

**A CRITICAL STUDY OF SOCIAL COST OF ELEMENTARY
EDUCATION IN INDIA : WITH SPECIAL
REFERENCE TO KAPILESWARAPURAM
BLOCK IN ANDHRA PRADESH**

**A Dissertation submitted to the Jawaharlal Nehru University
in partial fulfilment of the requirements
for the Degree of
MASTER OF PHILOSOPHY**

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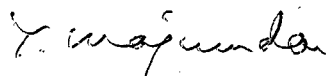
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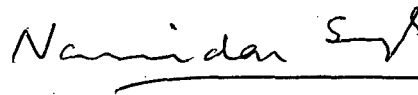
DECLARATION

Certified that the dissertation entitled "A Critical Study of Social Cost of Elementary Education in India: With Special Reference to Kapileswarapuram Block in Andhra Pradesh" submitted by Mr. G. Venkatanarayana is in partial fulfilment of eight credits out of a total requirement of twenty-four credits for the degree of Master of Philosophy of this University. This dissertation has not been submitted for any other degree of this University and is his own work.

We recommend that this dissertation be placed before the examiners for evaluation.



Professor Tapas Majumdar
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ABSTRACT

This dissertation emphasizes the importance of studying the cost aspect of elementary education together with the progress of universalizing it. Though it is not concentrated upon the inter-state and inter-regional variations with regard to this level of education, this study initiates and develops a kind of analysis that may be of crucial importance at a later stage.

Universalization of elementary education in India, discussed in Chapter one is viewed separately in terms of quantitative expansion and qualitative improvements. Though these two are not watertight compartments, the former is explained with the help of three stages of universalization of education at this level, and the latter is explained in terms of some of the quantifiable indicators of quality. The main objective of this chapter is to assess the progress at this level and to link it with the cost aspect of it. It would also help us to analyse the extent of resources needed in order to reach the goal in a reasonably short period.

There is a marked improvement in the enrolment of boys at both levels of elementary education; but the rates of retention or efficiency indices for boys are not indicative of our success. More so, in the case of girls and weaker sections of our society. Regarding quality, considerable improvement has

taken place because of a perceptible upgrading of the socio-economic and educational status of teachers. But persistent increase in wastage and high density of class rooms which are also ill-equipped happen to arrest this improvement.

The second chapter is concerned with the expenditure on elementary education during the planning period. Though this chapter puts greater emphasis more on cost per pupil, it also analyses the position of educational expenditure in the GNP and budget expenditure, as well as the position of expenditure on elementary education in the educational expenditure. As the study reveals, the rates of growth of unit-cost of elementary education, at current and constant prices, were subjected to wide fluctuations. Besides, a larger share of the unit-cost accounted for teacher cost, while the share of non-teacher cost has declined sharply during the period. High percentages of dropouts and repeaters put the actual cost of producing a literate at a higher level. Indirect public cost of education was also too low and it occupied a very insignificant share in the total public cost.

The third chapter, which is mainly a field survey, traces the extent of student/family-borne direct costs of education and the opportunity cost of the child's education. This chapter reveals some hitherto unnoticed facts concerning the problem. In spite of the legal ban on the employment of

children below 14 years, forgone earnings of the school-going children are found to be quite a large percentage of the family income. This may be due to the poverty of the masses. These costs are higher in respect of those pupils whose parents are less educated and also belong to occupations like cultivation and agricultural labour. Thus, these relatively high private costs together with poverty make the parents to call their children back from schools. Therefore, this study throws light on the importance of reducing these costs through appropriate measures.

The fourth chapter integrates the public as well as private cost of elementary education to arrive at the total cost of education. It clearly points out the high percentage of private costs in general and forgone earnings in particular. It also points out the inegalitarian ethos of the educational system of the country. It finally emphasizes the need for differential treatment in education so as to give equal educational opportunities to all.

INTRODUCTION

1. Education and Schooling

'Education' is a many-valued term and therefore one which is not immune to being misunderstood. In fact, it can be easily mistaken for its own opposite which Gunnar Myrdal has designated in The Asian Drama as 'miseducation'. This is a very important point to emphasize and, in a way, the problem may well be insolvable. In the circumstances, the least we can do is to be aware of the fact that there is such a problem as this. Given this recognition, we will be in a better position to avoid serious errors. In this connection, we may refer to the distinction, suggested by Professor Nicholas Georgescu-Roegen,¹ between what he calls 'arithmomorphic' and 'dialectical' concepts. An arithmomorphic concept is one which has the form of an arithmetical number. It is discrete and distinct and as such cannot be mistaken for anything other than itself. That is to say, two or more arithmomorphic concepts do not overlap. As against such concepts, there are dialectical concepts represented by the same word serving as a symbol. In Professor Georgescu-Roegen's words, such concepts do not have any arithmomorphic boundaries. Rather, they are surrounded by a penumbra within which they overlap with their opposites. To illustrate his point,

1. Nicholas Georgescu-Roegen, Analytical Economics: Issues and Problems, Harvard University Press (Cambridge, 1967).

one may say that '3' and '4' are discrete concepts and can never be confused with each other. But on the other hand, 'young' and 'old' are concepts which do not have any absolute boundary between them.

My submission is that 'education' does not have any arithmomorphic boundaries, and instead is a dialectical concept in this sense. If one were to use Professor Georgescu-Roegen's terminology, one could say that education is surrounded by a penumbra within which it overlaps with miseducation. As students of education, we are under an obligation to minimize this overlap and therefore the misunderstanding that it may cause. For good academic reasons, it is much better to be aware of them. As far as education is concerned, it is extremely easy for anyone to confuse it with what is mere schooling. Education, as Paulo Freire, for example, insists is basic to the very process by which a human infant would become a human adult. In fact, he designates it as man's ontological vocation. Unfortunately a precise and very satisfactory definition of education in this broad sense does not seem to be easy. But this lack of definition and of definitiveness need not bother us unnecessarily. There is the case, for example, of 'life' which has not been precisely defined so far and perhaps cannot be. But we can distinguish a man from a statue and a piece of timber from a tree. In other words, we know life when we see it. We can recognize it.

Similarly it may not be possible for us, or anyone, to define education in a precise manner, but we know education when we 'see' it. Of course, education does not float about in thin air and can manifest itself only through specific individuals. That is why we can see education only when we see a man who is educated. A most important point to make in this connection is that, a man who is educated in the proper sense of the term is not necessarily one who has merely accumulated a large number of certificates or degrees. Nor does it mean, however, that a person who carries a generous measure of formal qualifications, or one who has been 'schooled', is and on this count alone devoid of education. He may be; and he may not be. Schooling, therefore, would be a productive activity only in so far as it would pave the way for the construction of an educated society. There are definite circumstances in which this may not be the case. One such is a state of social inequality in which schooling can only promote the interests of relatively small minorities and thus frustrate the realization of an educated society. Assuming then, and this can well be a gratuitous assumption, that we have a society which is able to keep the counter-productivity of schooling within limits, it would be a desirable activity. It is on this assumption that I propose taking up the unit-cost of elementary education in this country.

I

2. Problems of National Educational Policy in India

Having pointed out the distinction between 'education' and 'schooling', one may still look pedantic if one were to try to use them with meticulous care. Therefore, in spite of their differences, these two words will be used below with a greater degree of freedom than the foregoing may allow. But care will be taken that the broad context in which each is used makes the intended meaning clear.

The need for and importance of education, in any less developed country, could be seen in terms of the perspective of development of its economy and society and the place that education was given in national priorities. In this regard, the overall educational development policy of the country concerned involves the following four first order questions : (a) Why education at all? (b) What levels and types of 'education'? (c) How much of education? and (d) For how long this education is to be given? Resolving these questions with respect to one level or type of education will have repercussions on or implications for others.

The first and foremost question - Why education at all? - has to be answered while setting priorities in the economy and society as a whole. It depends mainly upon the future idea of

the society and the role of education in the society and economy. The role of education has undergone significant changes over time. Traditionally, education was expected to satisfy limited and inherently conservative needs. It just acted as an agent to pass on the culture and traditional skills from one generation to the other. But education in modern times is expected to transmit the dominant value system of the society; to serve as an agency of social improvement to build a new social order; and last, but not least, to encourage innovations in the material and technological sphere. Thus the functions of the modern educational system have become wide in range and more complex in nature. Such a wide and complex scope of education in the transformation of traditional societies made most of the countries give high priority to education.

But few countries can afford to develop all levels and types of education at the same time. Most specifically, poor countries have to make a choice, for the simple reason that resources at their disposal for which there is pressing demand from other sectors of their economies also are rather scarce. Therefore, our second question - 'What' level and type of education is to be imparted? - has to be asked at this stage. If any country is aiming at 'raising the educational level of the average citizen', thereby laying firm foundation for an egalitarian society, that particular country should aim at giving universal minimum education to all children and adult

illiterates. This minimum education again depends upon the country's needs and aspirations and also on its resource-capability. If, for example, the country is more interested in rapid economic expansion becoming a self-supporting process, it would tend towards technical and professional higher education whose products may be used in its production process. In our country, the Constitution directs the States to give priority to elementary education.

Then, the third question involving the 'quantum' of education, refers to the total number of years of schooling over which the level and type of education is to be given. Many countries have started aiming at from five years of good education at the one extreme to seven to eight years of such education at the other. This, of course, depends mainly upon the total number of children who are to be educated at that level, future additions to this number, and also the financial capability of that particular country and the people. In India, having decided to give first level of education to all children, we are taking steps to provide a minimum of eight years of schooling.

The final question refers to 'how' the minimum education thus accepted should be achieved. This question involves the decision concerning target year or duration. Since the other levels and types of education cannot be overlooked totally in

a growing economy, the universal minimum education may take long period. Besides this, deciding the target also depends upon the socio-economic situation of the country in general, and people of that country in particular. This is because less developed countries, with inadequate resources and exploding poverty, cannot be expected to give good education in a relatively short period. Also in these countries people, thanks to their ignorance and innocence, do not always like their children to go to school. Therefore, while deciding upon the date by which the target of giving minimum education is to be realized, one has to keep in view the socio-economic and cultural levels of the country.

The section that follows, makes a comparative study of the problem of financing the first level of education and higher levels and types of education. This would also emphasize the importance of and need for rechamelling at least part of the resources from non-priority areas to priority areas. The final section gives a brief analysis of the succeeding chapters.

II

3. Social Need for Larger Allocations to Elementary Education

The problem of allocating resources among different levels and types of education necessarily calls for an examination of their

relative costs and benefits. While doing so, one must keep in mind the social need for literacy and also the expensive wastage of resources devoted to higher education whose recipients may not get any or at least proper jobs and may only cause social unrest. In other words, the concept of minimum education should be seen in terms of its social need and also of the extent of wastage of higher education due to excessive production. The table given below shows the unit-cost of elementary education as well as higher education during the planning period. Further it allows us to compare unit-cost of elementary education with that of higher education. The gap between resources devoted to elementary education and those to higher education, though reduced in the period, observed, is very striking.

Table - 1

A comparison of unit-cost of Elementary Education with unit-cost of Higher Education, 1950-51 - 1975-76

S.No.	Item	1950-51	1965-66	1970-71	1975-76
	<u>Unit-cost (in rupees)</u>				
1.	Elementary Education	21.79	39.49	66.16	111.85
2.	Higher Secondary Education	73.00	111.10	168.40	257.30
3.	Arts and Science	231.00	346.00	421.60	572.50
4.	Engineering and Technology	779.00	1061.60	1487.00	1842.70
	<u>The Ratio of</u>				
5.	Row 1 to Row 2	3.35	2.81	2.55	2.30
6.	Row 1 to Row 3	10.60	8.76	6.37	5.12
7.	Row 1 to Row 4	35.75	26.88	22.48	16.48

In 1950-51, the unit-cost of higher secondary education was 3.35 times higher than the unit-cost of elementary education. This means that for every rupee spent on elementary school pupil, our country was spending Rs.3.35 on every pupil in higher secondary education. This ratio was reduced in the later years and by 1975-76, the unit-cost of higher secondary education was about 2.30 times higher than that of elementary education. Still, the economy is devoting a large share of educational resources to students of Arts and Science as well as Engineering and Technology. To put it in other way, we could have educated more pupils at the first level, by diverting those resources devoted to additional students in higher education. For example, instead of spending money on an additional engineering and technology student, we could have given education to nearly 16 elementary school pupils. There is considerable justification for this rechanneling of resources from higher education - which restricts the opportunity to a few - to elementary education, where uneducated masses may be given a chance to become literates. Also rechanneling of resources to elementary education would help break many socio-political and cultural hurdles that are blocking the country's progress towards the goal of an egalitarian society.

This misallocation of resources to higher education could further be highlighted in terms of growing unemployment of the

educated youth with different levels of education. The Table below shows the unemployment of the educated youth by level of education. But these data understate the real situation since they exclude those educated youth who did not register themselves with employment exchanges. Even then, unemployment of the educated people is phenomenally high and increasing.

Table - 2

Number of Unemployed Educated Youth, by
level of Education (in thousands)

	1961	1966	1976
Matriculates	464	619	2829
Undergraduates	70	204	1255
Graduates and above	56	94	1020

Source : Statistical outline of India (1978), Tata Services Limited, Department of Economics and Statistics, (Bombay, 1978), p.126.

In the fifteen-year period from 1961, the unemployment of undergraduates has increased from 70 thousand to 1255 thousand, while that of graduates and above has increased from 56 thousand to 1020 thousand. The rate of growth of unemployment among undergraduates and above is far greater than that among matriculates. This means that large proportion of resources

devoted to higher education is being utilized for producing unemployment. This has particularly been so in the recent period. In spite of such an unwanted state of affairs, a less developed country like ours, cannot afford to allocate comparatively large resources to higher education in the midst of illiteracy. But this ought not to be misunderstood as a plea for abandoning higher education programmes. Only the pace of development at this level needs to be slowed down keeping the developmental perspectives of the economy in view.

Thus observing all these factors, there could be little dispute about the need to make a large allocation of total educational expenditure in favour of elementary education. There is every need to increase the share of other inputs of education - giving due weight to the salaries of teachers - in order to give good education to all children in a reasonably short period. Therefore, increasing proportion of educational expenditure may have to be allocated to elementary education, by reducing the subsidies and/or increasing the private cost of higher education. This rechanneling of resources from higher education to elementary education is of great importance in view of the various factors that are coming in the way of financing elementary education. This needs to be done to reduce higher costs of unemployed educated youth to the society; and this can further be justified keeping in view the scarce

resources of the economy that are to be used optimally.

III

4. A Preview

This study comprises five chapters including the conclusions. The first chapter outlines the progress with regard to the universalization of elementary education. The second chapter deals with the public costs of elementary education at current and constant prices. An attempt is also made, in this chapter, to compute the actual cost of producing an elementary school pupil. The third chapter discusses the magnitude of private costs in different income groups and occupations, which was based on a field survey conducted in 1978-79. The fourth chapter, while computing total unit-cost of elementary education, it also discusses the social efficiency and equity of education specifically and elementary education in general. The final chapter presents the findings of this study. A brief analysis of each chapter is also presented below.

Universalization of elementary education, discussed in Chapter I, is viewed separately in terms of quantitative expansion and qualitative improvements. Though these two are not watertight compartments, the former is explained with the help of three stages of universalization of elementary education, and the

latter is explained in terms of some of the quantifiable indicators of quality. The main objective of this chapter is to assess the progress of education at this level and to link it with the cost aspect of it. It would also help us to analyse the extent of resources needed in order to reach the goal in a reasonably short period.

As far as quantitative expansion is concerned, the universal provision of primary schools has been more or less completed, but the provision of middle schools has to be extended further. The maximum distance between residence and school needs to be reduced to, at the most, 2 km. Not only this, hereafter, the location of elementary schools should be properly planned so as to cover all needy areas.

The enrolment of boys at primary level is worth noting. But that of girls and weaker sections of the society has not even reached satisfactory levels. As the available information indicates, hereafter efforts would have to be diverted towards girls and weaker sections of the country. Apart from this, necessary efforts may have to be made to reduce the percentage of pupils outside the age group of 6-14 years. This being the case with primary school enrolment, the enrolment of the middle school level has to go a long way to fulfil the constitutional directive.

The third stage of universalization of elementary education - universal retention - shows the gloomy performance which may be mainly due to increasing wastage of education over the period. Universal elementary education is said to be realized only if each pupil enrolled in class I progresses year by year and reaches the final year of the prescribed course. In terms of our efficiency indices, 'cohort out-turn of curricula' must be broadly equal to 'cohort population' of the final year of the curricula. In other words, pupils in the final year of the elementary education (Class VIII) must be equal to the relevant age-group population (14 years of age). To reach this end also would take a long way in our country.

Finally, the qualitative improvements of elementary education, which was explained in terms of some of the indicators, are also not quite encouraging. In spite of the qualifications and salaries of teachers having been upgraded and the number of trained teachers have increased the quality of schooling at this level is poor. For wastage continues to be high and material facilities are inadequate in terms both of quantity and quality. This indicates the need to improve educational facilities, like school buildings, play grounds, equipment, teaching aids, and of course, relevant curricula.

The second chapter is concerned with the expenditure incurred on elementary education during the planning period.

While analysing the share of educational expenditure in GNP and public expenditure, it shows the position of elementary education in the total direct educational expenditure. The share of educational expenditure in GNP has been increasing over the period; but its share of the former in public budget expenditure is subject to fluctuations. The share of elementary education in total direct educational expenditure also declined over the period observed.

The rates of growth of unit-cost of elementary education, in current and constant prices, are compared with those of enrolment and GNP. This reveals the inconsistencies in rates of growth of unit-cost and GNP, and persistent increase in enrolment. This means that despite the phenomenal increase in enrolment, there is hardly any planned effort seen to improve the financial position of elementary education. Not only this, the different components of unit-cost also reveal that, till now, the country could only succeed in providing teachers. The estimates of indirect cost per pupil also find elementary education in a tight corner. In addition to all these factors, high wastage of education adds fuel to the fire through higher unit-cost of producing a literate.

The third chapter attempts to calculate the private costs of elementary education. This exercise is based on a field study conducted in a development block in Andhra Pradesh. So far, no systematic effort has been made at this level to compute the

extent of private costs and this study identifies high magnitude of private costs at this level. The major share of these costs is the earnings forgone of the school-going children. These costs are higher in respect of pupils whose parents are illiterate and elementary school educated and also belong to occupations like cultivation and agricultural labour. High private costs together with lower levels of prosperity make the parents call their children back from school. Therefore, this study throws light on the importance of reducing these costs through appropriate measures.

The fourth chapter integrates the public and privately borne costs of elementary education which may be called the 'social unit-cost' or 'total unit-cost' of elementary education. It clearly shows the high percentage of private costs in general and forgone earnings in particular. It also points out the social inefficiency and inequity prevailing in the educational system. It further emphasizes the need for differential treatment in education.

The final chapter presents and analyses the conclusions of the study.

Chapter One

EXPANSION OF ELEMENTARY EDUCATION IN THE PLANNING PERIOD

Introduction

Underdeveloped countries of the world, having recognized its importance in the process of socio-economic development, have of late been trying to give free and compulsory schooling to all children upto a prescribed age or class. As in any less developed country, in India also universal elementary education and general literacy are taken as tangible symbols of modernity, and educational development at this level is often seen as being politically expedient. Whatever may be the motive, education at this level should remove the religious, sociological and psychological constraints, which are coming in the way of transformation of the traditional economies.

In this chapter, a detailed analysis is attempted to assess the progress of elementary education in this country. For the sake of convenience, the quantitative and qualitative aspects of this level of education, over the period, are discussed separately. Though these two are not watertight compartments, some distinction has to be made between them. Whatever has been done so far in the name of achieving the

target of universal elementary education can be, partly, described as quantitative expansion. This is so because the quantitative expansion of schools, equipment, upgrading of teacher's qualifications, and increased percentage of trained teachers etc., also come in qualitative improvements.

In spite of the progress made during the planning period, quite a lot still remains to be done in the future, particularly with respect to quality. This is more important in respect of pupils belonging to weaker sections and rural areas. General observation also shows that children who have not enrolled in schools so far, may not be able to do so unless education is made relevant to them. This is mainly because of the economic significance of the child which may arise due to poverty of the family. All these factors would argue a simultaneous emphasis on quantitative expansion and qualitative improvements at this level.

1.2 Constitutional Directives on Compulsory Elementary Education

Ever since India became independent, significant and systematic efforts have been made to provide elementary education to all children, particularly after the commencement of the Constitution in 1950. Article 45 of the Constitution reads, "The State shall endeavour to provide within a period of ten years from the commencement of this Constitution, for free and compulsory

education for all children until they complete the age of fourteen years". Although the type of education and years of schooling are not specified in the Constitution, it envisages regular schooling for a total period of 8 years commencing after the sixth year of the child.

Unfortunately, the constitutional provision of universal elementary education was not extended to all children by the end of 1960. The panel on education set up by the Planning Commission in 1957 reviewed the progress made in the context; and in the light of its recommendations, it was decided to divide the programme of elementary education into two stages - the first stage covers the age group of 6-11 years and the second stage covers the age group of 11-14 years. While suggesting the strategy to put the constitutional directive into effect, the Education Commission (1964-66) set the target of providing "five years of good and effective education to all the children by 1975-76 and seven years of such education by 1985-86".¹ The programme of Educational development in the Fifth Five Year

1. Report of the Education Commission (1964-66), Education and National Development, Ministry of Education and Social Welfare, Government of India, New Delhi, p.268.

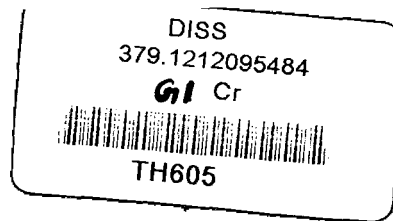
The Report of the Committee of members of Parliament on Education (1967) also stressed the need for giving highest priority to elementary education and suggested the implementation in two stages: "In the first stage, universal education should be provided for all children till they reach the age of eleven years; and in the second, this age limit should be raised to fourteen years." (p.6)

Plan (1974-79)² also emphasized the provision of universal education in the age-group of 6-11 years by 1975-76 and in the age-group of 11-14 years by 1980-81. Despite the progress attained at this level of education during the successive five year plans, much more is yet to be done, which, in fact, involves larger human efforts and still larger financial resources.

1.3 Universalization of Elementary Education in Independent India

Theoretically, universalization elementary education constitutes three stages, which are, of course, not water-tight compartments. The first is the universal provision of schools when an attempt is made to provide an elementary school within easy walking distance of the home of every child so that any parent who desires to send his child to school has access to the necessary facilities in the second stage, viz., universal enrolment, when an effort is made to enrol every child in school. In the third stage, i.e., universal retention, an attempt is made to eliminate or reduce wastage and to see that every child enrolled in schools is retained there till he completes either the

2. Working paper on Education in the Fifth Five Year Plan (1974-79), in "Proposals for the Development of Education and Culture in the Fifth Five Year Plan (1974-79)", p.73.



elementary course or the compulsory age.³ Thus efforts made to fulfil these three components would tend to reach the goal of universal elementary education.

For the sake of convenience, this first stage of education is classified into two phases, as was done in earlier committees and commissions - phase one will be primary education, i.e., till Class V, covering the age-group of 6-11 years, and this could be treated as a minimum level for considering the child to be literate. Phase two will be middle school education i.e., till Class VIII, covering the age-group of 11-14 years. This is the long-cherished goal of universal and compulsory elementary education which we wish to realize.

1.3.1 Universal Provision of Schooling Facilities

First stage of the universalization of elementary education is providing school facilities to all the children. It may not be possible, for a less developed country like ours, to install one school in each and every village. Since 80 per cent of the population live in rural areas, it would be reasonable to judge the extent of universal provision achieved basing on the coverage of villages and the population. Table 1.1 relates the

3. Samant, B.B., 'Universal Provision of Schools', in The Indian Year Book of Education, (1964), NCERT, (New Delhi, 1964), p.105.

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Table 1.1

Primary Schooling facilities, with distance and population covered

Item of Information	Habitations served with primary sections						Total
	Within the Habitation	Upto 0.5 mile	0.6 to 1.0 mile	1.1 to 1.5 miles	1.6 miles and above	Not served	
<u>FIRST ALL-INDIA EDUCATIONAL SURVEY - 1957</u>							
Number of habitations	2,29,023 (27.26)	1,75,055 (20.84)	1,77,221 (21.10)	17,458 (2.08)	1,228 (0.15)	2,40,048 (28.57)	8,40,033 (100.00)
Population covered	16,70,44,295 (59.75)	-	-	6,52,57,397 (23.35)	-	4,72,49,254 (16.90)	27,95,50,946 (100.00)
<u>SECOND ALL-INDIA EDUCATIONAL SURVEY - 1967</u>							
Number of habitations	3,73,086 (37.98)	3,00,557 (30.60)	1,83,173 (18.65)	48,937 (4.98)	76,498 (7.79)	-	9,82,251 (100.00)
Population covered	28,34,81,088 (71.48)	5,88,80,288 (14.85)	3,42,10,690 (8.62)	85,14,026 (2.15)	1,14,94,031 (2.90)	-	39,65,80,123 (100.00)

Note : Figures in parantheses are percentages to total.

Sources : 1. Report of the All-India Education Survey, Ministry of Education, Govt. of India, 1960.
2. Second All-India Educational Sruvey, NCERT, 1967.

number of habitations provided with primary sections and the population served with distance. According to the First All-India Educational Survey - conducted in 1957 - about 6.00 lakh habitations were served with primary sections.⁴ The population in these habitations was around 23.23 crores. This survey reveals that 2.40 lakh habitations, with a population of 4.73 crores, were not at all served with primary sections. The total number of habitations served with primary sections within the distance of 1.5 miles was 5,98,757, i.e., 71.28 per cent of the habitations surveyed. Of this, 2.29 lakh habitations, i.e., 27.26 per cent, are having the facility within them. This covers 59.75 per cent of the total population. And 41.94 per cent of the habitations are served with primary sections within the easy walk of the child, i.e., 0.5 to 1.0 mile distance.

The total number of habitations served with middle sections was 4.23 lakhs, which covers a population of 15.60 crores. This Survey states that 4.17 lakh habitations were not at all served with middle schools. Only 6.21 per cent of the habitations were having middle schools within them. This means

4. The word 'primary section' is used here to mean all classes of primary level which are located in primary schools, middle schools, and even in High Schools. In the same manner, the word 'middle section' is also used to mean all classes located in middle schools and High schools.

22.74 per cent of the total population has got the privilege of middle schools within their habitations. The number of habitations having middle school in the 'neighbourhood' - within the distance of 3 miles from the habitation - was 3.97 lakhs, i.e., about 93.79 per cent of the habitations served with the facility. The population covered in the 'neighbourhood' was 12.05 crores, i.e., 77.26 per cent.

The Second All-India Educational Survey, which was conducted in 1967, gives a broader picture with larger coverage. The total number of habitations covered in the Survey was about 9.83 lakhs, with a total population of 39.66 crores. More than 92 per cent of the habitations (97.10 per cent population) were served with primary sections within 1.5 miles distance. Out of this 37.98 per cent habitations are having the facility within them. This is 10.72 per cent more than the first survey. The population covered with the facility, within the habitation, in the second Survey is also larger (71.48 per cent) than the first Survey (59.75 per cent). The percentage of habitations served with a school within the easy walk of the child was 49.25 and the percentage of population in these habitations was 23.47. On the whole, there is a marked improvement in the attainment of universal provision at the primary level.

According to the second Survey, the total number of habitations served with middle sections within the 'neighbourhood'

was about 6.44 lakhs i.e., 65.51 per cent. The population in these habitations was 22.53 crores, i.e., 56.80 per cent. 7.07 per cent of the habitations (0.69 lakhs) with a population of 10.10 crores (25.45 per cent) were served with middle sections within them. There is a significant increase, both in the habitations and the population covered, as compared to the first Survey; within the range of 3-5 miles the percentage of habitations served with middle sections was 14.26, in which the percentage of population was 10.38. And 12.96 per cent of the habitations with 7.37 per cent population were having middle sections at a distance of more than 5 miles. The maximum distance a child in the age-group of 11-14 years can walk, would be 3 miles. Therefore, every possible step should be taken towards this end, in order to reach the goal of universal provision at the elementary level.

1.3.2 Universal Enrolment in Elementary Education

The second stage in universal elementary education is 'universal enrolment'.⁵ During the last three decades, the growth of enrolment in elementary education is quite impressive

5. The provision of 'universal enrolment' is voluntary in nature. Given the schools in all areas, the fulfilment of universal enrolment would depend mostly upon the parental attitudes and also on their economic condition. Thus, special efforts need to be put in order to enrol each child in the right age.

(See Appendix I). Table 1.2 shows the expansion of enrolment in elementary education since 1950-51. In the beginning of the First Five Year Plan (1950-51), the total enrolment in Classes I to V was 19.15 million, i.e., 42.60 per cent of the total population in the age-group of 6-11 years. By the end of Second Five Year Plan, this figure has increased to 34.99 million by covering 62.40 per cent of the relevant population. In the year 1965-66, enrolment at primary level reached the level of 50.37 million, thus covering 78.70 per cent of the relevant age-group. In 1970-71, enrolment increased to 57.05 million (78.60 per cent) and in 1977-78 it has further gone to 71.30 million (85 per cent). It is expected that the target level of 93.30 million would be reached by the end of the Sixth Plan covering 110 per cent of the population in the age-group of 6-11 years.

The expansion of middle school enrolment is not satisfactory, if not dismal. In the First Five Year Plan, total enrolment was about 3.12 million, i.e., only 12.70 per cent of the population in the age-group of 11-14 years. This increased to 6.20 million (22.50 per cent) during 1960-61, and 10.53 million (30.90 per cent) in 1965-66. In the year 1970-71, enrolment in middle schools has grown to 13.32 million (33.40 per cent) and further increased to 18.70 million (40 per cent)

Table 1.2

Enrolment and Enrolment rates at the Elementary level since 1950-51

Class(Age-group)/ Year	(Enrolment in millions)											
	Classes I-V (6-11 years)			Classes VI-VIII (11-14 years)			% of enrolment of Classes I-V in the population of 6-11 years			% of enrolment of Classes VI-VIII in the population of 11-14 years		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1950-51	13.77 (100)	5.38 (100)	19.15 (100)	2.59 (100)	0.53 (100)	3.12 (100)	59.80	24.60	42.60	20.70	4.50	12.70
1955-56	17.53 (127)	7.64 (142)	25.17 (131)	3.42 (132)	0.87 (164)	4.29 (137)	70.30	32.40	52.90	25.50	6.90	16.50
1960-61	23.59 (171)	11.40 (211)	34.99 (182)	5.07 (195)	1.63 (307)	6.70 (214)	82.60	41.40	62.40	33.20	11.30	22.50
1965-66	32.18 (233)	18.18 (337)	50.37 (263)	7.68 (296)	2.85 (537)	10.53 (337)	96.30	56.50	78.70	44.20	17.00	30.90
1970-71	35.74 (259)	21.31 (396)	57.05 (297)	9.43 (364)	3.89 (733)	13.32 (426)	95.00	60.50	78.60	46.30	19.90	33.40
1973-74	39.51 (286)	24.00 (446)	63.51 (331)	10.28 (396)	4.51 (850)	14.79 (474)	100.60	65.30	83.50	47.30	22.10	35.10
1975-76	40.65 (295)	25.01 (464)	65.66 (342)	10.99 (424)	5.03 (949)	16.02 (513)	100.40	61.10	83.80	48.60	23.90	36.70
1977-78	43.30 (314)	28.00 (520)	71.30 (372)	12.70 (490)	6.00 (1132)	18.70 (599)	101.00	68.00	85.00	51.00	27.00	40.00

Note : Figures in brackets are enrolment indices.

- Sources : 1. Enrolment in 1950-51, 1960-61 and 1965-66 are taken from II, III and IV Plan documents, Government of India, New Delhi.
 2. Enrolment in 1970-71, 1973-74 and 1975-76 are taken from 'Enrolment Trends in States 1968-69 - 1978-79', Ministry of Education, Govt. of India, New Delhi.
 3. 1977-78 enrolment figures are taken from, Draft Five Year Plan 1978-83, Planning Commission, Govt. of India, New Delhi.

by the end of the Fifth Plan. This is likely to touch 28.70 million (57 per cent) by the end of the Sixth Plan.

1.3.2a Enrolment of Girls

This being the growth of elementary education in the aggregate, the expansion of boys' and girls' enrolment shows an unbridged gap. In both primary and middle levels the enrolment of boys is quite encouraging. In the year 1977-78, the percentage of boys enrolled in Classes I-V in the total population of the age-group was 101 and that of middle schools was 51. This increased from 59.80 per cent in primary schools, and 20.70 per cent in middle schools in 1950-51. Instead, the percentages of girls enrolled in primary and middle schools in the relevant age-groups were respectively 24.60 and 4.50 in 1950-51, and 60.50 and 19.90 in 1970-71. By 1977-78, these percentages reached 68.00 in primary schools and 27.00 in middle schools. Besides this tremendous expansion of elementary education during the past few decades, there is a lot to be done, particularly with respect to girls' enrolment. The high rates of indices of enrolment - five fold increase of index numbers of girls' enrolment in primary schools and eleven fold increase in middle schools - are certainly encouraging. But still low percentage of enrolment in the relevant age-groups would also point out the complexity of the problem.

Another way of showing the real progress of girls' enrolment is to compare the enrolment ratio of boys and girls with the population ratio of boys and girls in the relevant age-groups over the period (Table 1.3). In 1950-51, the number of girls to every 100 boys were about 95.13 whereas the enrolment of girls in Classes I-V, was only 39.07, for every 100 boys enrolled. By 1960-61 the sex ratio increased to 96.16, while the enrolment ratio was improved to only 48.33. These ratios respectively are 93.28 and 59.63 in 1970-71 and 94.54 and 64.67 in 1977-78. These enrolment ratios are far below in middle schools when compared with population ratios. Only 47.24 girls were enrolled for every 100 boys in 1977-78, whereas the number of girls in this age group, was 93.17 for every 100 boys.

1.3.2b Enrolment of Scheduled Caste and Scheduled Tribe pupils

Another major problem of expansion of elementary education, besides enrolment of girls, is the enrolment of the weaker sections of the society and most particularly of Scheduled Castes and Scheduled Tribes. Table 1.4 shows the progress of elementary education as far as these two communities are concerned. During 1968-69, the total number of pupils enrolled in primary schools in Scheduled Castes and Scheduled Tribes were about 5183.70 thousand and 2076.16 thousand respectively.

Table 1.3

Progress of girls' enrolment in Elementary Education
since 1950-51

S.No.	Year/ Particulars	1950-51	1955-56	1960-61	1965-66	1970-71	1973-74	1975-76	1977-78
<u>Classes I-V</u>									
1.	Girls enrolled (in millions)	5.38	7.64	11.40	18.18	21.31	24.00	25.01	28.00
2.	% of enrolment to the population of age- group 6-11	24.60	32.40	41.40	56.50	60.50	65.30	61.10	68.00
3.	Number of girls for every 100 boys enrolled	39.07	43.58	48.33	56.50	59.63	60.74	61.53	64.67
4.	Number of girls for every 100 boys in the age-group 6-11 years	95.39	95.82	96.16	96.80	93.28	94.12	94.64	94.54
<u>Classes VI-VIII</u>									
1.	Girls enrolled (in million)	00.53	0.87	1.63	2.85	3.89	4.51	5.03	6.00
2.	% of enrolment to the population of age- group 11-14 years	4.50	6.90	11.30	17.00	19.90	22.10	23.90	27.00
3.	Number of girls for every 100 boys enrolled	20.46	25.44	32.15	37.11	41.25	43.87	45.77	47.24
4.	Number of girls for every 100 boys in the age-group of 11-14 years	93.28	93.94	93.23	95.99	92.35	92.31	92.29	93.17

Table 1.4

**Enrolment of Scheduled Caste and Scheduled
Tribe students in Elementary Education
during 1968-69 and 1977-78**

Year/ Community	(in '000)					
	Primary Schools (I-V)			Middle Schools (VI-VIII)		
	Boys	Girls	Total	Boys	Girls	Total
<u>SCHEDULED CASTE</u>						
1968-69	3614.64 (10.58)	1569.06 (7.76)	5183.70 (9.53)	1238.27 (13.77)	518.69 (14.62)	1756.96 (14.01)
1969-70	3640.76 (10.47)	1590.26 (7.68)	5231.02 (9.43)	1266.46 (13.66)	542.14 (14.64)	1808.60 (13.94)
1970-71	3688.05 (10.32)	1616.20 (7.59)	5304.25 (9.30)	1293.17 (13.72)	555.78 (14.29)	1848.95 (13.89)
1971-72	3798.85 (10.33)	1697.71 (7.71)	5496.56 (9.34)	1326.18 (13.76)	572.95 (14.17)	1899.13 (13.88)
1972-73	4043.48 (10.42)	1806.54 (7.66)	5850.02 (9.37)	1404.69 (14.11)	630.51 (14.65)	2035.20 (14.27)
1977-78	6233.40 (14.24)	3101.15 (11.42)	9334.55 (13.16)	1298.28 (10.65)	448.55 (7.43)	1746.83 (9.58)
<u>SCHEDULED TRIBE</u>						
1968-69	1485.23 (4.35)	590.93 (2.92)	2076.16 (3.82)	491.29 (5.47)	185.67 (5.23)	676.96 (5.40)
1969-70	1527.20 (4.39)	617.99 (2.98)	2145.19 (3.87)	507.80 (5.48)	197.59 (5.33)	705.39 (5.43)
1970-71	1578.37 (4.42)	643.34 (3.02)	2221.71 (3.89)	517.99 (5.50)	208.12 (5.35)	726.11 (5.45)
1972-73	1879.02 (4.84)	837.86 (3.55)	2716.88 (4.35)	577.59 (5.80)	244.55 (5.68)	822.14 (5.77)
1977-78	2646.07 (6.04)	1236.44 (4.55)	3882.51 (5.47)	423.84 (3.48)	150.05 (2.49)	573.89 (3.15)

Note : (1) 1977-78 figures are provisional.
(2) Figures in paranthesis are percentage to the total general enrolment.

Sources : (1) Progress of Education of Scheduled Caste and Scheduled Tribes (Various Issues), Ministry of Education and Social Welfare, Govt. of India, New Delhi.
(2) Selected Educational Statistics, 1977-78, Ministry of Education & Social Welfare, Govt. of India, New Delhi (1978).

In that year the percentages of enrolment to the total were 9.53 for Scheduled Castes and 3.82 for Scheduled Tribes. After a decade, these enrolment figures rose to 9334.55 thousand in case of Scheduled Castes, thus enrolling 13.16 per cent of the total, and 3882.51 thousand in case of Scheduled Tribes, covering 5.47 per cent of the total enrolment. Though the respective enrolment and percentages of girls and boys have increased during the last few years, there is wide gap between them, as in the case of general expansion of elementary education (Table 1.2).

Regarding the progress in middle school education, the interesting thing is that though the absolute numbers are smaller than those of primary schools, one will observe comparatively larger percentages of both Scheduled Castes and Scheduled Tribes enrolment. The enrolment figures for 1977-78 show a declining trend in middle school education. By and large, the progress of elementary education of Scheduled Caste and Scheduled Tribe pupils is worth noticing.

Lastly, one has to keep in mind that hundred percent enrolment achieved by now in Classes I-V does not mean that all children in the age-group of 6-11 are enrolled. This includes the children below 6 years and above 11 years. The percentage of pupils outside the age-group of 6-11 years was 22.80 in 1957-58, and remained almost constant at 22.24 in 1970-71. The

percentage of boys outside this age group is little larger than that of girls. Taking 25 per cent as granted, the enrolment in Classes I-V will have to be around 125 per cent, so as to ensure that the total population in the age-group of 6-11 years are attending schools.⁶ Not only this, pupils over and above 100 per cent would mostly belong to girls and weaker sections of the society, since enrolment of those people is too low. This emphasizes the need to put more effort and to increase resources to reach universal enrolment at this level. Regarding middle school enrolment, the percentage of pupils outside the age-group 11-14 years was 43.30 in 1958-59, and 40.26 in 1970-71. At this level also, the percentage of boys outside this age group is larger than that of girls. In addition to the low level of performance made so far at this

6. Naik estimated that around 30 per cent of the enrolment would belong to outside the age-group of 6-11 years and hence he proposed 130 per cent enrolment. See, Naik, J.P., Elementary Education in India: A Promise to Keep, Allied Publishers, (New Delhi, 1975).

The percentage of pupils outside the age-group are as follows :

Year	% of pupils Outside the Age-group of					
	6-11 years			11-14 years		
	Boys	Girls	Total	Boys	Girls	Total
1958-59	22.30	20.00	22.30	44.24	40.05	43.30
1962-63	23.10	20.80	22.30	42.82	40.14	41.13
1970-71	22.81	21.28	22.24	40.58	39.49	40.26

level, this high percentage of pupils outside the relevant age group further reduces the chances of attaining universal enrolment in the near future.

1.3.3 Universal Retention in Elementary Education

The third major component of universal elementary education is 'universal retention'. Neither 'universal provision' nor 'universal enrolment' would alone mean the achievement of universal and free elementary education in the country. It is these two components along with universal retention that satisfy the real definition of the universalization of elementary education. This universal retention again depends largely upon the attracting and holding power of the schools. This would require simultaneous implementation of the programmes of qualitative improvements and quantitative expansion of education. Until and unless the child and/or his family, realizes the importance of and relevance of education, the family will not let the child to continue. This is the situation in rural areas particularly.

To fulfil the objective of universal retention we have to ensure that every child enrolled in Class I is progressing year by year and completing Class VIII successfully. This would require that the incidence of drop outs and repeaters be

minimized if not eliminated altogether. The difference between drop out and stagnation is - of course, both signify wastage in education - that in the latter case the pupil attends the school and will finish the prescribed education in a relatively long period; while in the former the pupil drops out of the school. Table 1.5 shows the extent of wastage (drop out and stagnation) at the primary level. Looking at the table, one would find the increasing trend of wastage in the total as well as in boys and girls. Till recently (1975-76) about 63 per cent of the pupils were dropping out of the school system before they reach Class V. About 33.53 per cent of the pupils were discontinuing before reaching Class II. The incidence of wastage is higher in the case of girls (around 66 per cent) than compared to boys (61 per cent).

From the Table 1.5, we cannot single out the wastage due to repetition. Though this cannot be strictly called wastage, we can to some extent justify our stand by saying that, since the pupil is taking longer time to finish the stipulated course than what is required, this can be considered as a part of wastage. Table 1.5a gives a comparative idea of the percentage of repeaters in India along with Argentina.

Table - 1.5

The wastage indices at Primary level since 1960-61

Year	Boys					Girls					Total				
	I	II	III	IV	V	I	II	III	IV	V	I	II	III	IV	V
1960-61	100	-	-	-	-	100	-	-	-	-	100	-	-	-	-
1961-62	100	61.81	-	-	-	100	58.47	-	-	-	100	60.65	-	-	-
1962-63	100	59.35	51.93	-	-	100	54.62	46.90	-	-	100	57.63	50.17	-	-
1963-64	100	61.42	49.57	45.11	-	100	57.25	44.09	39.00	-	100	59.89	47.58	42.97	-
1964-65	100	62.33	51.80	43.04	39.49	100	59.72	47.10	36.87	32.57	100	61.36	50.08	40.81	37.07
1965-66	100	60.33	52.01	43.96	36.83	100	56.91	48.17	38.49	29.51	100	59.03	50.58	41.95	34.18
1966-67	100	60.19	49.77	43.91	37.40	100	57.37	45.45	38.40	30.34	100	59.10	48.13	41.86	34.81
1967-68	100	59.91	49.88	42.16	37.42	100	57.56	46.16	36.61	30.98	100	59.01	48.05	40.05	35.02
1968-69	100	59.91	48.91	41.87	35.70	100	58.01	45.54	36.31	28.95	100	59.18	47.61	39.72	33.13
1969-70	100	61.30	49.74	41.51	35.83	100	59.29	46.11	36.64	28.73	100	60.52	48.33	39.64	33.08
1970-71	100	63.04	50.92	42.14	35.52	100	60.75	47.24	37.14	29.08	100	62.14	49.50	40.21	33.05
1971-72	100	63.34	52.32	43.07	35.98	100	60.96	48.67	38.18	29.66	100	62.42	50.90	41.18	33.54
1972-73	100	67.18	53.29	44.94	37.42	-	65.34	50.19	40.09	31.27	-	66.47	52.09	43.05	35.03
1973-74	-	-	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.
1974-75	-	-	-	45.08	38.99	-	-	-	40.63	33.26	-	-	-	43.35	36.77
1975-76	-	-	-	-	39.29	-	-	-	-	33.82	-	-	-	-	37.16

Table - 1.5a

Percentage of Repeaters by Grade in
the Primary Level (a comparison of
two countries)

Country/Year		I	II	III	IV	V
<u>INDIA</u>						
1965	TOTAL	25	20	17	15	14
	GIRLS	26	20	17	16	15
1970	TOTAL	26	20	18	17	16
	GIRLS	26	20	19	18	17
<u>ARGENTINA</u>						
1965	TOTAL	24	14	11	10	6
	GIRLS	22	12	10	8	5
1970	TOTAL	23	13	11	9	6
	GIRLS	22	12	10	7	5

Source : Statistical Year Book (1977),
UNESCO, (Paris, 1978),
Table 4.4.

In India, the percentages of repeaters are higher in Class I and Class II, in both the years. In all the classes of this level, comparatively more girls repeat the course. Whereas in Argentina, the percentage of repeaters is less in any class than that in India. But high percentage of repeaters are seen in Class I and the percentage of girls repeating the course is smaller than that of the aggregate. From this we can say that in India 16 to 26 per cent of the pupils are repeating the courses in all the classes. Even if we take these figures into consideration, it will be understood the extent of wastage of resources due to repetition.

Even at the middle school level, the wastage of education is astounding. Before looking at the problem of wastage at the middle school, one would do well to discuss the rate of transfer⁷ from Class V to Class VI. The rate of transfer was 83.87 during 1967-68, and further to 84.61 by 1972-73. This indicates that even now, about 15.50 per cent of the pupils drop out of the school before reaching Class VI. These rates of

7. The rates of transfer from Class V to Class VI are as follows :

<u>Year</u>	<u>Boys</u>	<u>Girls</u>	<u>Total</u>
1961-62	86.45	75.78	83.43
1964-65	88.58	79.99	86.04
1967-68	87.70	75.74	83.87
1970-71	87.55	74.27	83.09
1972-73	88.89	76.38	84.61

Chapter Four

THE RESOURCE COST OF ELEMENTARY EDUCATION IN INDIA

In the second chapter, we have discussed various dimensions of the public unit-cost of elementary education. The third chapter deals with the magnitude of the private cost of elementary education with respect to different occupations, literacy and income levels. In order to have a complete understanding of 'total cost' or 'social cost' or 'resource cost' of elementary education, an exercise of adding these two types of costs is needed. Lack of time series data pertaining to private costs during the period under review does not allow us to study the variations in the social cost. And the most serious limitation is that, while our field survey on private costs refers to the period 1978-79, data on public costs are available only upto 1975-76. Therefore, it would not be possible to add these two costs. Hence, it is assumed that public costs (per pupil) have remained more or less the same as in 1975-76. Accordingly Table 4.1 shows the social unit-cost of elementary education, together with its different components.

As the table shows, the total unit-cost of elementary education is about Rs.652.06 per annum. Direct public cost constitutes only 17.15 per cent of the total cost. Out of

this, as was seen earlier, the teacher-cost accounts for a major share. Hardly 2.13 per cent of the total cost accounted for non-teacher - both direct and indirect - costs.

Total private costs accounted for more than 80 per cent of total cost of elementary education. Also, nearly 60 per cent of the total costs figure as 'indirect private cost'. In order to avoid double counting, the amount spent on transfer payments, like scholarships and freeships, was deducted from total cost. Thus the net social cost of elementary education amounts to Rs.642 per annum.

Table 4.1

Resource Cost of Elementary Education in India

Serial Number	Item	Per Pupil cost (Rs.)	Percentage to Total
1.	Direct public cost	111.85	17.15
a.	Teacher cost	104.15	15.97
b.	Non-teacher cost	7.70	1.18
2.	Indirect public cost	6.21	0.95
3.	Direct private cost	145.00	22.24
4.	Indirect private cost	389.00	59.66
5.	Total cost	652.06	100.00
6.	(Less) Scholarships and Freeships	9.74	-
7.	Net Total Cost	642.32	-

On the basis of general observations and the field survey, it can be said that families with low levels of income find the costs of their children's education to be too heavy. Not only this; their illiteracy and ignorance may also make them think in terms of their immediate need for children in their families rather than the long run benefits of the education of their children. On the other hand, families with high income levels, with their comparatively higher education, would certainly opt for their children's education. Since they know that it would benefit them in future, they could even be ready to spend more on their children's education. Therefore, what the economy or the society needs to do is that, while giving free elementary education, it must also see the ways and means of improving the socio-economic base of the masses. In other words, universal elementary education must be seen within the framework of socio-economic advancement of the community itself. Unless and until the weaker sections are uplifted, socially and economically, they may not, for that matter cannot, send their children to school or even if they do manage to send them somehow, they may not let the child continue in school.

As was seen earlier, an average school is nothing more than a mere teacher. In spite of the efforts put in by the Government, it could not even succeed in providing schools

with buildings, let alone equipment, teaching aids, playgrounds etc. The lower proportion of public costs of elementary education in the total cost indicates the necessity of improving the lot of educational facilities. Not only this; with low level of public costs, it may not be possible to improve the attracting and holding power of the school, which is of great importance at this level of education. Therefore, our country has to step up the public expenditure on elementary education in general and non-teacher public expenditure in particular in order to give good education to all children. This would, in fact, be a condition precedent to the realization of universal elementary education.

The analysis of costs and their influence on the socio-economic background of the family - as was seen in the previous chapter - suggests that the burden of the total private cost of education in general and incomes forgone in particular, could be minimized once the economic status of the family is improved. The main reason is that poor families, with low educational levels, cannot afford to send their children to schools for the simple reason the child is otherwise economically productive. If the earnings of these families are made to improve one can expect that they may allow their children to remain in schools. Apart from this, they may even be prepared to spend more on education with increases in their

transfer vary in the period observed, for both boys and girls in 1961-62; 87.70 and 75.74 in 1967-68; and in 1972-73 they are 88.89 and 76.38. About 12 per cent of the boys and 24 per cent of the girls come out before they reach Class VI. This being the case with the rate of transfer from Class V to Class VI, wastage at the middle schools registers a still higher level (Table 1.5b). In the three years of middle school education, from Class VI to Class VIII, wastage was a little over 18 per cent in 1962-63. This was increasing slowly over the years. By 1972-73, it has reached 24 per cent. In this level also, the wastage is greater among girls than among boys. Wastage of education, at this level, among boys was about 17.28 per cent in 1962-63, 21.25 per cent in 1967-68, and 22.82 per cent in 1972-73. For girls these percentages were 21.86, 26.36, and 26.16 during 1962-63, 1967-68, and 1972-73 respectively.

Since our objective is to achieve universal and compulsory elementary education till the age of 14 years, it is not appropriate to take the enrolment ratios as a mark of attaining or approaching the end. The most suitable and decisive approach is 'efficiency indices' or the percentage of pupils reaching the final year of curricula in relation to their age group population. This approach depends mainly upon

Table 1.5b

Wastage Indices at Middle School Level since 1960-61

Year	Boys			Girls			Total		
	VI	VII	VIII	VI	VII	VIII	VI	VII	VIII
1960-61	100	-	-	100	-	-	100	-	-
1961-62	100	89.67	-	100	88.53	-	100	89.38	-
1962-63	100	88.76	82.80	100	88.96	78.14	100	88.81	81.62
1963-64	100	87.48	85.45	100	85.81	81.58	100	87.03	84.46
1964-65	100	89.05	81.22	100	88.45	76.31	100	88.89	79.92
1965-66	100	88.56	81.01	100	85.67	76.90	100	87.76	79.91
1966-67	100	86.52	78.93	100	86.38	73.42	100	86.48	77.38
1967-68	100	88.10	78.75	100	85.57	73.64	100	87.38	77.32
1968-69	100	87.16	78.07	100	85.01	72.61	100	86.54	76.51
1969-70	100	87.66	77.14	100	85.88	71.50	100	87.14	75.52
1970-71	100	86.34	77.22	100	86.80	72.69	100	86.47	75.90
1971-72	100	87.68	76.66	100	85.51	73.54	100	87.02	75.75
1972-73	100	88.28	77.18	100	87.80	73.84	100	88.14	76.18
1973-74	-	NA	NA	-	NA	NA	-	NA	NA
1974-75	-	-	76.63	-	-	72.01	-	-	75.20
1975-76	-	-	-	-	-	-	-	-	-

NA = Not Available.

two assumptions which are, of course, valid to a larger extent in the Indian context. They are (a) Class I starts from the age of 6 plus, and (b) In majority of the cases, pupils reach Class V at the age of 11 years and Class VIII at 14 years. This approach would isolate the magnitude of the problem so that we can formulate the policies to reach the objective. Elementary education turns out educated persons from primary and middle levels, which may be called 'primary cohort out-turn' and 'the elementary final cohort out-turn', respectively. In an ideal situation of universal elementary education - in the complete absence of drop-outs and stagnation - the primary cohort out-turn equates with the number of children at the age of 11 years, and the elementary final cohort out-turn equals the total number of children at the age of 14 years. This is the case of 100 per cent efficiency. Any effort to near this ideal would be a welcome feature.

The assessment of efficiency of elementary education⁸ can be seen in terms of its primary cohort out-turn and the

8. The formula for the efficiency index = $\frac{CO}{CP} \times 100$

where,

CO = cohort outturn of curricula

CP = cohort population of the final year of the curricula.

See, Khan, Q.U., "Efficiency indices of Elementary Education in India", AICC Economic Review, July 1, 1966, pp.7-11.

elementary final cohort out-turn in relation to the cohort population. The efficiency indices are calculated separately for boys and girls (Table 1.6) at primary and elementary levels since 1950-51. In the first year of the First Five Year Plan, this index at the primary level, was 22.91. After five years it increased to 25.96; 35.31 in 1960-61; and finally the efficiency index reached 50.86 in 1975-76. Though there is an increase of about two times during the twenty five years observed, there is still a remarkable percentage of pupils who have not even received the privilege of primary education. If this rate of increase continues further, we may not be able to provide even primary education, let alone elementary education, to all the children towards the end of the century. The gap between boys and girls has been persistently increasing during the twenty five years observed. In 1950-51, the efficiency index for boys was 31.51 and for girls 10.55, and in 1960-61 these indices were 49.42 and 20.48 respectively. This gap was reduced marginally in 1975-76 when these indices for boys and girls were 63.45 and 37.33 respectively.

The efficiency indices at the middle level also were rather low. They have increased from 11.05 in 1950-51, to 18.80 in 1960-61 and finally to 31.51 in 1975-76. Still nearly 70 per cent of the pupils, in the age group, are not able to

Table 1.6

Efficiency indices in Class V and Class VIII since 1950-51 (quinquennial years)

Year	Boys in		Efficiency Index	Girls in		Efficiency Index	Total pupils in		Efficiency Index
	Class V	Age 11 years		Class V	Age 11 years		Class V	Age 11 years	
1950-51	14,75,117	42,74,000	34.51	4,23,111	40,10,000	10.55	18,98,228	82,84,000	22.91
1955-56	18,22,058	47,58,000	38.29	5,81,032	44,98,000	12.92	24,03,090	92,56,000	25.96
1960-61	25,90,337	52,41,000	49.42	10,20,849	49,85,000	20.48	36,11,186	1,02,22,600	35.31
1965-66	36,97,571	59,81,000	61.82	16,83,795	57,75,000	29.16	53,81,366	1,17,56,000	45.78
1970-71	42,70,672	70,42,466	60.64	21,84,437	64,88,565	33.67	64,55,109	1,35,31,031	47.71
1975-76	50,11,214	79,92,000	63.45	27,77,442	74,40,000	37.33	78,48,656	1,54,32,000	50.86
	Class VIII	Age 14 years		Class VIII	Age 14 years		Class VIII	Age 14 years	
1950-51	7,22,687	39,92,000	18.10	1,28,793	37,16,000	3.47	8,51,480	77,08,000	11.05
1955-56	9,40,360	44,03,000	21.36	2,19,678	41,26,000	5.32	11,60,038	85,29,000	13.60
1960-61	13,65,815	48,14,000	28.37	3,91,831	45,37,000	8.64	17,57,646	93,51,000	18.80
1965-66	21,38,414	54,54,000	39.21	7,44,711	52,17,000	14.27	28,83,125	1,06,71,000	27.02
1970-71	27,01,459	62,28,246	43.37	10,42,492	57,75,422	18.05	37,43,951	1,20,03,668	31.19
1975-76	31,16,205	73,28,000	42.52	13,20,559	67,53,000	19.56	44,36,764	1,40,81,000	31.51

utilize the facility of middle schools. The differences between boys and girls, at this level also, are very high. While the efficiency index for boys has increased from 18.10 in 1950-51, to 28.37 in 1960-61, and 42.52 in 1975-76, the corresponding indices for girls were 3.47, 8.64 and 19.56 during 1950-51, 1960-61, and 1975-76 respectively.

1.4 Quality of Elementary Education during the Planning Period

Till recently, most of the countries, both developed and less developed, have been focusing on the quantitative aspect of educational development at different levels. They are now looking more and more to the qualitative aspect of educational development. Though both these aspects are not substitutes to one another, because of various reasons and over-ambitious aims, these countries gave more emphasis to the former rather than the latter. Focusing on 'quality' Coombs defined education as "a living, moving thing, whose goodness resides not only in its excellence relative to certain 'standards' but in its 'relevance' and 'fitness' to the changing needs of the particular students and the society it is intended to serve."⁹ In brief, a concern with quality of education requires that at any level,

9. Philip H. Coombs, 'Time for a Change of Strategy', in C.E. Beeby (ed.), Qualitative Aspects of Educational Planning, UNESCO: IIEP (Paris, 1964), p.18.

it should contribute its best to the socio-economic and cultural needs of the country.

The quality of education could be explained in terms of either the 'output' or 'inputs' of education or both. These in turn lend the assistance of some of the indicators which are likely to represent them. For example, if we explain quality in terms of inputs, indicators like teacher qualifications, and their emoluments, student-teacher ratio, the availability of space, equipment and instructional material, etc., are important. But it is not possible to measure all the indicators, since some of them cannot be quantifiable and still they do influence the quality - for example, home environment. Here we discuss the quality of elementary education in India taking some of the quantifiable indicators into consideration.

Indicators of Quality

Some of the measurable variables or indicators that are expected to influence or reflect the quality of education are as follows¹⁰: Wastage in education, the extent of teacher training, the qualification structure of the teaching staff,

10. W. Arthur Lewis, "Economic Aspects of Quality in Education" in C.E. Beeby (ed.), Qualitative Aspects of Educational Planning, UNESCO, IIEP (Paris, 1964), p.84.

the socio-economic status of the teacher, the ratio of space, equipment and instructional material to the number of students, pupil-teacher ratio and so on. It is hardly difficult to cite a good number of variables that can possibly influence, directly or indirectly, the quality of education at any level. But, keeping the constraints in mind, it would be reasonable to concentrate on some of the important ones, which would at best reflect qualitative changes in elementary education in our country.

A. Wastage in Elementary Education

In the previous section of this chapter, i.e., universal retention in elementary education, it was discussed about the wastage of this level. As explained earlier, the high rates of repeaters and of drop-outs at this level of education show that a substantial proportion of educational effort and national resources spent on children who do not even become functionally literate has been wasted. The latest data available for us indicate (Table 1.5, 1.5a and 1.5b) the increasing trend of wastage at the primary level as well as middle school level. In 1964-65, about 63 per cent of the pupils enrolled in Class I dropped out before coming to Class V; a slight improvement can be observed in the year 1975-76, where 63 per cent of the pupils did not come upto Class V. Of course this is same as

that of 1964-65. Looking at the class-wise wastage of education, till now while coming from Class I to Class II, nearly 33.50 per cent pupils were dropped.

At the middle school level also, the wastage is remarkably high. Nearly 24 per cent of the pupils who enrolled in Class VI were failed to reach Class VIII. If not zero per cent wastage, our country needs to divert a good share of its resources and human efforts to minimize these high rates of wastage. Providing good education to a limited number would always be better, in an economy like ours, rather than insufficient education to all children which leads to high proportion of wastage. But from the point of view of egalitarian society, no nation can confine itself by giving education to a limited people. Thus, society aims at giving minimum education to all children irrespective of their socio-economic background which no developing economy can afford. The possible solution lies in between these two extremes. This would be a point where the extent of wastage is minimal.

B. Training of Teachers

Another indicator of 'quality' of education is the number of teachers trained at the school level. Table 1.7 shows the increase in the total number of teachers - trained and untrained - at the primary and middle levels from 1951-52 to

Table 1.7

The distribution of trained and untrained teachers in primary and middle schools and teacher-pupil ratio from 1951-52 to 1976-77

Year	Teachers in primary schools (in thousands)			Teachers in middle schools (in thousands)			Teacher-Pupil ratio	
	Total	Trained	Untrained	Total	Trained	Untrained	Primary	Middle
1951-52	564.00 (100.00)	346.00 (61.35)	218.00 (38.65)	90.53 (100.00)	49.06 (54.19)	41.47 (45.81)	34	25
1956-57	710.00 (100.00)	442.00 (62.25)	268.00 (37.75)	166.56 (100.00)	100.08 (60.08)	66.48 (39.92)	34	26
1961-62	795.00 (100.00)	511.00 (64.27)	284.00 (35.73)	392.05 (100.00)	260.10 (66.34)	131.95 (33.66)	37	32
1966-67	978.52 (100.00)	707.69 (72.32)	270.83 (27.68)	555.57 (100.00)	430.58 (77.50)	124.99 (22.50)	39	32
1971-72	1060.01 (100.00)	854.71 (80.63)	205.30 (19.37)	637.57 (100.00)	534.10 (83.77)	103.47 (16.23)	39	31
1976-77	1339.87 (100.00)	1145.59 (85.50)	194.28 (14.50)	715.66 (100.00)	616.19 (86.10)	99.47 (13.90)	39	32

Note : Figures in paranthesis are percentages to total.

- Sources : 1. Education in India (various issues), Ministry of Education and Social Welfare, Government of India, New Delhi.
2. Selected Educational Statistics, 1977-78, Ministry of Education and Social Welfare, Government of India, New Delhi (1978).

1976-77. While the total number of teachers in the primary schools have increased by two-fold during the period, the number of trained teachers have increased by about three times. The number of untrained teachers had decreased from 218 thousand in 1951-52 to 194.28 thousand in 1976-77. Percentage-wise, the teachers trained for primary schools have increased steadily during the period under consideration. The percentage of teachers trained in 1951-52 was 61.35; it rose to 72.32 in 1966-67 and ultimately reached 85.50 by the end of 1976-77. Though the progress is worth noting, as many as 14.50 per cent of the teachers were not at all trained at the end of this period.

At the middle level also, the total number of teachers have increased significantly. During the period under study, the total number of trained teachers increased nearly 13 times, while the total number of teachers, trained and untrained, went up by a little over 8 times. Unlike the primary school untrained teachers, the number of untrained teachers in the middle schools doubled during the period. But percentage-wise, there is a sharp decline, during the 25 years period, of untrained teachers at this level. This decreased from 45.81 per cent in 1951-52 to 13.90 per cent in 1976-77. The percentage of teachers trained for the middle schools has increased steeply during the same period. The increase was from 54.19

per cent in 1951-52 to 86.10 per cent in 1976-77, i.e., about 1.27 per cent increase per annum against an increase of a little less than one per cent per annum in the primary schools.

Another important feature is the nature of training that the teachers are receiving. The training of teachers, at any level, should keep in mind the changing needs of the society in general and the pupils in particular. But Myrdal is of the view that "the classification of teachers as 'trained', moreover, has to be viewed with the greatest suspicion. Most of them... are not well-trained in any sense of the word."¹¹ As stated earlier, one cannot find improvements in quality of education, unless and until the training of teachers takes into account the goals and objectives of education in the context of a changing society.

C. Qualification Structure of Teachers

The next important indicator of quality of education is the qualification structure of teachers at respective levels of education. Upgrading of the teachers' qualification could be regarded as an indication of the improved quality of education.

11. Gunnar Myrdal, The Challenge of World Poverty: A World Anti-poverty Program in Outline, Vintage Books, (New York, 1970), p.187.

This could reasonably be expected to be the case since teachers with higher qualification and training would be able to teach better than those without these advantages. Table 1.8 shows the percentage distribution of teachers at the elementary level by different qualifications, during the ten year period from 1961-62. One significant result, as the Table shows, in the changing structure of teachers' qualifications, is that the percentage of non-matriculate teachers, which was remarkably high in the earlier decades, declined sharply. At the primary level, the percentage of non-matriculate teachers has fallen from 58.24 in 1961-62 to 42.45 in 1970-71; while at the middle school level, these figures are 42.00 and 14.04, respectively.

Graduate and post-graduate teachers have increased from 0.62 per cent in 1961-62 to 3.14 per cent in 1970-71 at the primary level; and 5.96 per cent in 1961-62 to 21.82 per cent in 1970-71 at the middle school level. This improvement in the qualification level, would certainly have some impact on quality. At both levels of elementary education, the percentage of teachers with matriculation or its equivalent qualifications is significantly larger. This could be a favourable situation since all of a sudden no country can afford a radical reform in the structure of teachers' qualifications. From this, we can expect continuous increase of graduate and post-graduate teachers, and relative decline of matriculate and non-matriculate

Table 1.8

Percentage distribution of primary and middle school teachers' qualifications during 1961-62 and 1970-71

Year	Primary school teachers with				Middle school teachers with			
	Graduate and above	Matri-culation	Non-Matri-culation	Total	Graduate and above	Matri-culation	Non-Matri-culation	Total
1961-62	0.62	41.14	58.24	100.00	5.96	52.04	42.00	100.00
1962-63	0.69	42.48	56.83	100.00	6.33	53.42	40.25	100.00
1963-64	0.71	43.56	55.73	100.00	6.86	54.24	38.90	100.00
1964-65	1.38	46.66	51.96	100.00	15.96	61.79	22.25	100.00
1965-66	1.74	47.66	50.60	100.00	16.49	63.62	19.89	100.00
1966-67	1.87	48.50	49.63	100.00	17.62	64.23	18.15	100.00
1967-68	2.07	50.40	47.53	100.00	18.13	64.03	17.84	100.00
1968-69	2.35	51.66	45.99	100.00	19.35	63.99	16.66	100.00
1969-70	2.79	53.03	44.18	100.00	20.47	64.29	15.24	100.00
1970-71	3.14	54.41	42.45	100.00	21.82	64.14	14.04	100.00

Source : Computed from the figures given in Education in India (various issues), Ministry of Education and Social Welfare, Government of India, New Delhi.

teachers.

D. Status of Teachers

The status of the teacher is also very important for the improved quality of education. A better status attracts more efficient people to join the profession of teaching. Since the teacher is the single largest educational input, he should be able and willing to teach the pupils effectively. In the words of the Education Commission (1964-66), "Nothing is more important than securing a sufficient supply of high quality recruits to the teaching profession providing them with the best possible professional preparation and creating satisfactory conditions of work in which they can be fully effective."¹² For this, the Commission felt that, "it is necessary to make an intensive and continuous effort to raise the economic, social and professional status of teachers in order to attract youngmen and women of ability to the profession, and to retain them in it as dedicated, enthusiastic and contented workers."¹³ As mentioned, the status of the teacher depends mainly upon the salary and partly upon the working conditions. Table 1.9 shows

12. Report of the Education Commission (1964-66), Education and National Development, Ministry of Education, Government of India, New Delhi, p.46.

13. Ibid., p.46.

Table 1.9

Growth of average annual salary of teachers,
cost of living index and per capita income
since 1960-61

Year	(in rupees)			
	Average Annual salary of the teachers (at current prices)		Cost of living Index	Per capita income (at current prices)
	Primary	Middle	1960-61=100	
1960-61	872.80 (100.00)	1058.00 (100.00)	100	305.70 (100.00)
1961-62	913.30 (104.64)	1084.00 (102.46)	107	316.40 (103.50)
1962-63	994.10 (113.90)	1122.00 (106.05)	111	327.60 (107.16)
1963-64	1001.00 (114.69)	1183.00 (111.82)	122	368.40 (120.51)
1964-65	1096.70 (125.65)	1302.00 (123.06)	130	421.90 (138.01)
1965-66	1236.10 (141.63)	1424.51 (134.64)	142	425.50 (139.19)
1966-67	1374.87 (157.52)	1553.16 (146.80)	157	481.00 (157.34)
1967-68	1595.81 (182.84)	1807.47 (170.84)	161	556.60 (182.07)
1968-69	1729.18 (198.12)	1994.13 (188.48)	165	557.10 (182.24)
1969-70	1880.44 (215.45)	2239.36 (211.66)	173	604.30 (197.68)
1970-71	2047.65 (234.61)	2446.59 (231.25)	178	637.30 (208.47)
1971-72	2192.31 (251.18)	2586.99 (244.52)	189	660.70 (216.13)
1972-73	2352.11 (269.49)	2775.17 (262.32)	212	700.40 (229.11)
1973-74	N.A. (-)	N.A. (-)	259	851.80 (278.64)
1974-75	2941.68 (337.04)	3538.37 (334.44)	279	1022.40 (334.45)

Note : Figures in brackets are index numbers.

Source : For columns 4 and 5, Statistical Abstract (various issues)
Central Statistical Organisation, Department of Statistics,
Ministry of Planning, Government of India, New Delhi.

the increase in the average annual salaries of teachers at current prices. The table also provides us with evidence of the cost of living indices on the one hand and per capita national income on the other, to compare with average annual salaries. This helps us to come to a conclusion on the economic status of the teacher during the fifteen year period commencing from 1960-61.

The index numbers of average annual emoluments of teachers - both primary and middle - and also those of national income per capita show more than three hundred per cent increase. The rates of increase of these two variables are, more or less, the same between 1966-67 and 1974-75. Prior to this period, the rate of expansion of teachers' salaries is less than that of per capita income. But the average salary of teachers was never less than the per capita income. Secondly, the teachers' average salaries are compared with the cost of living index during the same period. This is an appropriate comparison to make to be able to see changes, if any, in the economic position of teachers. Till 1966-67, the cost of living index is higher than the salary index of teachers. The rate of increase of the cost of living index is also far higher than that of the salary index. In the latter years, the salary index of teachers outweighed the cost of living index. On the whole, the economic status of teachers was improved in the latter half of the 60's.

However, this is not enough to make a firm generalization. What is needed is an evidence of improvement in the status of the teacher, when compared to other sectors of the economy to which young and enthusiastic people are having access.

In other words, the country has to keep the status of the teacher at least, at the same level, as the employees of other sectors. Gunnar Myrdal, in his monumental work The Asian Drama, stressed an urgent need for improvement in teacher training and simultaneously, "for a rise in economic and social status of teachers in primary schools, which would encourage talented young people to enter the profession and increase the possibility of the teachers' influencing the children and the community."¹⁴

Information relating to the earnings of the working force according to level and type of education, training and experience and sectors of employment are not available for India. The over or under payment of wages to one group of workers in relation to workers with similar qualifications and experience employed in other sectors cannot be judged. Still, Pandit¹⁵ attempted to analyse the average wages of teachers as

14. Myrdal, Gunnar., Asian Drama: An Enquiry into the Poverty of Nations, (Abridged), Pelican Books (London, 1971), p.340.

15. For detailed analysis see, Pandit, H.N., "Cost Analysis of Education in India - Private and Social Participation", Indian Educational Review, Vol.7, No.2 (July, 1972), p.126.

a group, as compared with the wages of workers employed in other sectors of the economy. But this is in no way indicative of the relative position of elementary school teachers since Pandit has taken teachers at all levels into consideration. He has compared the salaries of teachers with salaries of those employed in other sectors - like agriculture, manufacturing, trade, services and all sectors put together - during 1950-51 and 1965-66. He found that, during the period observed, the salaries of teachers were increasing in relation to salaries of those workers employed elsewhere. Besides this, teachers have gained overtime, both in terms of monetary wages and wages at constant prices.

E. Space, Equipment and other Material

One of the most important indicators of quality education is the space, equipment and instructional material per pupil. Unfortunately, there is little information available relating to this. But a number of studies conducted revealed the poor quality of equipment and their extremely limited availability to school children. Pointing out the limited availability of equipment and other facilities, Myrdal came to this conclusion: "The impression from casual observation and from scattered information in official reports and in the rather extensive literature, however, is that the availability of school buildings,

textbooks, writing paper, and all kinds of teaching aids is limited everywhere in South Asia."¹⁶ The First All-India Educational Survey (1957) revealed the fact that the average space per child in primary schools varied from 5.00 sq. feet to 13.60 sq. feet in the status; but in most of the states the average space per child was much below 9.00 sq. feet. The Survey reports that, the average number of pupils per room was between 21 and 61, and that the average size of the room varied from 128 sq. feet to 454 sq. feet. Inter-state variations were therefore too large both in case of average number of pupils per room and the average area of the room. The situation can hardly be expected to have improved since then because of the massive expansion of enrolment in elementary schools.

F. Teacher-Pupil Ratio

From Table 1.7, we find the Teacher-Pupil ratio during 1951-52 and 1976-77. In the period observed, one would point out the continuous widening gap in the ratio. The average teacher-pupil ratio in 1951-52 was 1:34 for primary schools and 1:25 for middle schools. This decreased steadily over the years, and by the end of 1976-77 these ratios for primary and middle

16. Myrdal, Gunnar., The Challenge of World Poverty, p.186.

schools were 1:39 and 1:32 respectively (For an international comparison, see Appendix II). This is the situation at the national level. Inter-state variations, for that matter, differences within the state, are very striking. There is unanimity of opinion that there cannot be a marked improvement in methods of teaching if the teacher is required to teach very large classes.

In this regard, the opinion of the Washington Conference is worth noting. It reads : "Contrary to what happens in industrial production, it is not to be expected that the same or better results can be obtained by an ever diminishing number of teachers per 100 students. Rationalization can be introduced into education in many ways, but we cannot escape the fact that the very essence of education resides in the close contact between teacher and student".¹⁷ Hence in a country like India, where teacher is the largest single input, the teacher in the elementary level, needs to play a dominant role. Therefore, the teacher-pupil ratio must be kept at a desired level.

In order to reduce the crowds in the elementary schools, the Education Commission (1964-66) has recommended the maximum

17. Washington Conference II, Targets for Education in Europe in 1970, OECD, p.63, quoted in, Seymour E. Harris (ed.), Economic Aspects of Higher Education, OECD (1964, Paris), p.38.

number of pupils in each class, so that in any particular school - whether it is in urban area or in rural area - would not exceed the prescribed limit. These are 50 for primary schools and 45 for middle schools. This would, in fact, be a welcome recommendation to reduce the crowds in the classes. Besides this would introduce relative uniformity all over the country with respect to size of the class and also reduce the work load of teachers.

G. Single Teacher Schools

Single teacher schools at the primary level are by and large of poor quality. This is because the same teacher has to teach three to four classes at a time. In the year 1950-51, the percentage of single-teacher schools to primary schools was about 32.80, while the percentage of enrolment they accounted for was about 14.10. After 10 years, these two percentages have increased to 44.00 and 21.10, respectively. By the end of 1970-71, about 41.90 per cent of the total primary schools were single-teacher schools. One cannot justify these single-teacher schools, for they cannot be run efficiently and effectively all the time. Just as big schools are not conducive to quality education, the smaller ones - particularly those with single teachers - are also uneconomical and inefficient. They can

neither afford libraries, laboratories, better quality and quantity of equipment etc.

H. Miscellaneous

Apart from the above mentioned indicators, there are several other factors that cannot be expressed in quantity but can influence the quality of education. They are, for example, the curricula or the content of education, mid-day meals to the children of primary schools, home environment and the like. In no underdeveloped country the content of education is being kept up-to-date, i.e., education that will be suited to the future requirements of the society. Almost all these countries have imported the curriculum for their schools along with educational models from the western developed world, which cannot be adapted to their economic, social and cultural environment. The obsolescent and irrelevant content of education leads to inappropriate education which would hinder the country's economic and social developmental process.

Secondly, mid-day meals programme for the children in the primary schools would also influence the quality of education indirectly. It should emphasize nutrition or meeting the deficiency in food in the case of children from weaker sections of the community, and partly attract and retain the child in

the school. But in India, the programme is being implemented primarily to meet the latter objective rather than the former one. The programme is being implemented with food commodities provided by CARE which covers 76 lakh pupils; and 2.17 lakh pupils are being covered by the State government programmes. On the whole the programme has not become too extensive in its coverage and major portion of the resources required are met from external agencies.

Thirdly, the home environment also exercises influence great, although we cannot quantify it. Many studies conducted in this context found positive correlation between the performance of the pupil and home environment. A child with highly educated parents and high social status certainly receives good education and performs better than one with illiterate parents. The importance of parents' education cannot be exaggerated in this context.

Looking at the various indicators just discussed with respect to elementary education in India, one would certainly not hesitate to admit the poor quality of elementary education. The reasons for this low quality of education could be many, besides phenomenal expansion of elementary education and the extraordinary growth of population. The large gap between supply of and demand for elementary education resulted in overwhelming pressure on schools and thinner and thinner distribution of same resources

among more students. In addition to this, high rates of drop-outs and stagnation have become the cause as well as the effect of low quality of elementary education.

There is no established relationship between quantity and quality of education at any level - proving that quantitative expansion is only at the cost of quality in that level. In view of the scarce resources available to education in general, and elementary education in particular, very few underdeveloped countries can afford to emphasize both of them at the same time. Since we have emphasized quantitative expansion of elementary education so far, at least by now, our country should divert its attention and resources towards improving the quality which would further improve the 'attracting and holding power' of the school system. But this emphasis on quality would only be for a short period. Once elementary education was improved to the country's requirements, then the country can as well pursue the quantitative expansion along with qualitative improvements. This means the country's planners and educators should, "view an educational system in multi-dimensional terms, as a dynamic, living organism with an inherent potential not only for growing but for renewing and improving itself and for adapting its way to changing conditions".¹⁸ Hence, the quantitative expansion

18. Philip H. Coombs, 'Time for a change of strategy', in Beeby, C.E. (ed.), Qualitative Aspects of Educational Planning, UNESCO; IIEP, (Paris, 1969), p.48.

and qualitative improvement should have to be viewed as an integral process of growth and change.

1.5 Magnitude of the Problem of Universal and Compulsory Elementary Education

As in all underdeveloped countries, the proportion of children to the total population in India¹⁹ is much larger than in advanced countries. The result is that we have to educate more children with limited resources while the advanced countries have more resources and fewer children to educate. This unbridged gap between the resources available and children to be educated diminishes as the birth rate falls and general economic conditions improve. But this process will take a fairly long time; and hence we shall proceed on the assumption that we will have to provide elementary education to a proportionately greater number of children with relatively inadequate financial resources.

The question of achieving the goal of universal and compulsory elementary education in the near future depends, mainly, upon four important considerations. First is the question of "overall priority". According to one school of thought "the provision of universal and free elementary

19. According to the Census of 1971, the percentage of children in the age-group 6-14 years, in the total population was about 20.85.

education to all children is essentially a programme of social justice, of providing equality of educational opportunity, and of laying the basic foundations of democracy.²⁰ Therefore, this programme should be given first priority over any other programme in education. So, these thinkers feel that the goal should be achieved as early as possible. On the other hand, there are those who believe that "other sectors of education, e.g., technical education, secondary education, higher education etc., need a higher priority and that the programme of expanding elementary education could be slowed down after an enrolment of about 70 to 75 per cent in the age-group 6-11 is reached."²¹

Secondly, there is the controversy about 'quality versus quantity'. If the target of achieving the goal is nearer (earlier), then larger number of additional children will have to be enrolled every year and only reduced funds will be available for qualitative improvement of elementary education. Hence, people who emphasize quality prefer the target date to be fixed in the long run. While people who emphasize quantity would tend to place it nearer.

20. J.P. Naik, "A Perspective Plan for the Development of Elementary Education in India", in The Indian Year Book of Education, 1964, NCERT (New Delhi, 1964), p.569.

21. Ibid., p.569.

Thirdly, 'financial considerations' play an important role in setting the target for universal elementary education. Development of elementary education is not likely to get an allocation of resources which might make it possible to bring the target date very near. Besides, any overriding priority to elementary education is bound to put other levels of education in the shade. Hence, elementary education should be given due priority in the allocation of resources but keeping the overall socio-economic development of the society in view.

Finally, social, cultural and other considerations are also involved in attaining the desired target. The difficulties that are to be faced in the enrolment of girls and children of poorer and more backward sections of the society, and the expansion of elementary education in backward states can be said to be more of social and cultural rather than of economic nature. Keeping all these considerations in mind, the educational planner and policy maker would have to carefully decide the feasible target for the attainment of our goal.

Having seen the pros and cons of keeping the target too far or too nearer, the magnitude of the task that will have to be attempted can be seen in terms of the difference between the total number of children in the age group and the total enrolment. The following table shows the number of children

that will have to be enrolled.

Table - 1.10

The Estimated Number of Children to be Enrolled
in Elementary Education, 1977-78 to 1990-91

Year	(In lakhs)			(In lakhs)		
	Age-group 6-11 years			Age-group 11-14 years		
	Boys	Girls	Total	Boys	Girls	Total
1977-78	79.60	217.53	297.13	114.39	159.81	274.20
1980-81	98.90	235.03	333.93	128.40	175.88	304.28
1982-83	104.79	240.17	344.96	134.94	181.21	316.15
1985-86	113.64	247.89	361.53	144.79	189.23	334.02
1987-88	115.86	250.12	365.98	147.41	192.11	339.52
1990-91	119.19	253.50	372.69	151.38	196.45	347.83

Note : These estimated figures are calculated on the basis of the data obtained from Census of India, 1971, Series I, Paper 3 of 1977. Age Tables, Demographic Division, Office of the Registrar General of India, Ministry of Home Affairs, Government of India, New Delhi.

The above table shows the estimated population in the age-group 6-14 years, who will have to be educated in the respective years. This will also tell us about the efforts we have to put in order to reach the goal by the end of 1987-88 as was expected by the draft Five Year Plan, 1978-83. To reach

this goal, however, we have to enrol at least 365.98 lakhs in the age-group 6-11 years, and 339.52 lakhs in the age-group 11-14 years. The most difficult task is the enrolment of girls who comprises over 60 per cent of the total estimated population.

1.6 Importance of Cost Studies

The continued and planned efforts to universalize elementary education are still not leading us anywhere near the objective. High percentage of drop-outs and stagnation are still formidable obstacles. We need to search for efficient ways and means of achieving the goal. From an economist's point of view this has to be looked at in terms of the total number of pupils who have to be enrolled, resources allocated to this level, distribution of these resources among the components, the effective use of these resources, sufficiency of these resources etc. The share of elementary education in the total resources allocated to education, unit cost of elementary education, growth of expenditure over the period etc., are the more important factors to be discussed. Amongst all these factors, the unit-cost of education needs special attention in any cost study to go in detail.

The unit, in which the average cost of education is most clearly expressed is the student - student hour or student year.

Since it is not meaningful to measure the cost per student of an unknown composition of student population, the disaggregation of the education system into sub-systems should be kept in mind. In fact, this is a pre-requisite of a good cost analysis. Detailed classification of cost items - different components of educational expenditure - are very significant for a thorough analysis. Apart from cost per student at a particular level, there are some other methods followed by various researchers. They are as follows : cost of education per head of population, the share of educational expenditure in GNP, cost of education per person of school age, cost of education per teacher, cost of education per hour, cost of education per class, cost of education per school etc.

Amongst all these units cost per pupil is the most common and meaningful one. Apart from the aggregate of unit-cost, one should see the different components of it also to understand the quality of education at that particular level. The next chapter discusses the growth of expenditure on education during the planning period and compares it with the GNP and the budgeted expenditure in the same period. This chapter analyses the share of elementary education in the total and the growth of its resources both at current and constant prices. To show the real growth in the unit-cost of education, it was compared with rate

of growth of enrolment and rate of growth of the economy in the planning period. Finally, this chapter also calculates the actual unit-cost of this level which leaves out wastage of elementary education.

Chapter Two

PUBLIC COST OF ELEMENTARY EDUCATION IN INDIA

2.1 Introduction

The latter part of 20th century has witnessed, all over the world, a growing concern with education in general and elementary education in particular. This realization of the socio-economic importance of education could also be seen in the perspective plans of those underdeveloped regions, which are striving to get maximum benefits through the development process. In addition to this, most of the underdeveloped countries are keenly aware of the vast socio-economic differences which separate their people from those in advanced countries. All these factors put together persuaded these countries to give due priority to the development of education in their socio-economic development planning. The importance assigned to education could also be more explicitly seen in the comparatively larger rates of growth of expenditure on education. And these rates of growth of educational expenditure are being necessarily lower than those of national income.

The first section of this chapter discusses the share of education in GNP, and public expenditure, and also makes a

comparison of the rates of growth of the economy and the growth rates of educational expenditure. Section II, deals with the question of unit-cost (direct) per pupil of elementary education. While comparing the increases or decreases in unit-cost with the rates of growth of the economy and those of enrolment, this section also computes various components of unit-cost of elementary education, both at current and constant prices. Section III, attempts to compute actual unit-cost of elementary education - which would leave out the wastage in education. Section IV, tries to estimate the indirect unit-cost of elementary education. The final section integrates the direct and indirect unit-costs of elementary education. Finally, this section also points out the inadequacies in the calculation of unit-cost at the elementary level and suggests further course of action.

I

2.2 The Share of Educational Expenditure in the GNP and Public Expenditure

The growing importance of education in the allocation of resources could be seen in terms of its share in the GNP as well as in the annual budgets. This could also be visualized in the annual growth rates of the educational expenditure and those of the GNP. The growing rate of growth in educational

expenditure in general and different levels of education in particular, makes the financing of education one of the most important, complex and intricate problems being faced by the policy makers.

The annual total expenditure on education generally represents anywhere from 2 to 6 per cent of the GNP and from 10 to 25 per cent of the public expenditure. The upper limits generally pertain to developed regions, and lower limits to underdeveloped countries. In spite of their efforts, the latter are unable to increase the share of education due to lower growth rates of their economies, rapid population growth, and the continued demand for the limited resources from other sectors of their economies.

Table 2.1 shows the share of educational expenditure in the GNP and in budget expenditure during the planning period in India. The percentage of educational expenditure in the GNP was barely 1.20 during 1950-51, when India switched on to planning. This increased fairly rapidly and reached 2.46 per cent by the end of Second Five Year Plan and 2.85 per cent by the end of the Third Plan. This further increased to 3.06 per cent during 1970-71 and finally landed up near 3.11 per cent by the end of 1975-76. The index of growth of this percentage being 100 during 1950-51, reached 237.50 by the end of Third Plan and finally was 259.17 in 1975-76. This gives a rate of

Table 2.1

Educational Expenditure in India, 1950-51 to 1975-76

(Rupees in millions)

S.No.	Item	1950-51	1955-56	1960-61	1965-66	1970-71	1975-76
1.	Total expenditure on education	1,143.80	1,896.60	3,443.81	6,220.22	11,182.83	20,447.05
2.	Index of growth	100.00	165.82	301.09	543.82	977.69	1,787.64
3.	GNP (at current prices)	95,470.00	1,14,230.00	1,39,990.00	2,18,660.00	3,65,820.00	6,56,920.00
4.	Index of growth	100.00	119.65	146.63	229.04	383.18	688.09
5.	Total Budget Expenditure	9,291.00	18,516.20	29,170.00	58,420.00	88,470.00	1,99,120.00
6.	Index of growth	100.00	199.29	313.96	628.78	952.21	2,143.15
7.	Total Educational Expenditure as % of GNP	1.20	1.66	2.46	2.85	3.06	3.11
8.	Index of growth	100.00	138.33	205.00	237.50	255.00	259.17
9.	Total Educational Expenditure as % of Budget Expenditure	12.31	10.24	11.81	10.65	12.64	10.27
10.	Index of growth	100.00	83.18	95.94	86.52	102.68	83.43

over 6 per cent per annum.

The share of educational expenditure in the budget expenditure is characterized by fluctuations. One would find ups and downs in the percentage of educational expenditure in the public expenditure. This was 12.31 per cent in 1950-51, and declined to 10.24 in 1955-56. At the end of the Second Plan, educational expenditure accounted for 11.81 per cent of the budget expenditure. Again it declined to 10.65 per cent in 1965-66; this percentage reached a maximum of 12.64 per cent in 1970-71 and came down to 10.27 per cent in 1975-76. The index number of this percentage declined significantly over the years - 95.94 in 1960-61 and 83.43 in 1975-76. This meant over 16 per cent decline in the twenty-five year period.

As is evident from the table, the index of growth of educational expenditure is far in excess of that of the GNP; but the former is less than the index of growth of budget expenditure. While the GNP increased over 5.88 times in 25 year period, educational expenditure has increased over 16.87 times in the same period. The budget expenditure increased by 20.43 times between 1950-51 and 1975-76. From this it follows that, even though, the share of educational expenditure in the GNP is fairly high, the share of the former in the budget expenditure is not upto the mark and in fact, it was declined sharply over the period.

The experience of most of the developed countries of the 20th century shows that the rate of growth of educational expenditure exceeds that of the economy. This has happened in India also. While the average annual rate of growth of educational expenditure was about 10.68 per cent during the First Plan period, the average annual rate of growth of the GNP was only 3.66 per cent during the same period (Table 2.2). During the Third Plan period, these percentages were 12.58 and 9.46 respectively; and finally reached 13.94 per cent in 1970-71 and 12.66 per cent in 1975-76. During the First Five Year Plan, the annual growth rate of educational expenditure was nearly three times that of the GNP. This gap became almost negligible during the period 1970-71 and 1975-76. In the twenty-five year period, the average annual rate of growth of educational expenditure was about 12.02 per cent, while that of the GNP was only 8.19 per cent.

To sum up, even though the growth rate of educational expenditure has been greater than that of the GNP, the former did not increase sufficiently. In spite of greater importance given to education, it is not getting due priority in the allocation of resources, which was seen in terms of its lower rates in the latter years.

Table 2.2

Annual Growth rates of the Economy, and Educational Expenditure
(1950-51 to 1975-76)

Item	1950-51 to 1955-56	1955-56 to 1960-61	1960-61 to 1965-66	1965-66, to 1970-71	1970-71 to 1975-76	1950-51 to 1960-61	1955-56 to 1965-66	1960-61 to 1970-71	1965-66 to 1975-76	1950-51 to 1975-76
Average Annual Growth Rate of the Economy (GNP)	3.66	4.21	9.46	10.97	12.66	3.94	6.83	10.22	11.81	8.19
Average Annual Growth Rate of Educational Expenditure	10.68	12.71	12.58	12.47	13.94	11.69	12.64	12.52	13.20	12.02
Average Annual Growth Rate of Direct Expenditure on Elementary Education	9.35	11.00	12.90	13.50	14.76	10.18	11.95	14.30	14.13	12.30

2.3 The Share of Elementary Education in Total Direct Educational Expenditure¹

In the beginning, elementary education commanded the largest share of educational resources in most of the developed countries. After reaching the universal elementary education in those countries they started reducing the percentage of the total education expenditure devoted to elementary education.² In our country also, the target of universal elementary education is on the board from the commencement of the Constitution. Table 2.3 shows the percentage share elementary education in the planning period.

During 1950-51, about 48.52 per cent of the total direct expenditure on education was devoted to elementary education. There is a sharp decline in this percentage over the years and finally landed up near 42.14 per cent in 1970-71. A slight improvement is observed in the year 1975-76 which was about

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1. This expenditure does not include the expenditure incurred on pupils who are enrolled in elementary sections located in High/Higher Secondary Schools.
 2. In Japan, the first level of education commanded over 84 per cent of the educational expenditure during 1885, and it was continued to be over 60 per cent; and finally in 1960 it was stabilised near 42 per cent. For details, see Education Commission (1964-66), Education and National Development Report, NCERT (New Delhi, 1971), Table 19.5, p.864.

Table 2.3

Growth of Direct Expenditure on Elementary
Education During 1950-51 and 1975-76

(In current prices)	(Rupees in millions)		
	Total Direct Expenditure on Education	Elementary Education	% of col. 3 in col.2
1	2	3	4
1950-51	910.50 (100.00)	441.80 (100.00)	48.52
1955-56	1448.10 (159.05)	691.40 (156.50)	47.75
1960-61	2573.60 (282.66)	1163.70 (263.40)	45.22
1965-66	4937.90 (542.33)	2130.00 (482.12)	43.14
1970-71	9610.60 (1055.53)	4050.00 (916.70)	42.14
1975-76	17925.20 (1968.72)	7892.90 (1782.01)	43.92

Note : Figures in paranthesis are index numbers.

43.92 per cent. The table also shows the index of growth of total direct educational expenditure as well as index of growth of direct expenditure on elementary education. It is also clear that the growth index of educational expenditure is far exceeding^{than} that of elementary education in any particular year. In the whole period, the direct expenditure on education rose by 18.7 times, while the direct expenditure on elementary education increased by only 16.8 times. This also explains the decreasing share of elementary education.

This comparatively lower growth of expenditure incurred on elementary education than compared to direct educational expenditure could also be witnessed (Table 2.2) during 1950-51 and 1960-61. But in the remaining period, the annual rate of growth of direct expenditure on elementary education surpasses that of education. In the twenty-five year period, the average annual rate of growth of expenditure on elementary education is over 12.30 per cent, while the annual growth of educational expenditure is about 12.02 per cent. Despite of its larger growth rates, the share of elementary education declined significantly during the planning period. The allocation of lesser shares of total educational expenditure to elementary education is inconsistent with the priority given to this level in our plans and policies.

2.4 Composition of Direct Expenditure on Elementary Education

In order to know a little more about the financing of elementary education, one should go into the detailed distribution of direct expenditure among its components. The main components of direct expenditure at this level are as follows : salaries of teachers, salaries of other staff, equipment and other appliances (recurring), and other items not included in any of the three mentioned above.

In 1950-51, the salaries of teachers in elementary schools constituted 73 per cent of the direct expenditure incurred (Table 2.4). During the last two and a half decades, this percentage has gradually increased. The physical facilities provided in this level, low as they were in 1950-51, obviously declined still further owing to the pressure of expansion; and the average elementary school is almost equivalent to the mere provision of a teacher at present. By now, the salaries of teachers constitute about 93 per cent of the direct expenditure, while equipment and other items together constitute 3.95 per cent. The latter has declined from 6.39 per cent of the direct expenditure in 1964-65. If the ancillary services are to be developed, it is obvious that - notwithstanding the increase in the salaries of teachers - the proportionate share of the non-teacher costs would have to increase further.

Table 2.4

Distribution of Direct Expenditure on Elementary Education
by Objects during 1964-65 and 1975-76

(At current prices)		(Rupees in millions)			
Year	Salaries of Teachers	Salaries of other staff	Equipment and other appliances (Recurring)	Other items	Total
1964-65	1640.43 (90.85)	49.80 (2.76)	36.98 (2.05)	78.35 (4.34)	1805.56 (100.00)
1965-66	1919.15 (90.10)	65.43 (3.07)	36.35 (1.71)	109.13 (5.12)	2130.06 (100.00)
1966-67	2208.22 (91.90)	68.14 (2.84)	38.67 (1.61)	87.93 (3.65)	2402.96 (100.00)
1967-68	2623.40 (91.93)	77.09 (2.70)	41.22 (1.44)	111.89 (3.93)	2853.60 (100.00)
1968-69	2927.24 (92.00)	84.09 (2.64)	47.17 (1.48)	123.44 (3.88)	3181.94 (100.00)
1969-70	3315.30 (91.69)	108.20 (2.99)	47.90 (1.33)	144.31 (3.99)	3615.71 (100.00)
1970-71	3730.41 (91.99)	125.51 (3.10)	56.64 (1.40)	142.68 (3.52)	4055.24 (100.00)
1971-72	4129.04 (92.49)	131.90 (2.95)	60.96 (1.37)	142.67 (3.19)	4464.57 (100.00)
1972-73	4628.04 (92.50)	146.12 (2.92)	65.52 (1.31)	163.69 (3.27)	5003.37 (100.00)
1973-74	N.A.	N.A.	N.A.	N.A.	N.A.
1974-75	6305.86 (93.08)	205.68 (3.04)	86.26 (1.27)	177.14 (2.61)	6774.94 (100.00)
1975-76	7330.69 (93.11)	231.33 (2.94)	92.94 (1.18)	218.26 (2.77)	7873.22 (100.00)

N.A. = Not Available.

Note : Figures in brackets are percentages to total.

But the controversy is with regard to the ratio of teacher and non-teacher costs. If the country aims to improve the quality of education, there must be larger shares of non-teacher costs. Naik is of the view that "the ideal target to be reached in this respect would be a ratio of 50:50 between teacher and non-teacher costs. But as an alternative, two other ratios may also be considered; 60:40 and 70:30. It will obviously not be possible to allow the proportion of teacher-costs and non-teacher-costs to fall below 70:30 without adversely affecting the quality of elementary education."³ If the country is to reach this minimum prescribed ratio, the existing distribution needs to be radically altered so as to provide more physical facilities thereby improving quality at this level.

To sum up this section, despite the increased share of educational expenditure in the GNP, it is receiving less than what it actually deserves. Elementary education also, is not getting adequate attention in terms of resources despite the high plan priority assigned to it. Finally, the composition of direct expenditure on elementary education needs to be drastically changed.

3. Naik, J.P., "A Perspective Plan for Development of Elementary Education in India", in The Indian Year Book on Education, 1964, (Second Year Book), NCERT, (New Delhi, 1964), p.594.

II

2.5 Methodology of Computing Unit-Cost
at Constant Prices

This section deals with the question of unit-cost of elementary education and related problems. The unit here, being the pupil, we need to give a detailed classification of unit-cost of education in general and elementary education in particular. Broadly, the educational expenditure incurred by the government and its agencies, is divided into two categories - direct and indirect - in accordance with the classification adopted by the Union Ministry of Education. All items of expenditure classified as 'direct' are recurring in character. But all items of expenditure classified as 'indirect' are both recurring and non-recurring. For the sake of convenience, only direct expenditure on elementary education is taken into consideration in this section. Expenditure on direction and inspection, buildings, hostels etc., which are considered to be 'indirect' will be taken up in the latter section.

Besides the problem of classification of educational expenditure, there is the problem of converting the data into real terms. Lack of education-price index which would be more reliable for our purposes, has created much of the problem. In addition to this, there is hardly any information relating to the detailed composition of educational expenditure, available

to us. The Education Commission (1964-66), has already emphasized the need for such an exercise which according to it should be assigned to a well-established department of Economics of a University,⁴ and this exercise may be funded by the UGC. But so far no systematic effort is made to compute such an 'educational price index' or to express the educational expenditure in terms of constant or real prices. The need for and importance of such exercises also appeared in the works of many individual researchers. To cite,

"Increases in expenditure... are in terms of current prices and, therefore, a part of the increase can be said to be fictitious or unreal in the sense that it only offsets the increase in costs."⁵

And,

"The increase in expenditure, though sizeable in absolute terms, is, however, somewhat illusory in that it does not take into account the fluctuations that have taken place in the real value of money on account of the inflationary pressures that the Indian monetary system has been subjected to over the years."⁶

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4. Report of the Education Commission (1964-66), Education and National Development, Ministry of Education and Social Welfare, Published by NCERT (New Delhi, 1971), p.859.
 5. K.R. Shah, "Expenditure on Elementary Education, 1950-51 to 1960-61", in Economic and Political Weekly, Nov. 22, 1969, p.1809.
 6. J.L. Azad, and Sudhir K. Jain, "Alternatives in Financing Education in India", (Unpublished), ICSSR (New Delhi, 1979), p.4.

Hence, the educational expenditure is being treated as mentioned below which at best uses the available information:

1. Direct educational expenditure is divided into salaries and other than salaries, and, further, salaries into teaching staff salaries and non-teaching staff salaries.
2. Salaried expenditure is deflated with consumer price index with base 1960-61, and non-salary expenditure is deflated with whole-sale price index with same base year.

This is certainly an improvement over the earlier studies. For example, K.R. Shah has computed the constant salary index on the basis of average salary per teacher in each year; and this was deflated with the salary expenditure. This, however, does not take into account either the general price level or the cost of living index of this profession. Apart from this, he included the 'non-teaching salaries' in 'non-salaries' and treated with wholesale price index. In our exercise, it was separately shown and deflated with consumer price index. However, this exercise was made possible only for expenditure incurred after 1964-65, due to non-availability of data, by object, in

the previous period.⁷

Based on the earlier methodology, Table 2.5 shows the growth of unit-cost of elementary education, both at current and constant prices, during 1964-65 and 1975-76. During the 12 year period, the unit-cost of education at current prices increased by about three times - from Rs.35.04 per year to Rs.111.85 per year. While the unit-cost of education, in 1960-61 prices, rose by a little less than one and a half times - from Rs.28.68 per year to Rs.40.25 per year. This gap between the unit-cost at current prices and at constant prices, would obviously account for increase in price level during the period under consideration. The annual rate of growth of unit-cost also differs in current and constant prices. While 1966-67, 1972-73 and 1974-75 registered a decline in unit-cost at constant prices, there is momentous increase in annual rates of growth of unit-cost at current prices in these years. There is no stable rate of growth of unit-cost, both at current and constant prices, which indicates haphazardness in financing at this level. Not only this, the rate of growth of unit-cost at current prices ranges between 5.81 per cent in 1972-73 and

7. See Appendix IV, which shows the direct expenditure on elementary education (both at current and constant prices) since 1950-51. But the classification is of teacher and non-teacher costs. Appendix V gives the same information with a broad classification during 1964-65 and 1975-76.

Table 2.5

Rates of Growth of Enrolment, Unit-cost and the GNP

Year	Enrolment in Elementary Education (in lakhs)	Rate of growth	Per-student cost (current prices)		Per-student cost (1960-61 prices)		Rate of Growth of GNP (at current prices)
			Rs.	Rate of growth	Rs.	Rate of growth	
1964-65	580.12	-	35.04	-	28.68	-	17.44
1965-66	610.03	5.16	39.49	12.70	30.34	5.79	3.57
1966-67	624.43	2.36	43.09	9.12	30.24	-0.33	15.48
1967-68	642.90	2.96	49.65	15.22	31.53	4.09	17.28
1968-69	669.06	4.07	54.45	9.67	33.76	7.07	2.30
1969-70	684.64	2.33	60.54	11.18	36.60	8.41	10.66
1970-71	703.60	2.77	66.16	9.28	37.94	3.66	9.13
1971-72	725.03	3.05	70.62	6.74	39.13	3.14	7.01
1972-73	766.58	5.73	74.72	5.81	38.72	-1.05	10.08
1973-74	783.14	2.16	N.A.	-	N.A.	-	24.60
1974-75	802.22	2.44	97.44	30.52*	35.90	-7.28*	17.17
1975-76	816.84	1.82	111.85	14.79	40.25	12.12	4.42

*These rates are over the year 1972-73.

N.A. = Not Available.

30.52 per cent in 1974-75. While this range at constant prices is - 7.28 per cent and 12.12 per cent in 1974-75 and 1975-76, respectively. Interestingly, the highest growth rate, in current prices occurs in 1974-75, while the same year registers lowest growth rate at constant prices.

2.6 A Comparison of Growth Rates in Unit-Cost with Growth Rates of the Economy and the Growth Rates of Enrolment in Elementary Education

The rate of growth of enrolment in elementary education is also given in the above table. With the exception of few years, the rate of growth of enrolment at this level seems to be consistent. Comparing these rates with growth rates of unit-cost, one would find out vacillations in the unit-cost of elementary education. This could further be seen, while comparing the growth rates of unit-cost with those of the economy. The growth rates of the GNP as well as the unit-cost of education are subjected to severe fluctuations. But the fact here is that, even if the rate of growth of the economy is lowered in any year, it would hardly be possible to reduce the size of educational expenditure (This can be observed from the table also). Hence, there should be less fluctuations in the rates of growth of unit-cost. This may lead to saying that, despite the priority given to this level of

education, there is hardly any planned improvement in financial resources to achieve the goal of universal elementary education.

2.7 The Composition of Unit-Cost

While the earlier discussion is concentrated on the growth of direct expenditure per pupil, at current and constant prices, here an attempt is made to analyse the composition of these direct expenditure per pupil. Table 2.6 explains the different components of direct unit-cost of elementary education. As mentioned, the non-availability of information according to our needs made us to confine to the period 1964-65 and 1975-76. Teacher cost constitutes the single largest item of unit-cost and its share is constantly increasing during the period under review. It has increased, in current prices, from 31.83 per year in 1964-65 to Rs.104.14 per year in 1975-76. But the increase in constant prices is from Rs.26.09 per year to Rs.37.60 per year during the same period. The greater increase at current prices, obviously is due to nearly three-fold increase in consumer price index. The teacher-cost has increased from 100.00 in 1964-65 to 327.18 in 1975-76, at current prices, and 144.12 at constant prices. The modest increase of the index at constant prices, to some extent, shows the real increase in this cost.

Table 2.6

Unit-cost of Elementary Education, By Object (At current and 1960-61 prices)

Year	Unit-cost of elementary education by object (At current prices)				Unit-cost of elementary education by object (in 1960-61 prices)			
	Teacher salary cost	Non-teacher salary cost	Non-salary cost	Total cost	Teacher salary cost	Non-teacher salary cost	Non-salary cost	Total cost
	(in rupees)							
1964-65	31.83 (100.00)	0.97 (100.00)	2.24 (100.00)	35.04 (100.00)	26.09 (100.00)	0.79 (100.00)	1.80 (100.00)	28.68 (100.00)
1965-66	35.58 (111.78)	1.21 (124.74)	2.70 (120.54)	39.49 (112.70)	27.42 (105.10)	0.93 (117.72)	1.99 (110.56)	30.34 (105.79)
1966-67	39.60 (124.41)	1.22 (125.77)	2.27 (101.34)	43.09 (122.97)	27.89 (106.90)	0.86 (108.86)	1.49 (82.78)	30.24 (105.44)
1967-68	45.65 (143.42)	1.34 (138.14)	2.66 (118.75)	49.65 (141.70)	29.08 (111.46)	0.85 (107.59)	1.60 (89.89)	31.53 (109.94)
1968-69	50.09 (157.37)	1.44 (148.45)	2.92 (130.36)	54.45 (155.39)	31.11 (119.24)	0.89 (112.65)	1.75 (97.22)	33.76 (117.71)
1969-70	55.51 (174.40)	1.81 (186.60)	3.22 (143.75)	60.54 (172.77)	33.65 (128.98)	1.10 (139.24)	1.85 (102.78)	36.60 (127.62)
1970-71	60.86 (191.20)	2.05 (211.34)	3.25 (145.09)	66.16 (188.81)	34.98 (134.07)	1.18 (149.37)	1.78 (98.89)	37.94 (132.29)
1971-72	65.31 (205.18)	2.09 (215.46)	3.22 (143.75)	70.62 (201.54)	36.29 (139.10)	1.16 (146.84)	1.68 (93.33)	39.13 (136.44)
1972-73	69.12 (217.15)	2.18 (224.74)	3.42 (152.68)	74.72 (213.24)	36.00 (137.98)	1.14 (144.30)	1.58 (87.78)	38.72 (135.01)
1973-74	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1974-75	90.69 (284.92)	2.96 (305.15)	3.79 (169.20)	97.44 (278.08)	33.59 (128.75)	1.10 (139.24)	1.21 (67.22)	35.90 (125.17)
1975-76	104.14 (327.18)	3.29 (339.18)	4.42 (197.62)	111.85 (319.21)	37.60 (144.12)	1.19 (150.63)	1.46 (81.11)	40.25 (140.34)

N.A. = Not Available.

Note : Figures in paranthesis are index numbers.

The share of non-teacher costs decreased during the period. This is so mainly due to the over-expansion of enrolment at this level and also due to comparatively inelastic supply of resources to this level of education. Not only this, most of the states, due to their slow rates of growth, could not provide any facilities apart from teachers. It would not be an exaggeration to say that the present elementary schools possess hardly any equipment and/or proper buildings. This can be seen in terms of declining share of non-teacher costs - particularly non-salary costs. Though it has increased in the current prices, the non-salary cost per pupil in constant prices declined sharply during the 12 year period - from Rs.1.80 per annum in 1964-65 to Rs.1.46 in 1975-76. In terms of index numbers also, it has shown downward trend, i.e., from 100.00 in 1964-65 to 67.22 in 1974-75, and to 81.11 in 1975-76. This trend of downward movement in case of non-salary costs would obviously have their own repercussions on the quality of education being imparted. This may particularly have negative impact, if the rates of growth of non-salary costs are not accompanied by those of enrolment at this level, which may further reduce the per pupil share of these costs. Hence, any improvement in this situation clearly demands greater allocation of resources to these educational facilities, with due share for salary costs.

To sum up this section, I would like to point out the necessity of computing the real costs of education in order to locate the actual position of unit-cost. Mere calculation of unit-cost also does not serve our purpose. It is hardly necessary to emphasize the need for the computation of the shares of different components of unit-cost. Finally, for the efficient allocation of resources devoted to this level of education, and also to improve the quality of the product, there must be increasing shares of non-teacher costs in general, and non-salary costs in particular. The implications of all this is that we have to allocate large resources to elementary education.

III

2.8 Methodology of Computing the Actual Unit-Cost

In the previous section, the unit-cost of elementary education was calculated by taking the total enrolment at this level. This did not take into consideration the dropouts and stagnation in different classes of elementary education. However, all the pupils enrolled in Class I do not reach Class V or beyond in any system of education. There will always exist some degree of wastage. This section is devoted to study the effect of wastage on the unit-cost of education, which can be computed in either of the following ways :

- A. Singling out the wastage component - dropout and stagnation - in education and thus calculating the wastage of resources as a whole at that level.
- B. Computing the unit-cost of education, considering all pupils who have reached the final year of the cohort.

As per the former method, the percentage of wastage of resources could be expressed clearly since the extent of wastage in education is reduced from the total resources devoted to that particular level. But in the latter one, though wastage of resources does not become explicit, this can be seen in terms of higher costs to produce a pupil. Per pupil wastage of resources can be obtained by subtracting the unit-cost computed from the above procedure (actual unit-cost) from the unit-cost calculated on the basis of total enrolment⁸ (observed unit-cost). This difference, necessarily negative, tells us the extent of wastage of resources per unit of education. In other words, it indicates the extent of resources devoted to each pupil who could not reach the final year of the prescribed course.

8. Coombs called these two costs, respectively, as 'nominal cost' and 'actual cost'. For details see, Philip H. Coombs, The World Educational Crisis - A Systems Analysis, Oxford University Press (London, 1968), p.132.

Any step to reduce this gap between actual unit-cost and observed unit-cost would tend towards efficiency in the allocation of resources at this level.

Before applying the above methodology⁹ to elementary education, we need to define wastage at this level. Earlier, it was argued that if pupils do not reach the final year of the cohort, it constitutes wastage. But here for our purposes, it is assumed that the amount spent on the pupils who dropout before reaching Class V is a wastage.¹⁰ After Class V even if he drops out or repeats the course, we do not consider it as a component of wastage. This is because generally Class V is considered to be a stage where the pupil becomes literate. If the pupil drops out after Class V, this may not be a complete wastage since the pupil can use his knowledge of education in his latter life. Hence we will take all the pupils enrolled beyond class V for the calculation of actual unit-cost.

-
9. The second method is applied in our exercise and for the first exercise, see Q.U. Khan, "Efficiency Coefficients for School Stage Education", in H.N. Pandit (ed.), Measurement of Cost, Productivity and Efficiency of Education, NCERT (New Delhi, 1969), p.173-196.
10. Let us not bother about 'repetition' since the child is not leaving the school; not only this, some pupils need comparatively more intensive care in education (without which their performance will not be good) at this level than others, due to individual differences, home environment, and other factors.

2.9 The Actual Unit-Cost of Elementary Education

Table 2.7 shows the 'actual' unit-cost of elementary education, at constant and current prices, along with the difference of 'actual' and 'observed' unit-cost during the period 1964-65 to 1975-76. It is evident from the above table that the country is spending more resources than what it has to spend on each pupil. There is an improvement, in the period observed - the unbridged gap between the actual unit-cost and the observed unit-cost, though increasing in absolute terms, is being reduced relatively. This is made clear from lower growth rates of the difference unit-cost than compared to the actual unit-cost. This slow growth of the difference unit-cost at constant prices can be said to have contributed to the improvements in the school system. To reduce the wastage of resources further, there is every need to expand the qualitative facilities which again results in additional expenditure on elementary education. That is to say we need to spend additional resources on elementary education, particularly with respect to non-salaries, to improve the situation further. Until and unless the economy spends the 'critical minimum', we cannot expect a good return out of their expenditure. So these additional resources would certainly reduce the wastage and hence improve the 'holding and attracting' power of the school system.

Table 2.7

Actual Cost of Elementary Education per Pupil
1964-65 to 1975-76

Year	(in rupees)			
	Actual Unit-cost		Difference Unit-cost*	
	At current prices	At 1960-61 prices	At current prices	At 1960-61 prices
1964-65	122.34 (-)	100.15 (-)	87.30 (-)	71.47 (-)
1965-66	133.86 (9.41)	102.66 (2.50)	94.37 (8.09)	72.32 (1.18)
1966-67	142.14 (6.18)	99.74 (-2.84)	99.05 (4.95)	69.50 (-3.89)
1967-68	159.38 (12.12)	101.19 (1.45)	109.73 (10.78)	69.66 (0.23)
1968-69	171.28 (7.46)	106.20 (4.95)	116.83 (6.47)	72.44 (3.99)
1969-70	188.04 (9.78)	113.64 (7.00)	127.50 (9.13)	77.04 (6.35)
1970-71	205.11 (9.07)	117.63 (3.51)	138.95 (8.98)	79.69 (3.43)
1971-72	219.84 (7.18)	121.81 (3.55)	149.22 (7.39)	82.68 (3.75)
1972-73	235.93 (7.31)	122.25 (0.36)	161.21 (8.03)	83.53 (1.02)
1973-74	N.A.	N.A.	N.A.	N.A.
1974-75	296.07 (25.49)	109.07 (-10.78)	198.63 (23.21)	73.17 (-12.4)
1975-76	329.78 (11.38)	118.66 (8.79)	217.93 (9.71)	78.41 (7.16)

*This difference unit cost is obtained by subtracting actual unit-cost from observed unit-cost. Hence it carries a negative sign.

N.A. = Not Available.

Note : Figures in brackets are annual growth rates.

We thus find the extent of wastage of resources in elementary education expressed in terms of higher unit-costs, during the period under review. If the 'observed' unit-cost of elementary education is assumed to be an effective unit-cost, the amount spent over and above would be a wastage. Since very few pupils reach the final year of elementary education, the amount spent on all those dropouts and repeaters would come to be significantly larger. Due to higher rates of wastage of resources prevailing at this unit-cost, the above assumption becomes unrealistic. Any unit-cost - whether it is actual or potential or observed - may be said to be effective only if the degree of wastage of education is minimal at that point. In other words, at the effective unit-cost, the wastage would be negligible, though not nil. Accordingly, the effective unit-cost may be far from our observed unit-cost and closer to the actual unit-cost. Not only this, the actual cost of education tends to be reduced at lower levels of wastage.

Thus looking at the foregoing discussion, it is obvious that the higher the unit-cost of education, the more efficient will be the allocation of resources. This may be due to the fact that higher unit-costs involve larger shares of non-teacher costs and hence result in comparatively better education. This would further increase the 'holding and attracting' power of the school system. As already argued there is every need at

this juncture to improve the quality of education in order to get the children from poorer sections of the society, to the school. Therefore, the country should spend the critical minimum unit-cost which retains the pupils in school and thus complete the prescribed schooling.

IV

2.10 Indirect Unit-Cost of Elementary Education

In this section, an attempt is made to estimate and analyse the indirect cost of elementary education. Unfortunately, detailed information relating to indirect expenditure incurred on elementary education, for that matter school education also, is not available because of its indivisible nature. Data relating to indirect expenditure are available for the whole educational system. But data relating to indirect expenditure on elementary education are available only for the period 1964-65 and 1970-71. These expenditures do not include all the variables that are to be considered as indirect. While the classification of indirect expenditure consists : a) direction and inspection, b) school buildings, c) hostels, d) equipment and other appliances (non-recurring), e) scholarships, stipends and other financial concessions, and f) other items; the data available to us pertain to only

items b, c and e. Accordingly, Table 2.8 shows the increase of indirect expenditure at this level during 1964-65 and 1970-71.

Even though, elementary schools in India do not possess costly laboratories and other modern equipment which involve larger amounts of resources, a considerable amount of the expenditure incurred on 'Direction and Inspection' could be ascribed to school education in general, and elementary education in particular. This is so because in higher education, these items would constitute a small fraction. Keeping all these factors in view, the share of indirect expenditure that might have been incurred on elementary education is estimated. And this estimation is based on two assumptions mentioned below :

- A. The percentage of indirect expenditure on elementary education - of course, on three broad categories like, buildings, hostels, and scholarships etc. - during 1964-65 and 1970-71 is assumed to be more or less similar in the remaining years for which the data are not available.

The percentage of above three categories of indirect expenditure on elementary education in the total indirect expenditure

on education is 13.17 in 1965-66, 14.89 in 1969-70, and about 15.15 in 1970-71.

- B. In the second step, the same percentage of indirect expenditure, is assumed to have incurred - which comprises all the six items mentioned earlier - on elementary education in the total indirect expenditure.

Thus, to avoid over-and under-estimation, the percentage of indirect expenditure, at this level, in the total is calculated at three levels for all our purposes during the period - viz., 13, 14 and 15 per cent of the total indirect expenditure.

Table 2.8 shows the total indirect expenditure on education as well as estimated indirect expenditure on elementary education and unit-cost (indirect) of education during 1964-65 and 1975-76. As was explained earlier, indirect expenditure was calculated at three percentage levels. In spite of insufficient information, in this regard, the middle rate of 14 per cent of the total may be considered

Table 2.8

Indirect Expenditure and Per Pupil Indirect Cost of Elementary Education

Year	Total indirect expenditure on Education (Rs. in lakhs)	Indirect expenditure on Elementary Education* (Rs. in lakhs)	(In current prices)					
			Indirect expenditure on elementary education**			Indirect unit-cost of elementary education		
			13%	14%	15%	13%	14%	15%
			(Rs. in lakhs)			(in rupees)		
1964-65	11270.60	1124.69	1465.18	1577.88	1690.59	2.84	3.06	3.28
1965-66	12823.23	1073.70	1667.02	1795.25	1923.49	3.09	3.33	3.57
1966-67	12937.32	1053.81	1681.85	1811.23	1940.60	3.02	3.25	3.48
1967-68	14206.47	1145.64	1846.84	1988.91	2130.97	3.21	3.46	3.71
1968-69	13510.44	1181.87	1756.36	1891.46	2026.57	3.01	3.24	3.47
1969-70	14966.98	1359.89	1946.61	2095.38	2245.05	3.26	3.51	3.76
1970-71	15772.26	1422.15	2043.09	2201.12	2358.34	3.33	3.59	3.85
1971-72	16894.81	N.A.	2196.33	2365.27	2534.22	3.47	3.74	4.01
1972-73	18488.31	N.A.	2403.48	2588.36	2773.25	3.59	3.87	4.14
1973-74	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1974-75	23378.01	N.A.	3039.14	3272.92	3506.70	4.37	4.71	5.04
1975-76	31218.51	N.A.	4058.41	4370.59	4682.78	5.77	6.21	6.65

*Related to expenditure on buildings, hostels, scholarships, stipends, financial concessions and freeships.

**Related to expenditure on all items that are considered to indirect which might have incurred on elementary education.

N.A. = Not Available.

to be more realistic and appropriate. (This is because indirect expenditure on elementary education for which the data are available, is accounted for 13 to 15 per cent of the total during 1964-65 and 1970-71). Taking this percentage for granted, the unit-cost (indirect) of education was around Rs.3.06 in 1964-65. This increased to Rs.3.59 in 1970-71 and further reached Rs.6.21 in 1975-76. Even if we take the 15 per cent of the total indirect expenditure, per pupil cost was only Rs.6.65 in 1975-76. This does not even constitute 20 per cent of the unit-cost (direct) of elementary education in the same year. By any optimistic estimate, the unit-cost (indirect) represents a very insignificant amount. If this amount is expressed in terms of constant prices, this may even be negligible.

Apart from this insignificant share of indirect cost per pupil, there are many more limitations on this also. For example, the expenditure incurred on buildings is 'capital' and hence it cannot be distributed solely on the pupils in that particular year only. This is also the case with the expenditure on non-recurring equipment and other appliances. Because of their durable nature, the life period of these assets must be taken into account. An appropriate way of measuring these items would be the inclusion of rate of interest or rent and the depreciation of the asset. Accordingly

the share of each pupil must be calculated. If our unit-cost (indirect) of elementary education is calculated on these lines, it may be reduced significantly.

This section, besides attempting to estimate the per pupil share of indirect expenditure on elementary education, raises some of the hurdles that are coming in the way of computing unit-costs at this level. It also points out the insignificant and insufficient share of indirect expenditure at this level. There is every need to increase the percentage share of total indirect expenditure on elementary education, so that the total educational expenditure at this level could be placed comfortably in a better situation.

V

2.11 Public Cost of Elementary Education

This section gives an idea of the public cost of elementary education in India during the period under review. It also explains the inadequacies in the computation of social unit-cost of elementary education at this level. In the earlier sections, I have dealt with direct and indirect costs of elementary education which are mainly borne by the government and its allies. So far, these two types of public costs are discussed in separate sections and here efforts are made to analyse the total public cost of elementary education per

pupil. Table 2.9 shows the two elements of public costs per pupil as well as the aggregate of these two costs.

Table 2.9

Per Pupil Public Cost of Elementary Education

Year	(At current prices)		(In rupees)
	Per unit public cost of elementary education		
	Direct	Indirect@	Total public cost
1964-65	35.04	3.06	38.10
1965-66	39.49	3.33	42.82
1966-67	43.09	3.25	46.34
1967-68	49.65	3.46	53.11
1968-69	54.45	3.24	57.69
1969-70	60.54	3.51	64.05
1970-71	66.16	3.59	69.75
1971-72	70.62	3.74	74.36
1972-73	74.72	3.87	78.59
1973-74	N.A.	N.A.	N.A.
1974-75	97.44	4.71	102.15
1975-76	111.85	6.21	118.06

Note : N.A. = Not Available.

@Calculated on the basis of 14 per cent of the total indirect expenditure.

This Table shows the total public cost of elementary education per pupil in the 12 year period. As the Table explains hardly 8 per cent of the total public cost is accounted for by indirect cost per pupil in the year 1964-65. This percentage was further reduced to 5.2 by the end of 1975-76. The direct cost per pupil has increased steeply during the period. It increased a little over three times whereas indirect cost per pupil doubled in the same period. If these unit-costs were further divided, one would certainly find out the single largest share to be teacher costs. This situation is being escalated over the years. Insufficient resources that are being allocated to education in general, and elementary education in particular, are further reducing the chances of improving the share of non-teacher costs. As is being stressed every now and then, the country has to go away from this unwanted situation in order to make education more relevant and more effective.

2.12 Social Unit-Cost of Elementary Education

This chapter has dealt with mainly the public cost of elementary education per pupil. But it is not sufficient in itself. Even though education at this level is subsidized and made free to all children, it does not mean that there are no private costs. As at any other level of education,

private costs have to be borne at the elementary level also. But the magnitude of these costs may be different with respect to the level and type of education. In this first level of education, there are some expenditures - like books, stationery, special fee, transportation etc. - that are directly to be borne by the pupils and/or their families. Apart from this, there is the opportunity cost of the child's time which is more important particularly in our country. In any poor country, therefore, parents cannot simply afford education for their children.

In the next chapter, private costs are shown at the elementary level. These costs were calculated on the basis of a field survey conducted in Andhra Pradesh. In spite of the legal ban, children below 14 years, to work, high amplitude of forgone earnings due to schooling are evident in the country. A study of this kind is more relevant to our nation, for that matter to any underdeveloped country, since it aims at imparting elementary education to all children. Higher rates of wastage could also be explained in terms of these private costs and particularly of earnings given up. In order to reach the long cherished goal of universal and free elementary education, and also to keep all pupils enrolled in schools, an appropriate policy to reduce these costs would be more important.

Since a country like ours cannot provide absolutely free education to all, it should at least aim at reducing these costs borne by the weaker sections of society, from where the economic significance of the child operates. For making relevant decisions, it is necessary to study these private costs in different socio-economic and occupational levels. The following chapter, thus, deals with private cost of elementary education per pupil in different occupations and income groups.

Chapter Three

PRIVATE COST OF ELEMENTARY EDUCATION IN INDIA - A FIELD STUDY

3.1 Introduction

As was seen in the previous chapter, universal and compulsory elementary education does not mean zero costs as far as the parents of the school-going children are concerned. Besides public borne costs at this level of education, there are private costs that are incurred by the parents and/or the pupils. The main objective of this chapter is to estimate and analyse the costs of elementary education from the view point of the parents as well as of the pupils in the selected development Block of Andhra Pradesh. For this purpose private costs are classified as direct and indirect costs. Direct costs include special fee, examination fee, textbooks, stationery, private tuition, clothing etc. Indirect costs, on the other hand would constitute the forgone earnings of the pupils while attending the school.

The nature and the importance of the problem along with the objectives and the sampling methods adopted are discussed in Section I. Section II deals with different dimensions of direct and indirect private costs, at the aggregate and disaggregated levels, in relation to the annual income,

occupation and educational levels of the parents. This section also presents the summary of results. An analysis of average opportunity cost and total cost by occupation and class is undertaken in the final section (Section III).

I

In addition to the large sums of expenditure incurred by governments at various levels there are many other costs to the parents if they send their children to school. The study emphasizes the need to study the private costs of elementary education which are in fact the most important factor that comes in the way of achieving the constitutional objective, particularly in rural areas where about 80 per cent of the population resides. Due to the negligence or innocence of the parents, most of the children do not even attend schools, and even if they attend, they are unable to complete the course. The reasons for this would obviously be many, besides the economic significance of the child both at home and in the farm.

3.2 The Field Area

Kapileswarapuram development Block, the area selected for the study, is situated by the side of River Godavari in East Godavari District, Andhra Pradesh. This Block comprises

68 villages spread over two tahsils. The population of this Block is about 2.19 lakhs (as on 30.9.1978), and area is 137.79 sq. miles.

There are 169 primary schools, 19 upper primary schools, 13 Higher Secondary schools and one Junior College in the Block. According to the information supplied by the office of the Deputy Inspector of Primary Schools, out of 162 habitations, 141 habitations with a population of 200 and above, are covered by a Primary School within a distance of 1.5 km. There are 76 habitations whose population exceeds 1000 and which have an Upper Primary School within a distance of 3.0 km. There were 20,451 pupils on rolls in Classes I to V during 1977-78, and the enrolment of pupils in Class VI to VIII during the same period was 6,865. Girls accounted for nearly half of the total enrolment at both levels of elementary education.

3.3 Sampling Method

A sample of 200 pupils from Classes V to VIII were taken from the block using the stratified sampling method.¹

Out of 68 villages in the Block, 14 were selected at

1. Classes I to IV are not included in the sample since the costs of education in these classes are not significant. This was revealed in the pre-sample survey.

random. While selecting the villages, the geographical location of the village in the Block was considered, so that different areas of the Block could be represented in the sample. In all the 14 villages selected, there are 6 Primary Schools, 5 Upper Primary Schools, 6 Higher Secondary Schools and one Junior College. All the Primary and Upper Primary Schools (with the exception of one Primary and one Upper Primary Schools which are under Zilla Parishad) are run by the Samiti. Higher Secondary Schools are run by the Zilla Parishad and the Junior College is under the State Government. In the second step, we have selected about 8 per cent of the total schools randomly.

For the selection of pupils in each of the classes, purposive sampling method was used to avoid over or under representation of different communities and occupations. Purposively, more pupils were selected from the families of agricultural labourers and cultivators, who dominated the population of the Block. In each class 8-10 per cent of the pupils were taken at random. Classwise distribution of the sample is given below :

<u>Class studied</u>	<u>No. of pupils</u>
V	48
VI	50
VII	65
VIII	37

II

The importance of studying the magnitude of private costs of elementary education could be justified if a study of this sort correlates with other factors such as occupation and educational level of the parents, and annual income of the family. Needless to say, the costs of education of the children at any level, reflect their socio-economic base. Hence this section seeks to explain the distribution of various private costs of elementary education in different socio-economic strata and also to clarify the association between these costs and the socio-economic background of the pupils.

3.4 Class of the Child - Literacy Level of the Parent

Table 3.1 shows the distribution of the sample according to the class of the child and literacy level of the parent. Nearly 25 per cent of the sample - 47 out of 200 - children's parents were illiterate. About 19 parents were graduates and above. Out of the remaining 134 parents, only 57 were educated upto secondary schools. Therefore, 62 per cent of the sample parents were either illiterates or elementary school educated. Coming to the class-wise distribution of pupils, majority of the parents of the pupils in Class V (34 out of 48) were either illiterate or studied only upto elementary level. The

Table 3.1

Literacy Level of the Parent and the Education of the Child

Literacy level of parents	Education of the child				Total
	Class V	Class VI	Class VII	Class VIII	
No education	10 (11.28)	9 (11.75)	21 (15.28)	7 (8.70)	47
Elementary education	24 (18.48)	19 (19.25)	23 (25.03)	11 (14.25)	77
Secondary education	10 (13.68)	14 (14.25)	18 (18.53)	15 (10.55)	57
College education	3 (3.60)	6 (3.75)	2 (4.88)	4 (2.78)	15
Professional and Technical education	1 (0.96)	2 (1.00)	1 (1.30)	0 (0.74)	4
Total	48	50	65	37	200

Note : Figures in brackets are expected values.

Observed Value of $X^2 = 14.207$

Table Value = 26.217

same was the case with Class VII pupils where the total number of pupils were 65 and pupils belonging to illiterate and elementary school educated parents were 44.

Since the observed value of chi-square (14,209) is less than the table value at one per cent confidence level, the hypothesis could not be rejected. Generally, parents with higher education would keep their children in schools when compared to parents with low levels of education. But this need not be the case with elementary education. The independent character of the above two variables could be justified keeping the efforts made by the governments, at respective levels, to universalize this stage of education so as to cover all sections of society.

3.5 Class of the Child - Annual Income of the Family

Table 3.2 relates the class of the pupil with the annual income of the parent. Nearly 42.5 per cent of the pupils belonged to the families whose annual incomes were below Rs.1500/-; and out of this more than half of the pupils came from families with annual income below Rs.1000/-. About 57.5 per cent of the total sample i.e., 115 pupils, were from the income group of Rs.1501 and above. In addition to this, very significant number, nearly half, of pupils were in these two income groups.

Table 3.2

Income of the Family and Education of the Child

Annual Income (Rupees)	Education of the child				Total
	Class V	Class VI	Class VII	Class VIII	
0-500	1 (0.72)	1 (0.75)	1 (0.98)	0 (0.56)	3
501-1000	14 (10.32)	10 (10.75)	12 (13.98)	7 (7.96)	43
1001-1500	14 (9.36)	5 (9.75)	16 (12.68)	4 (7.22)	39
1501-2000	4 (5.28)	6 (5.50)	8 (7.15)	4 (4.07)	22
2001 and above	15 (22.32)	28 (23.25)	28 (30.23)	22 (17.21)	93
Total	48	50	65	37	200

Note : Figures in brackets are expected values.

Observed Value of $X^2 = 14.751$

The observed value of chi-square as compared to the tabular value at one per cent level indicated the independent nature of the relationship between income and class studied. At five per cent significance level also the observed value was less than the table value. Hence the hypothesis is not rejected. This may be due partly to subsidised elementary education and partly because of parents' positive attitude towards the need for elementary education for their children.

3.6 Opportunity Cost of Education - Annual Income of the Family

Table 3.3 explains the relationship between the opportunity cost of the education of the child and the annual income of the family. The opportunity cost of education is defined as the income forgone while the pupil is in school. The distribution of pupils according to their families income is the same as in Table 3.2. The opportunity cost of education worked out to be zero for as much as 25 per cent of the sample population. It was noticed that the opportunity cost of education of the child was Rs.401 and above for 45.5 per cent of the parents; the remaining 29.5 per cent of the parents stated that they were losing Rs.1-Rs.400 per annum due to their children's education. Here the interesting case is that, though the annual income of the parents is less than Rs.500/-, the forgone earnings of their children exceeded Rs.600/- per annum. This may be the situation of agricultural labourers

Table 3.3

Income of the Family and the Opportunity Cost of Education

Annual Income (Rs.)	Opportunity cost of education per child (Rs.)					Total
	Nil	1-200	201-400	401-600	601 and above	
0-500	0 (0.75)	0 (0.29)	1 (0.60)	0 (0.80)	2 (10.57)	3
501-1000	2 (10.75)	2 (4.09)	10 (8.60)	21 (11.43)	8 (8.17)	43
1001-1500	7 (9.75)	2 (3.71)	11 (7.80)	11 (10.34)	8 (7.41)	39
1501-2000	5 (5.50)	2 (2.09)	5 (4.40)	3 (5.83)	7 (4.18)	22
2001 and above	36 (23.25)	13 (8.84)	13 (18.60)	18 (24.65)	13 (17.67)	93
Total	50	19	40	53	38	200

Note : Figures in brackets are expected values.

Observed Value of X^2 = 42.158

Table Value = 32.000

who are old and hence cannot work fully, due to health reasons, in busy seasons. This may be the major cause for their lower income. Therefore, there is the possibility of forgoing more income from their children's education than what they could earn. Nearly half of the sample students' opportunity cost was more than Rs.400/- per annum while their families' annual incomes were below Rs.1500/-. Maximum number of pupils' parents stated to have zero opportunity cost and they are all from the income group of Rs.2001 and above. The high economic value of the child operates from agriculture where any number of children could easily be absorbed. This is particularly true with lower income people, who have to depend either on their labour or on their small holdings. This is further clarified in the following table.

The null hypothesis which states that there is no association between the level of income of the family and the opportunity cost of educating the children is rejected in this case since the chi-square value is larger than the table value at one per cent confidence level. This indicates that the level of income and the opportunity cost of education might be inter-dependent. Since the child is an earning member in the rural areas and also the magnitude of his/her earnings depends upon the income level of the parent, there was significant association between these two variables.

3.7 Opportunity Cost of Education - Occupation of the Parent

Table 3.4 relates the opportunity cost of education of the child with occupation of the parent. About 55 per cent of the children were accounted by two occupations namely cultivators and agricultural labourers and the remaining 45 per cent belonged to teachers and other employees. 18 of the 50 students, the opportunity cost of whose education was nil, came from agriculture. From agricultural families alone, 65 out of 110 pupils were stated to have the opportunity cost above Rs.400/- per annum. In addition to this, 27 pupils were said to have forgone earnings amounting to below Rs.400/- per annum. In other occupations, 32 out of 50 pupils had no opportunity cost, while 26 out of 91 are said to have the opportunity cost above Rs.400/- per annum. But in these two occupations, the number of children whose forgone earnings amount below Rs.400/- per annum, was significantly larger, i.e., 32 out of 59. Hence this table also supports our earlier conception that pupils from lower income groups² and simultaneously belonging to agricultural

2. Here after, it may be noted that families with annual income below Rs.1500/- are to be considered as 'lower income group', while the rest are 'high income group'. This classification is made taking the National income per capita of the country into account.

Table 3.4

Occupation of the Parent and Opportunity Cost of Education per pupil

Occupation of the parent	Opportunity cost of Education per child (Rs.)					Total
	Nil	1-200	201-400	401-600	600	
Agricultural labourers	2 (8.00)	0 (3.04)	4 (6.40)	16 (8.48)	10 (6.08)	32
Cultivators	16 (19.50)	6 (7.41)	17 (15.60)	22 (20.67)	17 (13.82)	78
Teachers	10 (5.50)	5 (2.09)	2 (4.40)	3 (5.83)	2 (4.18)	22
Others	22 (17.08)	8 (6.46)	17 (13.60)	12 (18.02)	9 (12.92)	68
Total	50	19	40	53	38	200

Note : Figures in brackets are expected values.

Observed Value of $X^2 = 36.93$

Table Value = 26.217

df. = ?

labouring and cultivating families are forgoing more income as compared to other occupations.

Here also the hypothesis is rejected because of the computed value of chi-square is larger than the table value at one per cent significance level. This suggests that the two variables are associated. Obviously, the same 'economic significance' of the child to the parents could be the reason. The opportunity cost of education per child would be more if he/she belongs to an agricultural family. In other occupations, these costs would be marginal.

3.8 Opportunity Cost of Education in Cultivation

The importance of the child at the farm/home could be further elaborated by taking the income and the opportunity cost of education of the child in one occupation, say cultivation. Table 3.5 relates these two aspects. This table clearly shows that zero opportunity cost of education accounted to the high income farming class. While more than half of the cultivators whose income was below Rs.2000/- were forgoing above Rs.400/- per annum; 15 out of 23 students' earnings given up were below Rs.400/- per annum. On the whole, cultivators with an annual income below Rs.2000/- were forgoing more due to their children's education.

Table 3.5

Income of the Family and Opportunity Cost of Education
per Child (Cultivators)

Annual Income (Rs.)	Opportunity cost of Education per child (Rs.)				
	Nil	1-400	401-600	600	Total
0-1000	1 (3.28)	6 (4.72)	7 (4.51)	2 (3.49)	16
1001-1500	2 (2.46)	5 (3.54)	3 (3.38)	2 (2.62)	12
1501-2000	1 (2.46)	4 (3.54)	1 (3.38)	6 (2.62)	12
2001 and above	12 (7.79)	8 (11.21)	11 (10.72)	7 (8.28)	38
Total	16	23	22	17	78

Note : Figures in brackets are expected values.

Observed Value of Chi-square = 15.181

Table Value = 21.666

The null hypothesis could not be rejected at one per cent or five per cent significance levels, since the table value exceeds the observed value of chi-square. But at 10 per cent confidence level the hypothesis is rejected.

3.9 Annual Income - Expenditure on Clothing

Table 3.6 explains the relationship between the income of the family and expenditure on clothing due to schooling. Here the expenditure on clothing was taken to account for the difference between a child attending the school and the child going to the farm or working at home. Expenditure of this sort was zero to as many as 22 students, majority of whose families lie in high income families constitute employees and a fraction of cultivators. 31 out of 35 pupils coming from the income group Rs.1501 and above were spending more on clothing, i.e., Rs.151 and above per annum; and 78 of 143 pupils coming from the income group below Rs.1500/- were spending less on clothing, i.e., below Rs.150/- p.m. Therefore, higher income families have the tendency to spend more ranging from zero to very high values on clothing for their children's schooling. This leads us to infer that higher income people with their comparatively higher education may feel in two ways : on the one hand they give more weight to children going to schools and hence high level of expenditure on clothing; on

Table 3.6

Income of the Family and Expenditure on Clothing of Child

Annual Income (Rs.)	Expenditure on clothing (due to schooling) (Rs.)					Total
	Nil	1-75	76-150	151-225	226	
0-500	0 (0.33)	1 (0.35)	2 (1.80)	0 (0.45)	0 (0.08)	3
501-1000	1 (4.73)	2 (4.95)	39 (25.80)	1 (6.45)	0 (1.08)	43
1001-1500	2 (4.29)	7 (4.49)	27 (23.40)	3 (5.85)	0 (0.98)	39
1501-2000	2 (2.42)	4 (2.53)	11 (13.20)	5 (3.30)	0 (0.55)	22
2001 and above	17 (10.23)	9 (10.70)	41 (55.80)	21 (13.95)	5 (2.33)	93
Total	22	23	120	30	5	200

Note : Figures in Brackets are expected values.

Observed Value of chi-square = 42.77

the other hand they treat their children equally whether the child goes to school or not and hence zero level of expenditure on clothing. To the parents from lower levels of income, there may hardly be any expenditure on clothing if the child goes to the farm. Hence parents in this group have to spend on their children's clothing also, if they decide to send them to the school.

The null hypothesis is rejected since the chi-square value exceeds the table value even at one per cent significance level, thus indicating the inter-dependent character of the variables studied. Generally high income people spend more on clothing for their children. This is evident from the table also. The expenditure on clothing to a poor family may be a burden even if it is less as compared to a rich family. Thus, substantial portion of the income of a poor family would have to be spent on clothing if they want children to be in schools.

3.10 Private Tuition - Annual Income

Table 3.7 explains how the expenditure on private tuition varies with the levels of income. Nearly 63 per cent of the pupils did not incur this expenditure. Out of this again, more than half of the pupils came from high income families. In spite of this, families with annual income above Rs.1501/- spent the largest amount on tuition. From these two income

Table 3.7

Income of the Family and Expenditure on Private Tuition

Annual Income (Rs.)	Expenditure on Private tuition (Rs.)				Total
	Nil	1-50	51-100	100	
0-500	3 (1.88)	0 (0.26)	0 (0.63)	0 (0.24)	3
501-1000	32 (26.88)	2 (3.66)	9 (9.03)	0 (3.44)	43
1001-1500	25 (24.38)	6 (3.32)	7 (8.19)	1 (3.12)	39
1501-2000	13 (13.75)	3 (1.87)	4 (4.62)	2 (1.76)	22
2001 and above	52 (58.13)	6 (7.91)	22 (19.53)	13 (7.44)	93
Total	125	17	42	16	200

Note : Figures in brackets are expected values.

Observed Value of Chi-square = 17.1601

groups alone, about 41 out of 58 pupils spent more than Rs.51/- per annum. On the other hand, only 17 pupils in the income group below Rs.1500/- spent more than Rs.51/- per annum on tuition. The reason for this could be partly the level of income and partly other factors like class studied, importance of child's education to parents, educated members of the family etc. There could hardly be any relation to explain between income of the family and the expenditure on tuition.

The hypothesis cannot be rejected since the value of Chi-square is smaller than the table value at one per cent significance level. This suggests that the level of expenditure on private tuition need not influence or be influenced by the level of income of the family. Expenditure on private tuition might depend upon other factors explained earlier.

3.11 Total Cost of Education - Annual Income

Table 3.8 illustrates the relationship between the income of the family and the total cost of education per child. As the table shows, the number of pupils, whose total cost exceeds Rs.401/- per annum is remarkably large. From the sample of 200 pupils, nearly 65 per cent of the pupils incurred this much of total cost per annum. Very few families, irrespective of their family's income level, were there whose total cost was below Rs.400/- per annum. Interestingly, there were some

Table 3.8 .

Income of the Family and Total Cost per Student

Annual Income (Rs.)	Total cost per child (Rs.)					Total
	1-200	201-400	401-600	601-800	801	
0-500	0 (0.42)	1 (0.63)	0 (0.74)	1 (0.63)	1 (0.59)	3
501-1000	1 (6.02)	4 (9.03)	16 (9.54)	15 (9.03)	7 (8.39)	43
1001-1500	5 (5.46)	5 (8.19)	13 (9.56)	10 (8.19)	6 (7.61)	39
1501-2000	2 (3.08)	5 (4.62)	3 (5.39)	4 (4.62)	8 (4.29)	22
2001 and above	20 (13.02)	27 (19.53)	17 (22.79)	12 (19.53)	17 (18.14)	93
Total	28	42	49	42	39	200

Note : Figures in brackets are expected values.

Observed Value of Chi-square = 36.49

pupils whose total expenditure on elementary education exceeded Rs.601/- per annum but the annual income of their families lay below Rs.500/-. This was largely due to children's comparatively greater economic significance at home or in the farm. This would further be clarified later when we would consider total cost of education in relation to occupation and educational level of the parents.

This hypothesis is rejected since the established dependency is proved between the annual income of the family and the total cost of the child's education. The total cost of the child's education depends mainly upon the income level of the family. Sometimes, this total cost of education may exceed the annual income of the family. This may be largely because of high opportunity cost of the children education to the families of low income groups. This was seen in Table 3.3 also.

3.12 Total Cost of Education - Educational Level of Parents

Table 3.9 shows how the total cost of education varies in relation to the educational level of the parent. The total cost of the child was relatively high to the parents whose literacy level was either elementary or nil. Obviously, parents with low level of education would have to spend more on their children's education - major part of which was the opportunity

Table 3.9

Educational Level of the Parents and Total Cost per Child

Educational level of the parents	Total cost per child (Rs.)					Total
	1-200	201-400	401-600	601-800	801	
No Education	1 (6.58)	2 (9.87)	11 (11.28)	18 (9.87)	15 (9.40)	47
Elementary	13 (10.78)	15 (16.17)	21 (18.48)	15 (16.17)	13 (15.40)	77
Secondary	9 (7.98)	20 (11.97)	12 (13.68)	6 (11.97)	10 (11.40)	57
College	5 (2.10)	3 (3.15)	3 (3.60)	2 (3.15)	2 (3.00)	15
Professional & Technical	0 (0.56)	2 (0.84)	1 (0.96)	1 (0.84)	0 (0.80)	4
Total	28	42	48	42	40	200

Note : Figures in brackets are expected values.

Observed Value of Chi-square = 39.129

cost of education per child (Table 3.3 and 3.4). Parents with secondary school education were also incurring more on their children's education. About 48 out of 57 parents incurred total expenditure which exceeded Rs.200/- per annum. Parents with college and professional and technical education also spent large amounts on their children's education. But this was comparatively low when we compare the number of children in these occupations with the total number who incurred such a large amount - 9 out of 130 pupils.

The hypothesis could be rejected since the Chi-square value is greater than the table value at one per cent confidence level. This explains that the educational level of the parent and total cost per child are dependent on each other. The educational level of the parent influences total cost of the child's education in two ways. One is that parents with higher educational standards feel that they should give good education to their children also. The other is that parents with low level of education, and obviously with low level of income, also feel the necessity of giving minimum education to their children because of which they may be ready to forgo their children's earnings. In the former situation, parents may be ready to give good education, even at high costs, since they have already achieved high educational and economic levels. On the other hand, parents in the second

category, despite their lower levels of education and economic prosperity, may be prepared to give education to their children, but at lower costs. This may drive us to the point that with higher levels of educational and economic advancement parents in general tend towards imparting higher and better education to their children.

3.13 Total Cost of Education - Occupation of Parents

Table 3.10 explains how the total cost of education is being influenced by the parental occupation. One important point to be noted here is that, while the total number of parents with no education and elementary education is about 124 (Table 3.9), cultivators and agricultural labourers added to only 110; the remaining 14 parents who were either illiterates or elementary school educated, but were employed in some place or other were classified in the "others" category. Since they were employed, though less educated, they were earning more than the parents who were dependent on agriculture. Hence the total cost of the child's education would also be high to this category. As explained in the earlier paragraphs, the total cost of education per child is significantly high to the illiterate and elementary educated parents and also to those whose occupations are cultivation and agricultural labour.

The hypothesis is rejected since the value of chi-square

Table 3.10

Occupation of the Parent and Total Cost per Pupil

Occupation of the parent	Total cost per child (Rs.)					Total
	1-200	201-400	401-600	601-800	801	
Agricultural labourers	2 (4.48)	1 (6.72)	8 (7.68)	14 (6.72)	7 (6.40)	32
Cultivators	11 (10.92)	13 (16.38)	19 (18.72)	16 (16.38)	19 (15.60)	78
Teachers	5 (3.08)	9 (4.62)	2 (5.28)	2 (4.62)	4 (4.40)	22
Others	10 (9.52)	19 (14.28)	19 (16.32)	10 (14.28)	10 (13.60)	68
Total	28	42	48	42	40	200

Note : Figures in brackets are expected values.

Observed Value of Chi-square = 28.8236

established the dependent relationship between the occupation of the parent and the total cost per child. This could also be justified since those in the first two occupations - cultivation and agricultural labour - have the highest economic necessity of the child. As is evident from our national scene of agriculture, the parents generally expect some sort of work from their children which may be necessary to improve their life standards. And it is also evident from the earlier tables that, the major share of these costs is the child's earnings given up due to schooling.

Summary

The tests of association carried out proved the independent character of literacy level of the parent and the education of the child. The same independent relation is proved in case of the income of the family and the educational level of the child. This may be due to the government's continuous efforts to lessen the burden on the parents, and also because of the parents' interest in getting their children to school. The dependent character between the income of the family and the forgone earnings of the child is explained in terms of the economic significance of the child in the farm/home. Table 3.4 explains the presence of the high opportunity cost of education in the occupations that are dependent on agriculture. Relatively greater importance of the child in cultivation means that

cultivators with low income are forgoing more due to their children's schooling. While there is dependent relation between the annual income of the parent and expenditure on clothing, we found the independent relation between income and expenditure on private tuition. Inter-dependency between total cost of elementary education and the annual income of the parent was also proved. It was also established that parents with low levels of literacy and also depending upon agriculture have to incur greater expenses on their children's education.

From the above analysis, it is evident that the opportunity cost and the total cost of education per child are markedly high in case of the weaker sections of society. Though the component of other costs like text-books, fee, clothing, etc., is assumed to be more or less the same to all pupils in the same class, the difference is substantial and significant with respect to opportunity cost of education. Parents with low income, even though they realize the importance of education, cannot afford such a large amount - both direct and indirect - of money every year. It is therefore necessary for the government to increase its participation and expenditure particularly with respect to the weaker sections. It goes unsaid that the realization of the objective of universal education would depend to a greater extent on the participation by the government.

III

3.14 Average Cost of Education

Having seen the relationship between the different types of educational expenditure incurred by the pupil/family on the one hand, and income, occupation and literacy level of the parents on the other, an effort would now be made to analyse the average opportunity cost and total cost of education at the elementary level. In the earlier section, it was argued that the opportunity cost of the child's education is related to the occupation of the parents. Here, it is further emphasized that in occupations in which the child's role is more important the average opportunity cost of education is far higher. With respect to the average total cost of education also, parents in all occupations in general and agriculture dependent occupations in particular, are incurring more.

Table 3.11 shows the average opportunity cost of education in different occupations as well as in the aggregate. While the average opportunity cost of education per pupil in all occupations was about Rs.388 per annum, parents in the occupation of agricultural labour, were forgoing the largest amount per year, i.e., Rs.518.75. This was followed by cultivators who were forgoing Rs.430.77 per annum per pupil due to their schooling. It is the teachers who sacrifice less

Table 3.11

Average Opportunity Cost of Education per Child by Occupation of the Parent

Opportunity cost of education (Rs.)	Agricultural labourers	Cultivators	Teachers	Others	Total
0-200	2	22	15	30	69
200-400	4	15	2	13	34
400-600	15	17	2	13	47
600-800	11	16	3	10	40
800-1000	0	8	0	2	10
Total	32	78	22	68	200
Average opportunity cost (Rs.)	518.75	430.77	236.36	326.47	388.00

than any other group.

Average total cost of education per pupil in different occupations was given in Table 3.12. The average total cost of elementary education was about Rs.535/- per annum. Here also, it was the agricultural labourers who were spending the largest amount on their children's education. The average total cost of education per pupil in this occupation was in excess of the aggregate total cost by Rs.115/-. Students from the background of 'cultivation' occupation, occupied the second rank in spending for their education. As is evident, pupils coming from the occupations dependent on agriculture, spent more than the aggregate cost of education. A major part of this 'total cost', of course, is due to forgone earnings. Pupils from the occupations of 'teachers' and 'others' spent much less than the average total cost of education. Average total cost of education per pupil was Rs.427.27 per annum in teaching profession, whereas this amount was Rs.482.35 per annum for pupils in 'others' category. On an average, the total cost of elementary education, from the point of view of the child/family is far larger than the common man's capacity.

The high magnitude of private cost of elementary education was further evidenced in Table 3.13 which showed the average cost of education in each class. Strikingly, the

Table 3.12

Average Total Cost of Education per Pupil by Occupation of the Parent

Total cost of Education (Rs.)	Agricultural labourers	Cultivators	Teachers	Others	Total
0-200	2	11	5	10	28
200-400	1	13	10	18	42
400-600	7	19	1	20	47
600-800	15	16	2	10	43
800-1000	7	13	2	8	30
1000 and above	0	6	2	2	10
Total	32	78	22	68	200
Average total cost (Rs.)	650.00	564.10	427.27	482.35	535.00

Table 3.13

Average Total Cost of Education per Pupil in Each Class

Total cost of education (Rs.)	Class V	Class VI	Class VII	Class VIII	Total
0-200	7	11	5	5	28
200-400	12	10	11	9	42
400-600	17	13	11	6	47
600-800	8	13	15	7	43
800-1000	2	3	16	9	30
1000 and above	2	0	7	1	10
Total	48	50	65	37	200
Average Total cost of education (Rs.)	466.67	448.00	644.62	548.64	535.00

cost of education for pupils in Class VII was higher than that of pupils in Class VIII. This may be mainly due to three factors. They are : (1) Subdivision of the school education. In this particular state, Class I to VII are usually located in Upper-Primary schools, and Class VI to X are in Higher Secondary schools. Majority of pupils study in upper primary schools which may be nearer to them, pupils from relatively higher income groups may continue in high schools, the result of which may be lower opportunity cost of education[@] and hence the lower cost of education. (2) The repetition of the pupils in Class VII. In Andhra Pradesh, pupils are promoted to the next class if they attend school for 85 per cent of the schooling days. In Class VII and Class X, there are common examination and public examination, respectively. Hence, the total cost of education in these classes could be slightly more than what it is for the next class. (3) The expenditure on Private tuition would be greater in Class VII since these pupils have to pass common examination. Because of these three factors mainly, the total cost of education in Class VII was greater than that of Class VIII. Thus, taking all these things

@ As we have seen the opportunity cost of education of the children coming from high income families is smaller than that of pupils coming from lower income families. Again these opportunity cost would tend to decline after some stage of education. This could be mainly because that education would not help to increase the marginal efficiency of the work being done.

into account, the total cost of education per child is said to be significantly larger both in the aggregate and in different classes.

To have an overall picture of unit-cost of elementary education per pupil from the view point of the pupil and/or family, and also to estimate the actual unit-cost/net unit-cost of education per child, let us see the Table given below :

Table 3.14

Actual/Net Total Unit-Cost of Elementary Education incurred by the Pupil/Family

S.No.	Item	Per pupil cost (Rs.)
1.	Forgone Earnings	389.00
2.	Total Cost of Education	534.00
3.	Scholarships & Fellowships [@]	9.74
4.	Net Total Cost of Education (Row 2 minus Row 3)	524.26

[@] Only 33 pupils are getting scholarship while 26 pupils are having the facility of freeship. The average scholarship per pupil is Rs.8.28 per annum while the average freeship is Rs.1.46 per annum.

The above table shows the hitherto unexplained component of educational finance, i. e., scholarships and freeships.

Since these two are awarded by the government, this should be deducted from the total cost of education to avoid double counting of the item. Thus the net total cost of education per pupil would come to Rs.524.26 per annum.

In general, as is being stressed by many people in and outside education, the family/child borne costs are greater. This is true in majority of the cases and continues to be so till the importance of education, in the eyes of the parent, supersedes the importance of child's presence in the farm/home.³ In the presence of relatively high present costs of educating the child, the parents should be made to realize the importance and long term benefits of education. This would further emphasize the need for adult education in the regions where the rates of illiteracy are higher.

But no underdeveloped country can afford to wait for such a long period. It has to make some effort, as a short term measure, to reduce the burden of the high costs involved in educating the child. Share of government resources per pupil spent during 1975-76, was about Rs.95.50 per annum on Primary school-going children and Rs.144.20 per annum on Middle-school-going children. The amount of money being spent

3. This involves qualitative improvement and quantitative expansion of educational facilities discussed in Chapter I.

by government was far less than the costs borne by the parents. And this is also meagre when compared with unit-cost of higher education. On an average, the government is spending Rs.572.50 per annum on a graduate, while the amount is Rs.1842.70 per annum for engineering and technology student. Taking all these things into account, the government, in different levels, along with people, should formulate the plans and policies regarding this level of education. In other words, the continuous stress on universalizing elementary education in this country should be properly placed both in planning and in resources spent on it. Briefly, the overall educational policy should be changed from the end which produces maximum number of unemployed youth, to an end which produces effective and maximum number of literates.

incomes. An important factor that should be kept in mind is that, relative incomes forgone by pupils may get reduced at this level with the financial improvements of these families.

The financing of education in general and elementary education in particular must be concerned with 'social efficiency and equity'. This requires rethinking on the already allocated resources to educational system and among its sub-systems. In a country like India, where illiterate masses outweigh educated persons, we need to emphasize mass education even if the number of years of schooling is very small. Giving higher education to a few privileged sections is certainly against the principle of social efficiency and equity. As for the argument presented earlier, only the 'needy' families must be given subsidized education - whether it is higher or elementary education - while those who can afford to bear full cost of it must be made to do so. Professor Schultz (1972) while discussing the equity and efficiency aspects of higher education in the U. S. A. feels that "an inordinate part of the subsidies to higher education is used to provide higher educational services below cost to the growing proportion of students who come from families who have the income and wealth to pay the full cost". He suggests that subsidized higher education must be given to only needy students. In the same manner, in our country also - particularly in view of the scarce resources - higher education specifically

and elementary education generally, may be imparted at the actual costs to high income families.

Thus looking at various aspects of private as well as public costs of elementary education, we need to emphasize increased Governmental participation. It is needless to plead further for the transfer or reduction of at least some of the private costs. To reduce the burden on poor families, the country has to take the responsibility of some of these costs and further subsidize education at this level to the needy. In this connection, differential treatment in education is inevitable since the economy like ours, cannot afford to give subsidized education to all.

The differential treatment may be between the well-off and poor sections of the society or between pupils of elementary education and higher education, or both. This approach would be more acceptable on grounds of - 1. Allocative efficiency and 2. Social efficiency and equity. Allocative efficiency, could be said to have been attained, if it is not possible to reallocate resources and make some people better off, while making no one else worse off. In our case, allocative efficiency could be achieved by reallocating resources among different types of education and/or among pupils with different socio-economic backgrounds, so that the maximum number of pupils would get benefitted.

Subsidized education to all would certainly benefit the well-off sections of the society which may further increase the gap between the rich and poor, and such a financing of education leads to social inefficiency and inequity. Therefore, to reduce the disparities in income and also to establish an egalitarian society, our country must emphasize differential treatment in education. To put it precisely, the educational policy needs to be formulated in such a way that it taxes the rich by way of full cost of education, and increases the real incomes of the poor by way of subsidized education.

The foregoing analysis clearly points out the need to increase governmental participation at this level of education. It also shows the inegalitarian attitude of education in general and elementary education in particular, which stresses the importance of differential treatment in education.

Summary and Conclusions

There is a near unanimity of opinion among the Social Scientists regarding the positive role of education in the development process of any economy, though they may differ on the nature of this relationship. The world-wide literacy programmes, especially in the third world countries, in the recent past, are a reflection of this realization. The demand for universal elementary education is sometimes a first step and compulsory education to a specific age-group is a legislative means to achieve this objective.

The cry for universal elementary education is atleast a century old in India. This demand, with varying degrees of pressure, was taken up by the leaders of our national movement. After independence, it became the responsibility of the national government to take us to this goal. Has India achieved this goal? As our present study reveals, but for the legislative measures and constitutional provisions, our road to success in this time was always obstructed because of various factors. In the analysis of this problem we confined ourself to one of these factors, namely cost or financing (both from government and individual's) of elementary education. However, the attempt in this chapter is restricted to summarize the main theme of the study, derive conclusions, and finally make some recommendations which have some policy

implications to improve the situation.

Summary

Ever since India initiated planning to transform itself into a modern and egalitarian society, it has been taking every possible step towards universalizing elementary education. Though the country has achieved substantial progress to implement the constitutional directive involved, there is a lot to be done particularly with respect to qualitative improvements. Notwithstanding the fact that there is no established relationship between quantitative expansion and qualitative improvement, our country could pursue the former because of paucity of funds to this level of education. There is a marked improvement in the enrolment of boys at both levels of elementary education, but the rates of retention or efficiency indices for boys are not indicative of our success. More so, in the case of girls and weaker sections of our society. Considerable qualitative improvement has taken place because of a perceptible upgrading of the socio-economic and educational status of teachers. But persistent increase in wastage and high density of class rooms which are again ill-equipped happened to arrest this improvement. In order to have a proper understanding of the problems involved and to realize the goal as early as possible, we should study the cost aspect of elementary education.

During the planning period, there has been a steady growth of educational expenditure both absolutely and in relation to the GNP. The percentage of educational expenditure in the GNP has increased from 1.20 during 1950-51 to 3.11 by the end of 1975-76. Though the share of educational expenditure in the GNP has increased steadily over the period, one would observe wide fluctuations in the share of the former in the budget expenditure. In spite of continuous growth of budget expenditure over the period observed, the share of educational expenditure has declined significantly. It was declined from 12.31 per cent in 1950-51 to 10.27 per cent in 1975-76.

The share of elementary education in the total direct educational expenditure show a declining trend in the period studied. It has declined from 48.52 per cent in 1950-51 to 43.92 per cent in 1975-76. But in absolute terms both of them are increasing. The rate of increase in direct expenditure on elementary education is lower than that of the total direct educational expenditure. This being the case, the rates of growth of unit-cost of elementary education, at current and constant prices, were subjected to wide fluctuations. During 1964-65 and 1975-76, the unit-cost of education at current prices increased by about three times - from Rs.35.04 to Rs.111.85. While the unit-cost of education, in 1960-61 prices, rose by a little less than one and a half times - from

Rs.28.68 to Rs.40.25.

A large share of the unit-cost is accounted for teacher component, while the share of non-teacher component has declined sharply during this period. Due to high percentage of drop-outs and repeaters, our school system is producing literates at a higher cost. That means the effective cost of education is far higher because of high incidence of wastage. A persistent increase in the gap between 'actual' and 'observed' unit-cost certainly accounts for the high wastage of resources. Unit-cost (indirect) of elementary education was also too low and it occupies a very insignificant share in the total public cost.

Even though the government is aspiring to provide compulsory and universal elementary education to all children, it does not mean that the pupils and/or their families are not spending at all on their education. This was revealed in our survey which was conducted in one of the development Blocks of Andhra Pradesh. In spite of the legal ban on the employment of children below 14 years, forgone earnings of the school-going children are found to be significantly larger. This may be due to poverty of the masses. These earnings are higher among the agricultural labourers and cultivators. High opportunity cost of education is also associated with the parental educational level and the

economic status of the family. That means parents with low educational and economic status are forgoing more due to their children's education. Besides this, expenditure on textbooks, stationery, fees etc., is also quite high. Class-wise analysis of private cost is also striking, in the sense that in some classes, like Class VII, this cost is higher than the succeeding class.

The total cost of elementary education in India is very high and the share of private costs in the total is also significant. It also points out the inegalitarian attitude of the educational system in the country. It emphasizes the need for diversification in the total cost of elementary education and also the importance of reducing the private costs through appropriate measures.

Conclusions

The unbridged and ever increasing gap between the faster rate of growth in the demand for educational facilities and the relatively monotonous growth rate in the supply of these facilities, at this level of education, paves the way for an increased enrolment with the same resources. In this process the quantitative aspect of education is emphasized at the expense of quality. This results in a decline in the per head facilities enjoyed by the pupils at this level

which partly explains the poor quality of our elementary education. However, the argument here is not to reduce the enrolment to improve quality. On the contrary the immediate necessity of our economy is to increase the resources allocated to the same, so that the quantitative expansion will not affect the quality of education substantially. To make it more clear an analysis of educational expenditure is in order at this stage.

A first glimpse at the pattern of allocation of resources clearly brings out the inadequacy of resources diverted to education in general and the insufficient funding to elementary education in particular. In comparison to the developed countries and many of the underdeveloped countries, our position in this respect is far from satisfactory. The insufficient resources act as a constraint on the educational system in different ways : (a) it affects the quality; (b) it fails to attract students; and (c) it fails to retain the already enrolled students.

The wastage due to dropouts and repeaters is considerably high, which pushes up the effective cost of elementary education. The lion share of the educational cost at this stage is in the form of salaries to teachers. This proportion has gone up in the recent period which obviously explains the declining trend in the non-teacher expenditure. This

changed trend again affects the retention, quality and the actual cost of elementary education. If this trend continues further, the discrepancy between the 'actual unit-cost' and the 'observed unit-cost' will increase continuously. To put it in other way, the difference between these two costs can be taken as a surrogate to explain the pattern of expenditure at this level.

Private cost of education constitutes direct cost and indirect cost or opportunity cost. In our study we analysed these two components separately to get the total private cost of elementary education. From our analysis it is evident that there exists a positive association between total private cost and parental occupation, educational level and family income. However, the analysis of the direct private costs tells a different story altogether. It is found that expenditure on textbooks, stationery, fees etc., remains more or less the same to all pupils in the same standard. In other words, these costs are independent of the three variables mentioned above. But when we analysed expenditure on clothing due to education, it is found that it varies directly with the income of the family. The inference that can be derived here is that the total direct cost (inclusive of clothing expenditure) has an association with our earlier findings that the individual components may be independent of the income level.

The other component, i.e., the opportunity cost of elementary education in the form of forgone earnings, constitutes major share of the total private cost. The results of our study show that opportunity cost depends upon the family income, educational level and occupation of the parent. There exists an inverse relationship between forgone earnings and the three variables under study. In other words, higher the socio-economic status of the parent, lower will be the opportunity cost of the pupil and thereby lower total cost. The corollary of which is apparently clear in the case of pupils whose parents are engaged in the agricultural activities. This may be due to the nature of farm work where children are quite useful and economically very active. This finding has, thus, far reaching implications. It reveals the fact that poorer the family, higher will be the real cost of education and vice versa. This is to be kept in mind to adopt a suitable policy for the realization of the constitutional provision.

The share of private cost in the total cost is as high as 80 per cent. Therefore a higher incidence of private costs increases the actual total cost. When this is taken together with our earlier results, it amounts to the fact that the burden of education is higher among the poorer sections of our society. This calls for a necessity of a differential

treatment at this level to achieve equality of educational opportunities. This may also improve the real economic position of the poor while taxing the rich.

Limitations of the Study

This study does not take into consideration the inter-state, for that matter intra-state, variations in the progress of universalization of elementary education as well as the unit-cost of it. It just touches the related problems at the national level, leaving the rest for an indepth study at a later stage. Separate studies relating to variations in enrolment and retention as well as the unit-cost of elementary education in various states are of crucial importance.

Secondly, the non-availability of data according to our needs and modern classification makes things difficult. Data are not available by item of expenditure which may be useful for the construction of educational price index. The most important limitation is that data relating to indirect expenditure are not available by level and type of education.

The third limitation is with respect to the field study. Since it was conducted in a Development Block which is agriculturally predominant, more or less the same situation is assumed to be prevalent in the whole of the country. This was done due to constraints of time and money. A study -

at the national or state level - to identify private costs could be conducted as a further extended scale, keeping the above mentioned shortcomings in mind.

In spite of these limitations and constraints, our study throws some light on an area which is of the greatest importance and also on an area that had not attracted much attention. It paves the way for enlarged and extended studies in future at this level of education. Inter-state and inter-regional variations in the progress of education as well as in costs are the need of the day.

Policy Implications

1. Critical Minimum Effort in Education

Educational resources in underdeveloped countries are so inadequate that it is not possible to utilize them efficiently. It is seldom possible to maintain the desired standards unless and until a 'critical minimum' of resources are spent. More so in case of elementary education in which there is an urgent need for increasing the 'attracting and holding power' of the school system. In other words, a minimum level of resources are needed at least to bring wastage down to tolerable level.

2. Changes in the Composition of the Total Cost of Elementary Education

Examining the trends in various components of public cost of elementary education and also the magnitude of the private cost at this level, one would certainly feel the need to change the composition of the total cost. As our study reveals, this may take place at two levels : (1) Reduction of the private cost of education; and (2) an increased share of public cost that needs to be devoted to non-teacher costs.

Mass poverty would not allow children to continue in school unless costs incurred by them are reduced significantly. This reduction of private costs may be effected by increasing the public cost. Though stepping up of public cost of education adds a burden to the State Exchequer, it is a must to realize our long cherished goal. Further subsidized elementary education may be given to the needy by increasing free supply of textbooks, stationery, uniforms, scholarships, freeships etc. Apart from this, there is a component of private cost - forgone earnings - that can be reduced with suitable changes in the vacation periods.

Until now our country has been spending more on the teacher-component of education and thus the share of other components is getting reduced year by year. At least by now we must put a planned effort to increase the share of non-

teacher costs at this level. Any increase in the share of non-teacher costs involves additional expenditure on buildings, equipment, teaching aids, playgrounds etc. This is much more important to improve the school system which at present is not good enough to attract and retain pupils.

3. Changes in Vacation Period

Vacations in our country do not coincide with the agricultural busy season. This is more important if one keeps in mind the child's economic role. Therefore, changes in the vacation period, particularly in rural areas, should be made keeping the agricultural seasons in view. This may result in :

(a) reducing the dropout rate which is a general phenomena in rural areas, and (b) reducing the net opportunity cost of education.

The former may be possible if the vacation coincides with agricultural busy season which helps pupils to work in the farm and/or at home in those days. Since the child is economically active in the busy period which is of crucial importance to the family, these pupils might be allowed to continue in schools. Also, since these pupils would work in holidays, which would now coincide with agricultural seasons, their net forgone earnings may be reduced; correspondingly, the private cost of education would also fall. To put it simply, a significant part of private costs may be reduced

if the child is allowed to work during holidays which should, of course, coincide with agricultural seasons.

4. Differential Treatment in Education

Since a less developed country like ours cannot afford to give subsidized education to all irrespective of their socio-economic background, it has to resort to differential treatment in education. This may be between pupils of elementary education and those of higher education or between the rich and the poor of the same level of education or both. In order to realize allocative efficiency and social efficiency and equity, the economy has to give subsidized education to the needy while the rest may be obliged to bear the full-cost of education. This would affect our society in two ways : (a) the disparity in income and wealth between rich and poor would be somewhat curtailed; and (b) the over-inflated social demand for higher education would be reduced.

5. Rechamelling of Resources

Since resources allocated to education are limited, we have to utilize them efficiently so as to gain maximum benefits. A significant part of our resources devoted to higher education is producing only unemployed and frustrated youth who are in turn creating social tensions. Moreover, higher education is aimed at only the limited privileged sections while illiterate masses are ignored. Since budgetary allocations

to education cannot be increased continuously, the larger interests of elementary education could only be met through cuts in higher education. It only means reducing the subsidies at this level and/or increasing the private cost that the rich must bear. The resources thus saved in higher education, must be rechannelled to elementary education. This is more essential and desirable. In other words, society should not show undue concern for higher education without raising the general literacy level of the masses.

An integrated approach to planning, focused on resource-based and need-based plans, would phase out the gradual changes and development at this level of education. Having seen the haphazard development over the last three decades, one would find this approach necessary to bridge the gap between demand and supply of educational facilities. So far, as we have seen, there has been hardly any planned improvement in the share of resources allocated to elementary education. In the allocation of resources, increases in the relevant age-group in future should also be taken into consideration. Until and unless we know the precise number of children to be enrolled in the coming years, it could not be possible to maintain the standards. In other words, for a proper allocation of resources, there must be a need based plan which incorporates the future requirements of schools,

given the inflow of pupils. In this way, our integrated approach tries to bring out a sort of compromise between resource-based and need-based plans.

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APPENDIX - I

Enrolment and rate of growth of elementary education in India during the planning period

	Enrolment in classes I-V (in lakhs)			Enrolment in classes VI-VIII (in lakhs)			Rate of increase in classes I-V			Rate of increase in classes VI-VIII		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1950-51	137.70	53.85	191.55	25.86	5.34	31.20	-	-	-	-	-	-
1951-52	141.82	56.28	198.10	27.99	5.89	33.88	2.99	4.51	3.42	8.24	10.30	8.59
1952-53	144.97	58.51	203.48	29.29	6.39	35.67	2.22	3.96	2.72	4.64	8.49	5.28
1953-54	153.56	63.16	216.72	31.03	7.26	38.29	5.93	7.95	6.51	5.94	13.62	7.35
1954-55	163.49	68.75	232.24	32.61	7.87	40.48	6.47	8.85	7.16	5.09	8.40	5.72
1955-56	175.28	76.39	251.67	34.26	8.67	42.93	7.21	11.11	8.37	5.06	10.17	6.05
1956-57	184.51	82.62	267.13	36.44	9.92	46.36	5.27	8.16	6.14	6.36	14.42	7.99
1957-58	194.04	87.66	281.70	38.35	10.93	49.28	5.17	6.10	5.45	5.24	10.18	6.30
1958-59	210.15	97.42	307.57	42.00	12.41	54.41	8.30	11.13	9.18	9.52	13.54	10.41
1959-60	222.96	105.24	328.19	46.21	14.31	60.52	6.10	8.03	6.70	10.02	15.31	11.23
1960-61	234.68	113.47	348.15	51.48	16.70	68.18	5.26	7.82	6.08	11.40	16.70	12.66
1961-62	259.84	131.18	391.02	56.08	18.62	74.70	10.72	15.61	12.31	8.94	11.50	9.56
1962-63	276.37	142.35	418.72	61.09	21.12	82.21	6.36	8.52	7.08	8.93	13.43	10.05
1963-64	291.21	154.29	445.50	66.85	23.57	90.42	5.37	8.39	6.40	9.43	11.60	9.99
1964-65	310.52	171.66	482.18	71.79	26.15	97.94	6.63	11.26	8.23	7.30	10.95	8.32
1965-66	321.78	182.93	504.71	76.86	28.46	105.32	3.63	6.57	4.67	7.06	8.83	7.54
1966-67	320.56	184.74	505.30	85.03	34.10	119.13	-0.38	0.99	0.12	10.63	19.82	13.11
1967-68	329.16	191.84	521.00	86.44	35.46	121.90	2.68	3.84	3.11	1.66	3.99	2.33
1968-69	341.57	202.12	543.69	89.89	35.48	125.37	3.77	5.36	4.35	3.99	0.05	2.84
1969-70	347.69	207.16	554.85	92.75	37.04	129.79	1.79	2.49	2.05	3.18	4.41	3.53
1970-71	357.39	213.06	570.45	94.26	38.90	133.15	2.79	2.85	2.81	1.63	5.00	2.59
1971-72	367.85	220.34	588.19	96.41	40.43	136.84	2.93	3.41	3.11	2.29	3.93	2.77
1972-73	388.22	235.79	624.01	99.54	43.03	142.57	5.54	7.01	6.09	3.25	6.44	4.19
1973-74	395.17	240.00	635.17	102.81	45.16	147.97	1.79	1.79	1.79	3.28	4.96	3.79
1974-75	402.67	245.89	648.56	105.82	47.84	153.66	1.90	2.45	2.11	2.93	5.93	3.85
1975-76	406.49	250.11	656.60	109.90	50.34	160.24	0.95	1.72	1.24	3.85	5.22	4.85
1976-77*	417.35	257.95	675.30	115.79	54.29	170.08	2.67	3.11	2.85	5.36	7.84	6.14
1977-78**	437.82	271.66	709.48	121.92	60.37	182.29	4.90	5.32	5.06	5.29	11.21	7.18

* Provisional

** Likely

APPENDIX - II(a)

Teacher-Pupil ratio in the first level of
education - An international comparison

S.No.	Group of countries/ country	1960	1965	1970	1975	1976
1.	World total	30	30	29	28	-
2.	Developed	26	24	23	21	-
3.	Developing	36	38	36	34	-
4.	Asian countries*	36	38	36	35	-
5.	U.S.A.	-	28	24	20	20
6.	U.K.	-	25	25	22**	N.A.
7.	France	-	25	23	18	18
8.	G.D.R.	-	21	20	25	24
9.	Japan	-	28	26	N.A.	25
10.	India	-	41	39	38	38

Note : *excluding China and Democratic
People's Republic of Korea.

**relates to 1974.

N.A. = Not Available.

Source : Statistical Year Book (1977), UNESCO,
(Paris, 1978).

APPENDIX - II(b)

Percentage distribution of enrolment by grade

<u>Country/ Year</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>
<u>U.S.A.</u>								
1965	14	13	13	13	12	12	12	11
1970	13	12	13	13	12	12	13	12
1975	15	14	14	14	15	16	6	6
1976	16	14	14	14	15	15	6	6
<u>India</u>								
1965	31.40	17.88	14.16	11.08	8.56	6.78	5.56	4.58
1970	29.13	17.53	13.94	11.31	9.13	7.40	6.28	5.28
1975	27.39	18.24	14.43	11.42	9.37	7.70	6.20	5.25
1976	26.92	17.85	14.54	11.43	9.50	7.67	6.59	5.50

Source : 1. Statistical Year Book (1977), UNESCO (Paris, 1978)

2. Percentages for India are calculated on the basis of the data given in 'Education in India', Annual Statistical Reports, published by Ministry of Education, Government of India.

ANNEXURE - III

Rate of growth of G.N.P., total educational expenditure and direct expenditure on elementary education in India

Year	G.N.P. (Rs. in millions)	Rate of growth	Total educat- ional expendi- ture (Rs. in millions)	Rate of growth	Total educat- ional expendi- ture on elemen- tary education (Rs. in millions)	Rate of growth
1950-51	95470	-	1143.80	-	441.80	-
1951-52	97570	2.20	1245.70	-8.91	491.20	11.18
1952-53	100860	3.37	1376.40	10.50	538.40	9.61
1953-54	107120	6.21	1477.40	7.34	567.90	5.48
1954-55	110250	2.92	1650.10	11.69	623.50	9.59
1955-56	114230	3.61	1896.60	14.94	691.40	10.89
1956-57	120500	5.49	2063.00	8.77	756.30	9.39
1957-58	118830	-1.39	2406.50	16.65	874.80	15.67
1958-59	128470	8.11	2661.50	10.60	954.00	9.05
1959-60	131000	1.97	3004.00	12.87	1048.70	9.93
1960-61	139990	6.86	3443.80	14.64	1163.70	10.97
1961-62	147990	5.71	3963.60	15.09	1315.10	13.01
1962-63	157270	6.27	4417.50	11.45	1484.00	12.84
1963-64	179780	14.31	4841.10	9.59	1603.40	8.05
1964-65	211130	17.44	5345.10	10.41	1805.50	12.61
1965-66	218660	3.57	6220.20	16.37	2130.00	17.97
1966-67	252500	15.48	6978.80	12.20	2410.40	13.16
1967-68	296120	17.28	8113.10	16.25	2853.60	18.38
1968-69	302930	2.30	8983.60	10.73	3181.90	11.50
1969-70	335210	10.66	10103.80	12.47	3618.40	13.72
1970-71	365820	9.13	11182.80	10.68	4055.00	10.76
1971-72	391470	7.01	12374.80	10.66	4464.60	10.10
1972-73	430930	10.08	13737.80	11.01	5003.40	12.06
1973-74	536956	24.60	-	-	-	-
1974-75	629130	17.17	18072.90	31.56	6775.00	35.41
1975-76	656920	4.42	21047.10	16.46	7872.90	16.21

APPENDIX - IV

Direct expenditure on elementary education (teacher cost and non-teacher cost) during 1950-51 and 1975-76

Year	Direct expenditure on elementary education (Rs. in lakhs at current prices)			Direct expenditure on elementary education (Rs. in lakhs at 1960-61 prices)			Unit (per pupil) cost (at current prices)				Unit cost (per pupil) (at 1960-61 prices)					
	Teacher salaries	Non-teacher costs	Total	Teacher salaries	Non-teacher costs	Total	Teacher cost		Non-teacher cost		Total cost	Teacher cost		Non-teacher cost		Total cost
							Rs.	% of Total	Rs.	% of Total		Rs.	% of Total	Rs.	% of Total	
1950-51	3237.00	1201.00	4418.00	3996.30	1341.90	5338.20	15.89	72.92	5.90	27.08	21.79	19.62	74.86	6.59	25.14	26.21
1951-52	4131.00	781.00	4912.00	4917.86	876.54	5794.40	19.46	89.10	3.68	15.90	23.14	23.16	84.87	4.13	15.13	27.29
1952-53	4483.00	901.00	5384.00	5401.21	1124.84	6526.05	20.53	83.25	4.13	16.75	24.66	24.74	82.77	5.15	17.23	29.89
1953-54	4658.00	1021.00	5679.00	5280.00	1260.49	6540.49	20.04	82.03	4.39	17.97	24.43	22.72	80.74	5.42	19.26	28.14
1954-55	5145.00	1090.00	6235.00	6431.25	1520.22	7951.47	20.75	82.50	4.40	17.50	25.15	25.94	80.89	6.13	19.11	32.07
1955-56	5704.00	1210.00	6914.00	7407.79	1632.93	9040.72	21.34	92.49	4.53	17.51	25.87	27.71	81.93	6.11	18.07	33.82
1956-57	6134.00	1429.00	7563.00	7132.56	1695.14	8827.70	21.66	81.09	5.05	18.91	26.71	25.19	80.79	5.99	19.21	31.18
1957-58	7393.00	1355.00	8748.00	8214.44	1561.06	9775.50	24.77	84.51	4.54	15.49	29.31	27.52	84.03	5.23	15.97	32.75
1958-59	8549.00	991.00	9540.00	8998.95	1096.24	10095.19	26.27	89.60	3.95	10.40	29.32	27.65	89.14	3.37	10.86	31.02
1959-60	9159.00	1328.00	10487.00	9251.52	1415.78	10667.30	26.31	87.32	3.82	12.68	30.13	26.58	83.98	4.07	12.86	31.65
1960-61	10123.00	1514.00	11637.00	10123.00	1514.00	11637.00	27.17	87.00	4.06	13.00	31.23	27.17	87.00	4.06	13.00	31.23
1961-62	11404.00	1747.00	13151.00	11071.84	1736.58	12808.42	27.41	86.71	4.20	13.29	31.61	26.61	86.45	4.17	13.55	30.78
1962-63	13021.00	1819.00	14840.00	12169.16	1729.09	13898.25	29.18	87.73	4.08	12.27	33.26	27.27	87.57	3.87	12.43	31.14
1963-64	14152.00	1882.00	16034.00	12749.55	1675.87	14425.42	29.75	88.25	3.96	11.75	33.71	26.81	88.39	3.52	11.61	30.33
1964-65	16404.33	1651.21	18055.54	13446.17	1325.21	14771.38	31.83	90.86	3.20	9.14	35.03	26.09	91.03	2.57	8.97	28.66
1965-66	19191.49	2109.09	21300.58	14762.68	1551.94	16314.62	35.58	90.10	3.91	9.90	39.49	27.42	90.50	2.88	9.50	30.30
1966-67	22082.23	1947.49	24029.72	15550.87	1279.56	16830.43	39.60	91.90	3.49	8.10	43.09	27.89	92.41	2.29	7.59	30.18
1967-68	25234.02	2301.95	28535.97	16709.57	1378.41	18087.98	45.65	91.93	4.01	8.07	49.66	29.08	92.38	2.40	7.62	31.48
1968-69	29272.38	2546.91	31819.29	18181.60	1528.76	19710.36	50.09	91.99	4.36	8.01	54.45	31.11	92.23	2.62	7.77	33.73
1969-70	33152.97	3030.92	36183.89	20092.71	1738.91	21831.62	55.51	91.62	5.08	8.38	60.59	33.65	92.04	2.91	7.96	36.56
1970-71	37304.00	3246.31	40550.31	21439.08	1782.71	23221.79	60.86	91.99	5.30	8.01	66.16	34.98	92.32	2.91	7.68	37.89
1971-72	41290.33	3355.33	44645.66	22939.07	1754.88	24693.95	65.31	92.48	5.31	7.52	70.62	36.29	92.88	2.78	7.12	39.07
1972-73	46280.41	3753.17	50033.58	24104.38	1735.97	25840.35	69.12	92.49	5.61	7.51	74.73	36.00	93.29	2.59	6.71	38.53
1973-74	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1974-75	63058.56	4690.75	67749.31	23355.02	1498.64	24853.66	90.69	93.07	6.75	6.93	97.44	33.59	93.96	2.16	6.04	35.75
1975-76	73306.87	5421.33	78728.20	26464.57	1790.40	28254.97	104.14	93.12	7.70	6.88	111.84	37.60	93.67	2.54	6.33	40.14

APPENDIX - V

Direct expenditure on elementary education, at current and constant prices (by object)

Year	Direct expenditure on elementary education (At current prices)				Direct expenditure on elementary education (At constant prices)			
	Teaching staff salaries	Other staff salaries	Non-salaries	Total	Teaching staff salaries	Other staff salaries	Non-salaries	Total
1	2	3	4	5	6	7	8	9
1964-65	16404.33 (90.95)	497.98 (2.76)	1153.23 (6.39)	18055.54 (100.00)	13446.17 (90.98)	408.18 (2.76)	925.55 (6.26)	14779.90 (100.00)
1965-66	19191.49 (90.10)	654.26 (3.07)	1454.82 (6.83)	21300.58 (100.00)	14762.68 (90.37)	503.28 (3.06)	1070.51 (6.52)	16336.47 (100.00)
1966-67	22082.23 (91.90)	681.42 (2.84)	1266.07 (5.26)	24029.72 (100.00)	15550.87 (92.22)	479.87 (2.85)	831.85 (4.93)	16862.59 (100.00)
1967-68	26234.02 (91.93)	770.89 (2.70)	1531.06 (5.37)	28535.97 (100.00)	16709.57 (92.23)	491.01 (2.71)	916.80 (5.06)	18117.38 (100.00)
1968-69	29272.38 (92.00)	840.86 (2.64)	1706.06 (5.36)	31819.29 (100.00)	18181.60 (92.16)	522.28 (2.65)	1024.05 (5.19)	19727.93 (100.00)
1969-70	33152.97 (91.69)	1081.92 (2.99)	1922.00 (5.32)	36156.89 (100.00)	20092.71 (91.95)	655.71 (3.00)	1102.70 (5.05)	21851.12 (100.00)
1970-71	37304.00 (91.99)	1255.10 (3.09)	1993.22 (4.92)	40550.31 (100.00)	21439.08 (92.19)	721.32 (3.10)	1094.57 (4.71)	23254.97 (100.00)
1971-72	41290.33 (92.49)	1319.03 (2.95)	2036.29 (4.56)	44645.66 (100.00)	22939.07 (92.73)	732.79 (2.96)	1065.00 (4.31)	24736.86 (100.00)
1972-73	46280.41 (92.50)	1461.14 (2.92)	2292.02 (4.58)	50033.58 (100.00)	24104.38 (92.98)	761.01 (2.94)	1060.14 (4.08)	25925.53 (100.00)
1973-74	N.A. (-)	N.A. (-)	N.A. (-)	N.A. (-)	N.A. (-)	N.A. (-)	N.A. (-)	N.A. (-)
1974-75	63058.56 (93.07)	2056.75 (3.04)	2634.00 (3.89)	67749.31 (100.00)	23355.02 (93.58)	761.76 (3.05)	841.53 (3.37)	24958.31 (100.00)
1975-76	73306.87 (93.11)	2313.30 (2.94)	3112.03 (3.95)	78728.20 (100.00)	26464.57 (93.42)	835.13 (2.94)	1027.75 (3.64)	28327.45 (100.00)

Note : Figures in peranthesis are percentages to the total.