.
4. The cost of education of Humanities students was twice that of students of Natural Sciences. The expenditure on general administration and common facilities was not taken into account.
5. The cost of conducting the examination was estimated Rs. 225 Per-Post Graduate student in 1977-78.

Somaiah(1980)\(^{23}\) attempted to calculate and compare the effective cost incurred at the elementary stage for the five consecutive academic years 1974-1979 in Karnataka. He defined the effective cost as “the number of years spent per pupil for completing a given number of classes of schooling”. Somaiah collected data from the Statistics Department of the Office of the Commissioner of Public Instruction, Government of Karnataka. The study compared the effective cost of education of boys and girls also the reason of wastage in elementary education was studied. Somaiah drew the conclusions as:

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1. The effective cost of girls’ education was higher than that of the boys. The reason was attributed for increased incentives to encourage girls to remain in school.

2. The higher percentage of wastage between classes V and VII indicated that curriculum did not include socially useful productive work.

Thatte (1977)\textsuperscript{24} analyzed institutional expenditure of secondary education in Maharashtra. He studied per pupil cost in the different regions of the State. Thatte studied to ascertain regional differences in the per pupil cost in western Maharashtra, Vidarbha and Marathwada region of Maharashtra. He collected data from the office of the Directorate of Education. Data on total direct expenditure on teachers’ salary, salary of non-teaching staff, equipments, library, laboratory etc were collected. He calculated pupil-teacher ratio, per pupil direct cost, per pupil salary of teacher and per- pupil salary of non-teaching staff. The major findings of the study were:

1. Per- pupil direct cost expenditure for class I to X per private aided school was:
   (a) Greater Bombay (urban) : Rs. 238.04
   (b) Bombay region (urban) : Rs. 125.04
   (c) Poona region (urban) : Rs. 447.96
   (d) Poona region (rural) : Rs. 222.59
   (e) Vidarbha (rural) : Rs. 249.28
   (f) Marathwada (urban) : Rs. 119.89
   (g) Marathwada (rural) : Rs. 151.64

2. Per- pupil direct cost expenditure for schools having classes V to X was:
   (a) Greater Bombay : Rs. 143.07
   (b) Bombay region (urban) : Rs. 217.34
   (c) Bombay region (rural) : Rs. 220.74
   (d) Poona (urban) : Rs. 201.96
   (e) Poona (rural) : Rs. 213.16

\textsuperscript{24} Thatte YV, Cost of Secondary Education in Maharashtra (An Analysis of Regional Differences), Poona University, 1977.
(f) Vidarbha (rural) : Rs. 256.70
(g) Marathwada (urban) : Rs. 190.71
(h) Marathwada (rural) : Rs. 233.66

3. The percentage of teachers’ salary to the total direct expenditure varied from 63.89% in Marathwada urban to 71.04% in Poona rural in the schools having classes V to X.

4. The pupil-teachers ratio was 16:1 in Vidarbha urban and 26:1 in Poona urban.

5. Per-pupil total direct expenditure for Zilla-Parishad schools with classes V to X was maximum in Poona (urban) with Rs. 204.56 and minimum in Marathwada (urban) with Rs. 133.94.

Datta (1970)25 estimated the contribution of college environment and student input on the student output. Datta gave ‘college environment’ collective name for resources like teachers, their qualifications, student-teachers ratio, floor area in relation to number of students, quality and effects of management and library services etc. He collected necessary data from the twenty two colleges affiliated to Calcutta University. He discovered the correlation between the quality of student input and college environment on one hand and quality of student output on the other. The major findings of his study were:

1. The quality of student output is closely determined from the quality of student input.
2. Costs of education declined with the increase in the size of the college.
3. Students from the higher income level had the better results in examination rather than poorer students.

Kamat (1968)26 undertook the study to estimate the recurring institutional

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expenditure per student per annum at the undergraduate and postgraduate stages in the university departments of Poona University and its affiliated colleges in Poona, Nasik and Shrirampur. He calculated total cost per student per annum for different categories of students namely Arts, Commerce, Science, Medicine, Engineering and Post Graduate students. The study revealed the trends of per pupil cost for the four year period covering the pre-degree year and three year degree course. Kamat collected data from ten affiliated colleges and university departments through a data sheet prepared for the study. The findings of his study were:

1. Per-pupil cost for undergraduate students of commerce was Rs. 1200.
2. In the case of Science courses per pupil cost was Rs. 1800. The higher cost in the Science courses was due to the cost of equipments and laboratories.
3. For Arts students, per-pupil cost was estimated Rs. 1500.
4. Lower costs in the commerce as compared to those in the Arts courses was on account of the fact that commerce courses constitute a much homogeneous group allowing fewer branches of specialization.
5. Per-pupil, per-annum cost of Post-Graduate students in university departments was four times higher than that of under-graduate students in the colleges. The reason was pupil-teacher ratio at Post-Graduate level in the university departments.
6. The costs of professional courses like engineering, medicine etc was four times higher as those of general education in Arts, Commerce and Science streams.

Shukla (1960)\textsuperscript{27} analyzed the exact cost involved in running Basic and Non-Basic schools in Delhi. His study was intended to identify the factors contributing to the costs of educating the child at primary level. Shukla conducted the study on

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twenty-five Junior Basic Schools and twenty-five traditional Primary Schools. The per-capita cost of educating a child at primary level in 1957-58 was calculated separately for each school and average cost was worked out for the two systems of education. The findings of his study were:

1. The average per capita cost of education per annum was higher in respect of Junior Basic Schools as compared to the traditional Primary Schools. The main reason of this was due to pupil-teachers ratio. The pupil-teacher ratio in Junior Basic Schools was 30:1, while in the traditional schools it was 37:1.
2. About eighty-five percent of the school budgets were spent on teachers’ salary.
3. Total average per capita cost of educating the child was Rs. 68.00.
4. Annual per capita cost on craft work was about Rs. 0.46 out of this little expenditure Rs. 0.26 per annum was recovered in the form of final craft products.
5. Craft work accounted for only a negligible proportion of the total cost contrary to generally held views. It was that craft work was not at all any burden to the school budget.

Bhatt (1989) estimated the per-capita cost of pupils enrolled in the Municipal-schools in the urban area of Baroda. He studied mainly the funding pattern in education with special reference to education-cess paid by the citizens of Baroda city and its utilization for the development of primary schools. Bhatt collected data from the administrative and annual reports of Baroda Municipal School Board. The major findings of his study were:

1. During 1982-83 to 1988-89 the expenditure had gone up nearly 2.7 times.
2. The major component of school expenditure was the salary of teaching and non-teaching staff. It was about 83.5 percent of the expenditure.

3. Very little expenditure was made on teaching-aids, instructional materials and in the form of scholarships.

4. Education-cess, paid by the citizens of Baroda city, amounted to 16% of the total resources for primary education.

Gupta (1988)²⁹ analyzed the finances of correspondence education in Rajasthan. He calculated the per-capita cost of studies of correspondence education and compared the cost of regular education with distance education. It was based on primary data supplied by Institute of Correspondence Studies, University of Rajasthan, Jaipur. The study covered the period 1972-73 to 1984-85. Major findings of the study were:

1. Per capita cost of distance education ranged from Rs. 425 to Rs. 550. This cost was about one-third of the per capita cost of regular mode of education.

2. The income remained constant whereas the expenditure had a rising trend.

3. Overall expenditure increased about five times in 12 years from 1972-73 to 1984-85.

4. Expenditure on study material, contact sessions, books, journals etc shown a decreasing trend.

Kurup and Thatte (1991)³⁰ studied the problem of resources crunch in higher education in Maharashtra. They calculated the unit cost of higher education in Maharashtra. The study also estimated the demand and supply of seats for higher learning in ten years and estimated the resources requirements for meeting this demand up to the year 2001. They surveyed forty-two colleges and seven


universities of the State through a structured questionnaire as tools for collecting the data. The major findings of the study were:

1. The unit cost of higher education in Maharashtra was estimated Rs. 1719.
2. Inadequate funds from the Government of Maharashtra and low levels of capital expenditure may have damaging effects on the quality of education provided in the institutions of higher learning.
3. The resource crunch in higher education in the state had affected the Science education more then the Commerce and Arts education.
4. The pupil-teacher ratio and per student expenditure on the one hand and academic achievements of the students on the other were positively associated.
5. The institutions of higher education in the State were suffering from a severe financial crunch which has implications for the quality of education.

Mridula (1991)\(^{31}\) compared the per student cost of open learning system with the conventional educational system. The study attempted to examine the efficient use of resources in education. She analyzed the cost structure of conventional system and distance learning mode. She took the budgetary data of Indira Gandhi National Open University for open learning system and Delhi University for conventional system. The data from four colleges affiliated to Delhi University were used to study the costs at undergraduate level of conventional system for years 1986-87 to 1989-90. The major findings of the study were:

1. The unit cost of the open learning system was relatively lower.
2. Unit cost and size were related to the yield in education.
3. Open learning system of education has its own limitations from academic point of view.

\(^{31}\) Mridula, Economics of Open Learning System : Comparative Cost of Higher Education through Indira Gandhi National Open University, Jawaharlal Nehru University, Delhi, 1991.
Dandavate (1986)\textsuperscript{32} studied the cost of primary education in private schools as well as in municipal schools existed in Greater Bombay between 1960-61 to 1979-80. He measured the trend of total expenditure between these periods. Dandavate also studied whether the period of establishment of the school had any bearing on the total expenditure. He undertook the survey in 33 aided schools, 36 unaided schools and 38 municipal schools. He collected data from the official records of the schools. The main findings of his study were:

1. The school strength increased in all the schools other than Urdu schools.
2. The overall trend showed that pupil-teacher ratio increased in all types of schools.
3. Trend also showed that teachers’ salaries increased over the twenty years period under study.
4. Salaries of teaching and non-teaching staff per student, dominated the unit cost in all types of schools.
5. In case of municipal schools, the proportion of school maintenance expenditure per student to unit cost had increased over the period of study. Though it had shown declined trends in case of aided and unaided schools.
6. The cost of education on the part of private un-aided schools was higher than that of municipal schools.
7. Highest per child expenditure in 1979 was Rs. 96 per month.
8. The proportion of unit cost on auxiliary facilities was about one percent.
9. The size of the school, teachers’ salaries per student and maintenance expenditure acted as the major determinants of the school costs.

Aher (1986)\textsuperscript{33} analyzed the expenditure pattern and financial working of universities in Maharashtra. He calculated the unit cost of per student on the items of teaching and non-teaching staff. Aher investigated the six universities of

\begin{itemize}
\item Dandavate P. Cost of Primary Education in Greater Bombay at School Level between 1960-1980, Bombay University, 1986.
\item Aher H, Critical Analysis of University Finances in Maharashtra, Nagpur University, 1986.
\end{itemize}
Maharashtra, namely, Bombay University, Nagpur University, Poona University, SNDT University, Marathwada University and Shivaji University. The period covered for the study was twenty years, 1960-61 to 1980-81. The data was collected from the reports of the universities, official statistical reports of the State, government publications etc. He also interviewed the university authorities and government officers of the education departments. The study revealed:

1. The total recurring expenditure of the universities of Maharashtra was Rs. 19.3 crore. The expenditure of Bombay University was the highest at Rs. 5.25 crore and lowest of Shivaji University, Rs. 2.97 crore.
2. Unit cost on teaching was highest at Rs. 4557 in Poona University in 1980-81.
3. The average unit cost of equipment and furniture in the year 1980-81 was Rs. 596.90 which was the highest among the universities of Maharashtra in Poona University and lowest Rs. 50.56 in Marathwada University.
4. Unit cost of books and Journals was highest in the year 1980-81 at Rs. 780 in SNDT University Bombay and lowest Rs. 17.89 in Nagpur University.

Akhtar (1983)³⁴ studied the various aspects related to education and manpower planning with special reference to India. He critically studied and discussed the educational system to economic needs of the country. He studied the measurement of cost of education and measurement of productivity and efficiency of education. Akhtar studied the economics of education with special reference to manpower requirements and manpower planning. He critically studied the available documents, literature and drafts of Five Year Plans. The study revealed as:

1. Education increased the rate of human capital formation and stimulated the economic growth.
2. Efficiency in education is determined in terms of rate of return on the resource invested.

³⁴. Akhtar MA, Education and Manpower Planning with special reference to India, Bihar University, 1983.
3. The study showed that in Second Five-Year Plan investment in education was not satisfactorily made.

The study is helpful in evolving a proper strategy for manpower planning in relation to education in India.

Kumar (1983)\textsuperscript{35} studied the economic aspects of Higher Secondary education in Delhi. He tried to find out the relationships between school inputs and outputs. He studied the efficiency of education in Higher Secondary schools of Delhi. Kumar also studied whether socio-economic status or per capita income had any effect on output of education or not. The study was conducted on four types of schools namely Public schools, Government schools, Government-Aided schools and Kendriya Vidyalyas. The cost and size was analyzed from the schools strength and expenditure point of view. The major findings of the study were:

1. Socio-economic status and per capita income had a significant effect on the school outputs.
2. Efficiency of education was directly related to the auxiliary cost but inversely related to the instructional cost.
3. The schools in Delhi were running below their optimum size.
4. The optimum size of school was 1624.

Dutt (1971)\textsuperscript{36} studied the unit cost of education at the primary stage of Haryana. He selected three primary schools from Karnal for the study. The data was collected for a period of five years from 1965-66 to 1969-70. He classified data on institutional cost as capital cost, equipment cost, non-divisible recurring cost and divisible recurring cost. Under the head of capital cost he took capital cost on land, building, well or hand-pump, residential quarters for teachers etc. In equipment cost he took cost of library books, playing-material, audio-visual aids,

\textsuperscript{35} Kumar LA, Study of Economic Aspects of Higher Secondary Education in Delhi, Jamia Milia Islamia, 1983.

\textsuperscript{36} Dutt N, A Study in Unit Cost at Primary Education Stage in Haryana, State Institute of Education, Chandigarh, 1971.
blackboards, potteries, etc. Under the head of non-divisible recurring cost he took cost on pension, allowances, electricity charges, part-time servant charges, repairs, postages, stationary, examination, social functions furniture etc. Under the head of divisible recurring cost, he took cost on scholarship, free ship etc. Further he calculated expenditure on pay and allowances of the teaching and non-teaching staff. He separately categorized expenditure as student cost on tuition fee, funds, textbooks and stationary. Dutt also calculated opportunity cost or income foregone by students while they studied. It was calculated as equivalent to the amount they would have earned, had they not attended school. The main findings of the study were:

1. The capital cost was Rs. 2.20 per student per year, which was calculated for whole school as Rs. 365.00 per school per year.
2. The equipment cost was Rs. 0.60 per student per year and Rs. 97.00 per school per year.
3. The non-divisible recurring cost was Rs. 84.15 per student per year which was calculated for school as Rs. 13971.00 per school per year.
4. The divisible recurring cost was Rs.0.30 per student per year and for school it was Rs. 48.00 per school per year.
5. The student cost was Rs. 16.10 per student per year.
6. Other cost i.e. expenditure on dresses, shoes etc., was Rs. 11.00 per student per year.
7. The total visible expenditure per student per year was Rs. 225.00. The invisible expenditure was Rs. 21.00 per year per student. The sum total of visible and invisible expenditure was Rs. 276.00.
8. The opportunity cost was Rs. 140.60 per student per year.

Kumar (1968)\(^{37}\) worked out the cost of educating the child at various stages of school education in Rajasthan. He also examined the issue of reducing the number of uneconomic institutions. Kumar surveyed seventy one schools of Rajasthan. The criteria for selecting the school were the population below 5200 for examining the uneconomic institutions. He also considered the criteria of existence

of school within a radius of ten miles. The findings of the study were:

1. The average cost per pupil in higher secondary schools varied from Rs. 103.00 to Rs. 472.00.
2. The cost of education was in direct proportion to the teacher-pupil ratio.
3. Most of the uneconomic schools were situated in habitations having a population of less than 5000 persons. These areas have other secondary or higher secondary schools within a radius of ten miles or less. Enrolment in these schools did not increase even after four to five years.
4. In secondary schools, per-capita cost varied from Rs. 93.00 to Rs. 470.00

Kumaran (1982)\(^{38}\) analyzed the revenue and cost of education in Annamalai University during the period 1947-48 to 1978-79. He analyzed the costs under categories like academic, administration, auxiliary, welfare, salaries, equipment and miscellaneous. Kumaran collected data from the annual budgets, annual reports and relevant records of the university. The main findings of the study were:

1. At current prices, the total cost of education in the university in 1947-48 was Rs. 11.80 lakh and per student cost was Rs. 649.00
2. At current prices, the total cost of education in 1978-79 was Rs. 114.02 lakh and per student cost was Rs. 1605.00.
3. The administration cost and miscellaneous cost had fallen during the period but academic cost had increased.
4. The salary of the teachers formed 78.3 percent of the total cost and the salary of the non-teaching staff was 19.5 percent.
5. Per-student total cost was high for the agriculture students. It was worked out Rs. 2004.50.
6. The per student total cost for education faculty was Rs. 763.53.

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\(^{38}\) Kumaran D, A Study of Cost of Education in Annamalai University during the Post Independent Era, Annamalai University, 1982.
Misra (1984)\textsuperscript{39} studied the provision of finances and calculated the cost per student of primary education of different types of schools in Uttar Pradesh. He collected the data on primary education from the reports published by the Government of India and State Government. The main findings of the study were:

1. The main source of finances for primary education is aid from the government. The income from fees and other sources accounts for only two to five percent of the total income.
2. About 94.5 percent of the total expenditure on primary education is spent on salary and allowances of the teachers.
3. In 1950-51, 10.4 percent of total expenditure was on primary education of boys.
4. On primary education of girls the expenditure was only 9.6 percent of the total expenditure on education.
5. In 1975, per student expenditure on primary education was twice the per student expenditure in 1965.

Bose (1976)\textsuperscript{40} surveyed 1588 schools in West Bengal out of which 1375 were primary schools and 213 Junior Basic Schools. The objective of his study was to estimate the unit cost of education and as such educational planning for the state. He used a questionnaire to collect data covering a wide range of information. He calculated average teacher-cost for period of four years from 1969-70 to 1972-73 in the Primary and Junior Basic Schools of the State. The main findings of his study were:

1. Average recurring cost per student on non-teacher items was negligible and had not shown any remarkable increase over the years.

\textsuperscript{39} Misra G., Educational Finance for Primary Education in India after Independence (1950-1975), Kanpur University, 1984.

\textsuperscript{40} Bose PK, Cost of Elementary Education in West Bengal, Calcutta University, 1976 (funded by National Council of Educational Research and Training).
2. Average total recurring expenditure per student in an elementary school in Calcutta in 1969-70 was Rs. 57.08.
3. Average total recurring expenditure per student in other primary schools of the State in 1969-70 was Rs. 51.75.
4. The four years period from 1969-70 to 1972-73 the expenditure rose to Rs. 62.07 and Rs. 59.92 in Calcutta and other primary schools of the State respectively.

Prakash (1975)\textsuperscript{41} examined the major development in the field of secondary education in Uttar Pradesh with special reference to financial aspect. He carried out the study by survey method through a questionnaire. He studied the trends and features of educational financing in the State. He assessed the need for addition of funds for future development up to the period 1989. Some of the important findings were as follows:

1. The expenditure in successive five year plans, shown a decline from the Second Five - Year Plan to the Fourth Five -Year Plan.
2. Private efforts in secondary education had been found to be diminishing.
3. School fee at the secondary stage of education shared about forty percent of the total expenditure for the period of study.
4. On the basis of trend of expansion in enrolments at lower and higher secondary stage the total cost of secondary education in 1988-89 was estimated to be Rs. 284 crores, while the funds available for the purpose was expected to be Rs. 200 crores.

Gupta (1982)\textsuperscript{42} studied the private costs of schooling the girls child at the elementary stage from Class I to Class VIII. He compared the costs incurred in Class I to Class VIII in schools under different managements. The sample for the

\textsuperscript{41} Prakash GM, Secondary Education in Uttar Pradesh with Special Reference to Educational Finances, Allahabad University, 1975.

study consisted 800 girls studying in Class I to Class VIII from the following categories of schools were taken:

1. Schools located in rural areas and under the management of Zilla Parishad.
2. Schools located in urban areas and under the management of State Government.
3. Schools located in industrial towns and managed by the industrial organizations.
4. Schools located in crowded urban areas and managed by private trusts.

He selected two hundred girls from each of these schools and collected data from the girls through a specially designed questionnaire-cum-interview schedule. The major findings of the study were as follows:

1. The average cost per pupil in standard I to Standard VIII ranged between Rs. 19.19 and Rs. 33.29, since girls studying under different managements were required to pay different amount of fee and funds annually.
2. Total cost of books and other supplementary reading material also differed from school to school and standard to standard. In Class I the minimum cost per pupil was Rs. 1.30 and maximum was Rs. 15.50. For class VIII the minimum cost per student was Rs. 17.70 and maximum was Rs. 27.25.
3. Average cost per pupil for notebooks used at Standard I ranged from Rs. 2.00 to Rs. 52.50. At Standard VII the figures ranged from Rs. 3.75 to Rs. 58.10.
4. Total cost per pupil on practical work varied from class to class in same school and also from school to school for the same class. For Standard I it ranged between Rs. 10.00 and Rs. 18.60 while for Standard VIII the range was from Rs. 78.00 to Rs. 162.50.
5. The total annual cost for students on uniforms/dress varied from school to school for the same class and from class to class within the same school. The average cost per pupil on uniforms/dress for Standard I to Standard VIII ranged between Rs. 92.50 and Rs. 151.25.
6. Overall private cost of schooling a girl ranged as:
a. Standard I  :  Rs. 92.50 to Rs. 216.50
b. Standard II :  Rs. 94.50 to Rs. 237.40
c. Standard III :  Rs. 112.65 to Rs. 281.00
d. Standard IV :  Rs. 109.33 to Rs. 315.50
e. Standard V  :  Rs. 117.30 to Rs. 305.65
f. Standard VI :  Rs. 280.30 to Rs. 436.00
g. Standard VII :  Rs. 286.70 to Rs. 447.20
h. Standard VIII:  Rs. 295.20 to Rs. 438.15

7. The average overall private cost per student for Standard I to Standard VIII ranged between Rs. 151.00 to Rs. 352.98.

Proper education in a proper socio-economic setting combined with a judicious amount of physical capital formation certainly help to speed up economic growth. Educational progress and economic development of Punjab, before and after reorganization of the State in 1966, has been surveyed and analyzed by Singh (1974)\textsuperscript{43}. Some of his findings concerned with the secondary education are:

(1) The annual rate of increase of enrolment in higher secondary schools showed an increasing trend.
(2) The per capita expenditure on education has been increasing at the rate of 8.7 percent per year.
(3) In general, average annual cost, per student, at different level showed an increasing trend.

Sharma (1973)\textsuperscript{44} studied the development of education in Madhya Pradesh during different plan periods. He studied the regional inequalities of education in the State. He has analyzed the expenditure on education in Centre as well as of

\textsuperscript{43} Singh BV, Educational Progress and Economy, Research Unit Department, Punjab University, Chandigarh, 1974.

\textsuperscript{44} Sharma RR, Economics of Education with Special reference to Educational Development of Madhya Pradesh, Indore University, Madhya Pradesh, 1973.
Madhya Pradesh. During the first three, Five-Year Plan, Madhya Pradesh has been spending Rs. 31.60 per student on school education in First Plan, Rs. 39.50 to Rs. 42.20 in Second Plan and between Rs. 57.30 to Rs. 64.10 in the Third Plan. The increase at higher secondary level was 12.8 percent. The net wastage up to class V was found to be 69.3 percent and up to class XI 91.08 percent, taking 1959-60 as the base year.

Mary Jean Bowman (1962)\(^{45}\) has provided the methods of measurement of human capital in neoclassical framework. She has explained the methods of measurement in terms of:

(a) Physical inputs  
(b) The stock of human resources  
(c) The rates of return  
(d) The effect of investment on human capital on future earnings.

According to her, the human capital revolution in late fifties of twentieth century has forced the planners and policy makers to invest in human capital. Bowman has concluded that future earnings will show the trends of steep rise if proper and appropriate investment has been made on human capital and vice-versa.

The study of Denison(1962)\(^{46}\) is a path breaking work in the field of economics of education which has proved that there is an unexplained residual which accounts for about 20 percent of the observed economic growth in U.S.A. However, the main weakness of this study is the principal assumption that the factors of production are paid according to their marginal productivities.


A study was conducted by Bhattacharya and Dey (1965) for the planning division of the Indian Statistical Institute. This was a survey of five secondary schools located at Madhyamgram in West Bengal, about 10 km away from Calcutta. The numbers of students in these schools were 2227. The cost was calculated for the year 1963. Annual cost per student at secondary level as calculated by Bhattacharya and Dey was Rs. 106.97. They have studied the expenditure on various heads separately as:

1. Salary and Allowances of Teachers : Rs. 62.96
2. Salary and Allowances of Non-teaching staff : Rs. 4.92
3. Contribution of PF & Retirement Pension of Staff : Rs. 1.62
4. Printings and Stationary : Rs. 3.62
5. Contingency : Rs. 4.57
6. Rent Rate and Taxes : Rs. 0.01
7. Repairs and Maintenance : Rs. 8.00
8. Audit Fee : Rs. 0.22
9. Stipends and scholarships : Rs. 7.17
10. Training of Teachers : Rs. 1.35
11. Capital expenses (buildings, furniture, books etc.) : Rs. 12.53

Total: Rs. 106.97

The investigators did not calculate expenses on students’ health services, administration and inspection, transport services etc.

Jain (1973)\textsuperscript{48} studied the variations in expenditure on education in four Indian States – Maharashtra, Kerala, Orissa and Bihar. He presented an analysis of the comparative position of educational expenditure of different level and sector of education. The remarks made, about the secondary education, by the author are:

(1) The shift in budgetary allocations had been in favor of secondary education in majority of the states.

(2) Except Orissa the proportion of expenditure on first level of education has declined. Some of his conclusions about cost analyses of secondary education are given below:

<table>
<thead>
<tr>
<th>State</th>
<th>Cost per Pupil (1965-66)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bihar</td>
<td>Rs. 76.30</td>
</tr>
<tr>
<td>Kerala</td>
<td>Rs. 81.50</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>Rs. 122.30</td>
</tr>
</tbody>
</table>

The cost of educating a higher secondary student and school efficiency in terms of the examination results was explained by Mukhi (1973)\textsuperscript{49}. The study was limited to Jabalpur city of Madhya Pradesh for 1970-71 academic sessions. The cost included two types of costs:

(a) Student cost

(b) Institutional cost

For calculating institutional cost, 51 schools were taken in the sample and for student cost a sample of 9 schools was taken. Per pupil student cost was calculated Rs. 418.56 and institutional cost per pupil was Rs. 290.16. The total cost for educating a student comes to an average of Rs. 708.72 per annum and percent of the students who passed in divisions first and second was 10 and 41 respectively.


\textsuperscript{49} Mukhi Ishwar, A Study of Cost of Education per student at Higher Secondary School Level in an urban area of Madhya Pradesh, 1973. (Study was conducted in 1971)
The third divisionary and those getting passed division were taken as sub-standard products and wastage of educational expenditure. He concluded that minimization of such wastage is essential in an economy of a developing country like India.