Unit Cost of Education in Government Higher Secondary Schools of Imphal, Manipur

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Abstract

This paper is an attempt to discuss the various aspects of Unit Cost of Education in Government Higher Secondary Schools of Imphal, Manipur, India.

Key words: Unit Cost, Higher Secondary Schools, Manipur

Introduction

The educational system of modern India including Manipur comprises three important stages namely, primary, secondary and higher education. Primary education is the backbone of the educational pattern of a country and is the means of educating masses. The secondary education is the gateway to higher education which involves many aspects of technical and professional education. The secondary education is provided in the high schools and higher secondary schools. In the high schools we have classes IX and X, while in the higher secondary schools classes XI and XII are there. After completion of the secondary education, one can continue further studies in different trades which will enable him/her to be a good citizen or a fit member of the family, community, nation or the world. Hence, demand for secondary education has increased over the years. To meet this demand, the state government has tried to provide more high and higher secondary schools in the state which has in turn put a load strain on the government finances. There are 35 government higher secondary schools and 77 non-government higher secondary schools at present in Manipur. Considering the cost involved for a poor state like Manipur, it has also become necessary to examine whether the money spent in providing higher secondary education in the state is yielding positive result. The paper is a modest attempt to conduct cost benefit analysis of higher secondary education in government schools of the state, the result of which can help important policy implications.

Literature review

Different researchers like Vaizey (1958, 1962, 1972), Schultz (1960, 1961, 1963) have made conceptual and empirical analysis on the cost of education. Perhaps Schultz (1960) was the first to estimate factor costs of education including forgone earnings of the students. He estimated the income foregone by students at more than half of the costs of higher education in the United States of America. Likewise, Pandit, (1969) investigated the unit cost of education at school stage in India which had also provided an overall summary of issues for selection of items of costs. He divided the educational cost into institutional cost, student cost and opportunity cost

Institutional cost was further classified into capital cost, equipment cost, non-divisible operating cost and divisible operating cost. Capital Cost was defined as the cost of land and buildings, laboratory, hospitals, water works, library, hostels, etc. Student costs included tuition and other fees, cost of books, equipment and stationery purchased by students, additional living expenditure and transportation charges. Opportunity cost was defined as income forgone by the students that was equal to the amount of money the students would have earned when they could not continue further study.

The Coombs and Hallak (1972) also carried out an international comparative study on management of educational costs. They had classified educational system into five components, such as: objectives, outputs, benefits, internal process, and inputs. Further, they emphasized the importance of educational costs analysis within the frame work of 'system analysis'. They used different techniques for estimating educational costs such as: Resource Cost vs. Money cost, Capital vs. Recurrent Cost, Unit Cost per student, and Factor Costs of Education. The factors affecting educational costs were divided into two such as external and internal. The external cost determinants were the factors which occurred outside the educational system. The main external factors that affect the educational costs were inflation, rising educational demand, factor costs of education, educational revenues and foreign aid. The internal cost determinants were the factors that closely allied with the technology adopted by the educational institutions, and to the policy employed for the payment, deployment and utilization of teachers.

In his study, Datt (1969) also included salary of teaching and non-teaching staff, expenditure on equipment, miscellaneous items as in co-curricular activities, expenditure on maintenance of hostel, library, books and college examination fees in finding out the educational cost whereas expenditure on scholarship, stipends and other financial assistance received for various sources were excluded. Broadly there were four sources of finance for education as fee income, Government grants (State, U.G.C., Local Boards), other sources (fines, sale of prospectus) and Governing Body contributions. Tilak (1987) estimated the rate of returns to educational investment in Andhra Pradesh. He suggested two types of costs of education such as – (a) Private and (b) Institutional cost. Private cost was defined as the part of investment in education which was incurred by student or his parents/guardian or both comprising of three elements, i.e. tuition cost, non-tuition or maintenance and forgone earning of the students. Institutional cost was classified into two such as current costs and capital costs. The total social costs of education were the sum of private costs and institutional costs. The study found out that forgone earnings formed an important ingredient of educational costs while the institutional costs of education, quite contrary to general belief, constituted relatively a small part of the total cost of education. He (1990) also made an attempt to analyse the unit cost of higher education in India. And the unit cost of education was estimated for direct public expenditure on three major heads of: (a) Salaries of teaching staff, (b) Salaries of other staff, and (c) Expenditure on equipment and other appliances. Unit cost analysis was done separately for general education, professional education and other higher education. The study observed different unit costs education on the different extent between different types of higher education.

In another study, Laksmi Narayan (1969) divided the cost of Education into institutional cost and personal cost. Institutional cost consisted of the materials contributed by the institution, Central Government, State Government and Local Bodies. Personal cost

consisted of the materials contributed by the students or their guardians. Earning foregone by the students was also part of personal cost. Other studies taken out by Devi (2002), Singh (2006) and Singh (2010) attempt to estimate the unit cost of education and internal efficiency of the cost incurred at different level of education namely, primary, college and postgraduate level in the context of Manipur. In their studies, opportunity costs are excluded and they pick up only the salary components and private cost.

Findings

For the present study, a sample of five higher secondary schools at Imphal area has been selected. For estimation of cost, we differentiate it into three items: **(a) Social cost, (b) Student cost and (c) Opportunity cost.**

(a) Social cost: In the context of Government Higher Secondary Schools, the State Government bears all the expenditure on education in both Plan and Non-Plan structure. Plan expenditure helps in the development of education system while Non-Plan expenditure maintains the development. The social unit cost per student has been calculated on some items of expenditure, such as salaries and allowances of teaching and non-teaching staff and foregone rental values of the buildings and infrastructures. The plan expenditure includes the salaries of part times, casual, contract teaching and non-teaching staffs. Non-Plan is the most important items in the estimation of cost of education. It includes the pay enjoyed by the permanent/regular teaching and non-teaching staffs. The foregone rental value is taken as a fixed cost as there was not much variation during the years of study period in respect to the location where the particular school is located. The average social costs for five schools are given in Table-1. The data show the variation of social cost between 13.97% and 25.73% among the schools. The school which has the highest social cost (Rs.23,841/-) has the lowest student enrolment (1989) with the highest teacher strength. Whereas, the school with the highest enrolment of student (4094) has the lowest social cost (Rs.12,941/-). It is also seen that the social cost is decreasing in the year 2004-05 due to the increase in the student enrolment.

Tabel-1: School-wise social cost of education (Rs.)

	Johnstone	Churachand	Tamphasana	Ananda	Ibotonsana
Average	12941	23841	15070	20871	19942
*Wt. Av.	13034	23764	14998	19776	20052
**PC of Average	13.97	25.73	16.26	22.52	21.52

*Weighted average, **Percentage.

Tabel-2: Year-wise social cost of education (Rs.)

	2002-03	2003-04	2004-05	2005-06	2006-07
Average	16954	16139	15788	20143	23640
*Wt. Av.	16335	15208	14512	18811	21172
**PC of Average	18	17	17	22	26

*Weighted average, **Percentage.

(b) Student cost: The total student cost is calculated with reference to the following fees: Admission, Library, Examination, Games and Sports, Development, Magazine, cost of books and stationery. The cost of books and stationery for Science and Arts/Commerce subjects in respect of the prescribed syllabus of the schools are also included in the student cost. Thus, the student cost is the sum total of the expenses by the student and the family which has been calculated separately for science and arts/commerce. The overall average for science student is Rs.2,616/- and that of arts Rs.1,792/-. The existing cost shows not much variation among the schools. It also reveals that the science student expense more than the arts/commerce student. An increasing trend of cost is also found which is also shown in Table-3.

Tabel-3: School-wise student cost of education (Rs.)

	Johnstone	Churachand	Tamphasana	Ananda	Ibotonsana	Overall average
Science	2695	2659	2624	2545	2558	2616
Arts	1871	1834	1800	1721	1734	1792

(c) Opportunity cost: The opportunity cost has been calculated from the possible foregone income which can be earned by a matriculate during the two years of higher secondary education if not continued to further study. For the present study, the average income- (A matriculate may not get a regular job so he has to work as a labour for earning as a semi-skilled or unskilled. Thus, there is 50% chance of working as a semi-skilled or an unskilled labour) of semi-skilled labour and un-skilled labour is treated as the opportunity cost.

Opportunity cost

$$= \frac{income\ of\ semiskilled\ labour + income\ of\ unskilled\ labour}{2}$$

During the study period from 2002-03 to 2006-07, the average earning of a semi-skilled labour is Rs.25,794/- per annum and that of unskilled labour is Rs.23,828/- per annum. Hence, the average earning has been Rs.24811/-.

The total unit cost per student is calculated by summing up the above three types of cost.

During five years, the overall average cost per student in Science stream is Rs.46,011/- and Rs.44,975/- in Arts/Commerce stream. The unit cost ranges from the lowest of Rs.40,168/- to the highest of Rs.49,999/- in Arts/Commerce whereas in science it is from the lowest of Rs.41,219/- to the highest of Rs.51,030/-. The cost of science student is found to be a bit higher than the cost of arts student (Referred to Table-4).

Tabel-4: School-wise cost of education (in weighted average) (Rs.)

	Johnstone	Churachand	Tamphasana	Ananda	Ibotonsana	Overall *Wt. Av.
Science	41219	51030	42895	47036	47876	46011
Arts	40168	49999	41842	46001	46865	44875

*Weighted average.

A gradual increased in the unit cost has been observed (shown in Chart-1). In 2003-04, it is increased by 7.09%, 13.59% in 2004-05, 9.47% in 2005-06 and 12.49% in 2006-07. The detailed year-wise unit costs per student are shown in Table-5.

Tabel-5: Year-wise cost of education over the years (weighted average) (Rs.)

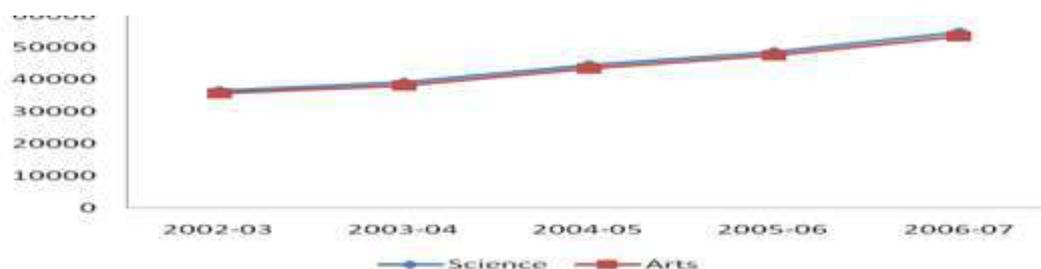| Stream wise	2002-03	2003-04	2004-05	2005-06	2006-07	Overall *Wt. Av.
Science	36543	39175	44572	48642	54719	46011
Arts	35703	38235	43431	47546	53484	44875

*Weighted average.

Chart-1: Gradual increased of unit cost

The unit cost per student is found to be high due to the low enrolment strength of student. So, higher the enrolment, lower the unit cost estimated. The main cause of the low enrolment in the government higher secondary school is that the parent preferred to admit their children to the private schools. Always, there exists an impression that the private schools are more effective and efficient. Thus, the private schools attract more students. However, in recent year some of the government higher secondary schools are improving. Hence, the enrolment strength has become increased. So, it will reduce the cost per student. The government should frame a policy to distribute the enrolment strength to the capacity for the school uniformly.

Another factor of high unit cost per student is the variability of teaching staff among the schools. In the present study, average student per school has varied between 819 and 398 during five years of study period from 2002-03 to 2006-07. The teacher-student ratio also varies between 1:14 and 1:6. It indicates that there is no uniformity in appointing and posting the teachers. The data in Table-6 show that when the teacher strength is 19.96% then the student enrolment is 28.88%. Again, in another school, the teacher strength is 21.91% and student enrolment is 14.03% only. Such cases happen in other schools also. So, it creates the variation in the unit cost per student. The government should consider the case seriously about the enrolment capacity and teaching capacity to minimize the cost of education.

Tabel-6: School-wise teacher strength and student enrolment

	Johnstone	Churachand	Tamphasana	Ananda	Ibotonsana
Teacher	286	314	289	275	269
Percent	19.96	21.91	20.17	19.19	18.77
Student	4094	1989	3536	2303	2256
Percent	28.88	14.03	24.94	16.24	15.91

Conclusion

The five government schools have very low enrolment of students as a result of which per student expenditure has become high. Another important finding is the number of teachers in the schools which have been found to be not on rational basis indicating the need for rationalisation. The few findings here may be of extreme relevance in policy formulation by the government.

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