

- (ii) Estimation of the total number of births during the period from 1975 to 1990 under the three assumptions of population growth rates to find out the number of births that can be averted by reducing the rate of population growth.
- (iii) Translation of the government's Education Policy into enrolment in the primary and middle schools.
- (iv) Estimation of social costs of primary and middle school education on the basis of school enrolment.
- (v) Estimation of the savings in the social costs of primary and middle school education per birth averted.
- (vi) Estimation of government outlays on the basis of school enrolment.
- (vii) Estimation of savings in government outlays per birth averted.

Population Projections

In order to estimate the number of children to be enrolled for primary and middle school education, population projections for the relevant age groups have been made up to 1990 on *three different assumptions* about the rate of population growth.

Under the *first assumption*, the projections have been prepared on the same basis as was used by the Planning Commission for the population projections for the Fifth Five-Year Plan [3]. The Planning Commission made its projections up to 1985 on the basis of an average growth rate of 3.0% during 1975-80 and of 2.9% for 1980-85. These projections have been extended to 1990 on the basis of an average growth rate of 2.8% during 1985-90. Under the *second assumption*, projections have been prepared on the basis of an average growth rate of 2.83% during 1975-80, of 2.67% during 1980-85 and of 2.50% during 1985-90. Under the *third assumption*, projections have been made on the basis of an average growth rate of 2.67% during 1975-80, of 2.33% during 1980-85 and of 2.20% during 1985-90. The assumptions used in the preparation of these projections have been briefly explained in Appendix I.

Population projections of the relevant age groups under the three assumptions are given in Appendix III, Table 1. The breakdown by sex of the two school-age groups is given in Appendix III, Table 2. Projected numbers of births as well as crude birth and death rates are given in Appendix III, Table 3.

The estimated total population as well as populations in the primary and middle school age groups in 1990, under the three assumptions of population growth, is shown in Table I alongwith the corresponding population in 1975, the base year.

Table I

Projected Population (in millions), 1975 and 1990, under Different Assumptions

| Population Categories | 1975 (Base year) | 1990 | | |
|--------------------------|------------------------|-----------------|------------------|-------------------|
| | | Assumption I | Assumption II | Assumption III |
| Total Population | 70.3 | 107.9 | 104.4 | 100.3 |
| Primary School Age Group | 10.1 | 15.4 | 14.4 | 12.8 |
| Middle School Age Group | 5.4 | 8.1 | 7.7 | 7.3 |

Source: Appendix III, Table 1.

It will be seen from the above figures that for the year 1990, the estimated primary school age population is 1.0 million less under Assumption II and 2.6 million less under Assumption III compared with that under Assumption I. Similarly, the middle school age population is 0.4 million less under Assumption II and 0.8 million less under Assumption II compared with the corresponding population under Assumption I.

The impact of changes in birth rate (which is reflected in changes in the rate of population growth) on the size of the primary school age population is felt after four years as the primary school age population for the first four years has already been born. Similarly, the impact of changes in birth rate of the size of middle school age population is felt after nine years, because the population for the first nine years of age has already been born. Thus over the period of fifteen years, for which projections have been made, the impact of changes in birth rate is greater on the size of the primary school age population than on the size of the middle school age population.

School Enrolment

The number of pupils to be on the rolls of primary and middle schools from 1975 to 1990 has been projected in line with the enrolment objectives of the Government Education Policy in respect of these two levels of education. These projections are given in Appendix III, Table 4. Projections for new enrolment for primary and middle schools from 1975 to 1990 are given in Appendix III, Table 5.

The estimated number of pupils to be on the rolls in primary and middle schools in 1990 compared with that in 1975 under the three assumptions of population growth is shown in Table II.

Table II

Projected Number of Pupils (in millions), 1975 and 1990, under Different Assumptions of Population Growth

| Year | Assumption I | | Assumption II | | Assumption III | |
|-----------------------|--------------|--------|---------------|--------|----------------|--------|
| | Primary | Middle | Primary | Middle | Primary | Middle |
| (A) 1990 | 15.4 | 8.1 | 14.4 | 7.7 | 12.8 | 7.3 |
| (B) 1975 | 6.1 | 2.0 | 6.1 | 2.0 | 6.1 | 2.0 |
| Increase (A) — (B) | 9.3 | 6.1 | 8.3 | 5.7 | 6.7 | 5.3 |

Source: Appendix III, Table 4.

The increase in the numbers of primary and middle school pupils will be very large. However, the number of primary school pupils in 1990 will be 1.0 million smaller under Assumption II and 2.6 million smaller under Assumption III than that under Assumption I. Similarly the number of middle school pupils will be 0.4 million smaller under Assumption II and 0.8 million smaller

under Assumption III compared with the corresponding number under Assumption I.

Social Costs

The social costs comprise the government-borne costs and the pupil-borne costs. The former include the direct costs in the form of teacher salaries etc. and indirect costs on account of amortization of school buildings and other capital assets. The latter include the direct costs in the form of books etc. and the indirect costs on account of the earnings foregone by the pupils.

The social costs for the implementation of the Government Education Policy for enrolment in primary and middle schools have been projected on the basis of unit costs estimates prepared by the Bureau of Educational Planning, Ministry of Education, Government of Pakistan [2], with certain modifications as explained in Appendix II.

The projections of costs have been prepared on the basis of

- (i) school buildings used for a single shift, schools with boundary walls for girls, and schools without boundary walls for boys; and
- (ii) school buildings with boundary walls used for two shifts, one shift for boys and the other shift for girls.

Social cost projections on the basis of single-shift use of school buildings are given in Appendix III, Table 6 and on the basis of double-shift use of buildings in Table 7 of the same Appendix.

The total cost of primary and middle school education in terms of the estimated value of the Pak Rupee in 1975 for the entire fifteen-year period from 1975 to 1990 on single and double shift basis under the three assumptions about population growth is summarised in Table III.

Table III

Cost of Education on Projected Numbers of Pupils (Million Rupees)

| Shift/Assumption | Primary School | Middle School | Total |
|---------------------|----------------|---------------|---------|
| <i>Single Shift</i> | | | |
| Assumption I | 60,005 | 41,751 | 102,556 |
| Assumption II | 58,047 | 41,229 | 100,076 |
| Assumption III | 56,336 | 40,712 | 97,088 |
| <i>Double Shift</i> | | | |
| Assumption I | 44,353 | 30,305 | 74,658 |
| Assumption II | 42,939 | 29,911 | 72,850 |
| Assumption III | 41,112 | 29,537 | 70,649 |

Source: Appendix III, Tables 6 and 7.

The cost estimates of primary and middle school education under the Government Education Policy are staggering. The costs increase from Rs. 2,172 million in 1975 to Rs. 5,674 million in 1990 under the lowest assumption of population growth rate and on the basis of double-shift use of school buildings (see Appendix III, Table 7). One may wonder if the Education Policy in respect of primary and middle school education is at all realistic. But a discussion of this question is beyond the scope of this paper. However, it will be seen from the above summary statement that with single-shift use of school buildings, there will be a saving of Rs. 2,480 million in the cost of primary and middle school education under Assumption II and of Rs. 5,508 million under Assumption III compared with the cost under Assumption I. But, if the school buildings are used for two shifts, the savings under Assumption II would amount to Rs. 1,808 million and those under Assumption III would be as high as Rs. 4,009 million.

There are 4.06 million fewer births under Assumption II and 9.07 million fewer births under Assumption III compared with those under Assumption I (Appendix III, Table 3).

The savings in the costs of primary and middle school education per birth averted are given below:

| | <i>Assumption II</i> | <i>Assumption III</i> |
|--|----------------------|-----------------------|
| <i>Single Shift</i> | | |
| A. Saving in expenditure (Million Rupees) | 2480 | 5508 |
| B. Births averted (Millions) | 4.6 | 9.07 |
| C. Saving per birth averted (A ÷ B) (Rupees) | 611 | 607 |
| <i>Double Shift</i> | | |
| A. Saving in expenditure (Million Rupees) | 1808 | 4009 |
| B. Births averted (Millions) | 4.06 | 9.07 |
| C. Saving per birth averted (A ÷ B) (Rupees) | 445 | 442 |

Thus it would seem that minimum savings in primary and middle school education exceed Rs. 440 per birth averted.

Government Outlays

The impact of different rates of population growth on primary and middle school education can also be examined in terms of government outlays for the implementation of the enrolment objectives of the Education Policy. The government outlays in a particular year include the direct costs, such as teacher-salaries, and capital costs for the construction of new school buildings required for the additional pupils enrolled during the year. But they exclude amortization costs as no current outlays are required for meeting these costs. As the exercise is limited to the government outlays only, the pupil-borne costs are also excluded. Estimates of government outlays on the basis of single-shift use of school buildings are given in Appendix III, Table 8 and on the basis of double-shift use of buildings in Table 9 of the same Appendix. The estimates of the outlays are summarised in Table IV.

Table IV

Estimated Government Outlays under Different Assumptions
(in million rupees)

| Shift/Assumption | Primary Schools | Middle Schools | Total |
|---------------------|-----------------|----------------|--------|
| <i>Single Shift</i> | | | |
| Assumption I | 29,092 | 23,285 | 52,377 |
| Assumption II | 27,306 | 22,592 | 49,898 |
| Assumption III | 24,794 | 21,747 | 46,541 |
| <i>Double Shift</i> | | | |
| Assumption I | 24,164 | 18,900 | 43,064 |
| Assumption II | 22,962 | 18,449 | 41,411 |
| Assumption III | 21,227 | 17,922 | 39,149 |

Source: Appendix III, Tables 8 and 9.

In the case of single-shift use of school buildings, there will be a saving of Rs. 2,479 million under Assumption II and of Rs. 5,836 million under Assumption III compared with the estimated outlays under Assumption I. The corresponding figures for savings in the case of double-shift use of buildings would be Rs. 1,653 million and Rs. 3,915 million respectively.

The savings in the government outlays on primary and middle school education per birth averted are given below:

| | <i>Assumption II</i> | <i>Assumption III</i> |
|---|----------------------|-----------------------|
| <i>Single Shift</i> | | |
| A. Saving in government outlays (Million Rupees) | 2,479 | 5,836 |
| B. Births averted (Millions) | 4.06 | 9.07 |
| C. Saving per birth averted (A ÷ B) (Rupees) | 611 | 643 |
| <i>Double shift</i> | | |
| A. Saving in government outlays (Million Rupees) | 1,653 | 3,915 |
| B. Births averted (Millions) | 4.06 | 9.07 |
| C. Saving per birth averted (A ÷ B) (Rupees) | 407 | 432 |

Conclusion

The rate of population growth has a great impact on the costs of primary and middle school education. Both the financial costs and the government outlays are substantially less under Assumptions II and III of population growth than under Assumption I. The savings in costs under Assumptions II and III, when divided by the number of births averted, give the savings per birth averted. Such savings are very substantial and range from Rs. 442 to Rs. 661

in the case of social costs and from Rs. 407 to Rs. 643 in the case of the government outlays.

It should be pointed out that the primary and middle schools education costs are a very small part of the total costs which the country has to bear to sustain an increasing population. If, due to a reduction in the rate of population growth, the savings in this very small part of the total costs are so substantial, the savings in total costs must be truly impressive. This shows that the returns on a properly conceived and efficiently implemented family planning programme can be very high. With proper effort, it should certainly be possible to reduce the population growth rate to 2.2% or to an even lower level during the next fifteen years.

Appendix I**Population Projections**

The projections of total population and of primary and middle school age populations have been prepared by using, as base, the Planning Commission's projections prepared for the Fifth Five-Year Plan [3]. The present set of projections provides estimates of population under two additional assumptions of growth. The projections under Assumption I are the same as the Planning Commission's above-mentioned projections up to the year 1985 but have been extended here to 1990. The target growth rates for the period 1985-90 under Assumptions I, II and III have been taken as 2.8%, 2.5% and 2.2% respectively.

The base population and the age-specific mortality schedules used in the three projections are the same as used in the Fifth Plan projections. So the variations in the growth rate targets reflect different patterns of fertility declines, which are indicated by the crude birth rates in five-year periods, under the three assumptions.

Table III shows the growth rates, crude birth and death rates and the estimated births during five-year periods under the three assumptions. The table also gives estimates of births averted under Assumptions II and III compared with those averted under Assumption I.

Appendix II**Unit Cost Estimates**

Unit cost estimates of primary and middle school education have been prepared by the Bureau of Educational Planning, Ministry of Education [2]. The costs are expressed in terms of the estimated value of the Pak Rupee in 1975 and are based on two alternative assumptions about the use of school buildings, namely, (i) single-shift use of school buildings with boundary walls for girls and without boundary walls for boys, and (ii) double-shift use of buildings with boundary walls. The costs include the government-borne costs and the pupil-borne costs. The former include the direct costs which cover teacher salaries etc. and indirect costs which cover the amortization of school buildings and of other capital assets. The amortization has been calculated on the basis of an 18% discount rate which has been taken as the opportunity cost of capital. The pupil-borne costs include the direct costs of books etc. to be purchased by the pupil and the indirect costs in the form of earnings foregone by the pupil.

The cost estimates used in this paper are exclusive of the earnings foregone by the pupil because it is questionable whether there are any social costs involved in the form of earnings foregone in the case of pupils up to the age of twelve years in a labour surplus economy like that of Pakistan.

The annual unit costs in terms of rupees per pupil, as estimated by the Bureau of Educational Planning, are given below:

| | (Rupees per pupil) | |
|---|--------------------|---------------|
| | <i>Primary</i> | <i>Middle</i> |
| I. Government-Borne Costs | | |
| A. Single Shift Schools* | | |
| (i) Direct Costs (Teacher salaries etc.) | 100 | 160 |
| (ii) Indirect Costs (amortization of buildings etc.) | | |
| (a) Schools without boundary walls | 183 | 274 |
| (b) Schools with boundary walls | 219 | 310 |
| B. Double Shift Schools** | | |
| (i) Direct Costs (Teacher salaries etc.) | 100 | 160 |
| (ii) Indirect Costs (amortization of buildings etc.) | 110 | 155 |
| II. Pupil-Borne Costs | | |
| Direct Costs (books etc.) | 30 | 40 |
| Indirect Costs (earnings foregone) | 456 | 1,064 |
| III. Capital Costs (per pupil) | | |
| School without boundary walls | 1,030 | 1,520 |
| School with boundary walls | 1,230 | 1,720 |

*Schools without boundary walls for boys and schools with boundary walls for girls.
 **Schools with boundary walls for boys and girls, one shift for boys and the other shift for girls.

Table 1
Population Projections, 1975 through 1990: Total, Primary School-Age and Middle School-Age (in millions)

| Years | Assumption I | | | Assumption II | | | Assumption III | | |
|-------|------------------|---|--|------------------|---|--|------------------|---|--|
| | Total Population | Primary School-Age (5-9 years) Population | Middle School-Age (10-12 years) Population | Total Population | Primary School-Age (5-9 years) Population | Middle School-Age (10-12 years) Population | Total Population | Primary School-Age (5-9 years) Population | Middle School-Age (10-12 years) Population |
| | 1975 | 70.3 | 10.1 | 5.4 | 70.3 | 10.1 | 5.4 | 70.3 | 10.1 |
| 1976 | 72.4 | 10.2 | 5.5 | 72.2 | 10.4 | 5.5 | 72.1 | 10.4 | 5.5 |
| 1977 | 74.5 | 10.7 | 5.6 | 74.3 | 10.7 | 5.6 | 74.1 | 10.7 | 5.6 |
| 1978 | 76.8 | 11.1 | 5.7 | 76.4 | 11.1 | 5.7 | 76.0 | 11.1 | 5.7 |
| 1979 | 79.1 | 11.4 | 5.8 | 78.6 | 11.4 | 5.8 | 78.1 | 11.4 | 5.8 |
| 1980 | 81.5 | 11.8 | 6.0 | 80.8 | 11.8 | 6.0 | 80.2 | 11.8 | 6.0 |
| 1981 | 83.8 | 12.1 | 6.2 | 83.0 | 12.0 | 6.2 | 82.0 | 11.9 | 6.2 |
| 1982 | 86.2 | 12.5 | 6.4 | 85.2 | 12.2 | 6.4 | 83.9 | 12.0 | 6.4 |
| 1983 | 88.7 | 12.8 | 6.6 | 87.5 | 12.5 | 6.6 | 85.9 | 12.1 | 6.6 |
| 1984 | 91.3 | 13.2 | 6.8 | 89.9 | 12.7 | 6.8 | 87.9 | 12.2 | 6.8 |
| 1985 | 94.0 | 13.6 | 7.0 | 92.3 | 12.9 | 7.0 | 89.9 | 12.3 | 7.0 |
| 1986 | 96.6 | 13.9 | 7.2 | 94.6 | 13.2 | 7.1 | 91.9 | 12.4 | 7.1 |
| 1987 | 99.3 | 14.3 | 7.4 | 97.0 | 13.5 | 7.3 | 93.3 | 12.5 | 7.1 |
| 1988 | 102.1 | 14.6 | 7.6 | 99.4 | 13.8 | 7.4 | 96.0 | 12.6 | 7.3 |
| 1989 | 105.0 | 15.0 | 7.9 | 101.9 | 14.1 | 7.6 | 98.1 | 12.7 | 7.3 |
| 1990 | 107.9 | 15.4 | 8.1 | 104.4 | 14.4 | 7.7 | 100.3 | 12.8 | 7.3 |

Appendix III

Table 2

Projected Primary and Middle School-Age Populations (by Sex): 1975 through 1990

(in thousands)

| Years | Primary School-Age (5-9) | | | | | | Middle School-Age (10-12) | | | | | |
|-------|--------------------------|--------|---------------|--------|----------------|--------|---------------------------|--------|---------------|--------|----------------|--------|
| | Assumption I | | Assumption II | | Assumption III | | Assumption I | | Assumption II | | Assumption III | |
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1975 | 5,280 | 4,788 | 5,280 | 4,788 | 5,280 | 4,788 | 2,811 | 2,536 | 2,811 | 2,536 | 2,811 | 2,536 |
| 1976 | 5,448 | 4,944 | 5,488 | 4,944 | 5,488 | 4,944 | 2,573 | 2,594 | 2,573 | 2,594 | 2,573 | 2,594 |
| 1977 | 5,622 | 5,103 | 5,622 | 5,103 | 5,622 | 5,103 | 2,938 | 2,653 | 2,938 | 2,653 | 2,938 | 2,653 |
| 1978 | 5,801 | 5,268 | 5,801 | 5,268 | 5,801 | 5,268 | 3,004 | 2,713 | 3,004 | 2,713 | 3,004 | 2,713 |
| 1979 | 5,985 | 5,439 | 5,985 | 5,439 | 5,985 | 5,439 | 3,071 | 2,775 | 3,071 | 2,775 | 3,071 | 2,775 |
| 1980 | 6,176 | 5,615 | 6,176 | 5,615 | 6,176 | 5,615 | 3,140 | 2,839 | 3,140 | 2,839 | 3,140 | 2,839 |
| 1981 | 6,346 | 5,783 | 6,292 | 5,720 | 6,233 | 5,666 | 3,240 | 2,931 | 3,240 | 2,931 | 3,240 | 2,931 |
| 1982 | 6,520 | 5,957 | 6,401 | 5,328 | 6,290 | 5,718 | 3,344 | 3,027 | 3,344 | 3,027 | 3,344 | 3,027 |
| 1983 | 6,700 | 6,135 | 6,530 | 5,937 | 6,347 | 5,778 | 3,452 | 3,125 | 3,452 | 3,125 | 3,452 | 3,125 |
| 1984 | 6,844 | 6,319 | 6,653 | 6,049 | 6,406 | 5,824 | 3,562 | 3,227 | 3,562 | 3,227 | 3,562 | 3,227 |
| 1985 | 7,073 | 6,509 | 6,778 | 6,162 | 6,465 | 5,877 | 3,677 | 3,332 | 3,677 | 3,332 | 3,677 | 3,332 |
| 1986 | 7,243 | 6,677 | 6,921 | 6,293 | 6,510 | 5,919 | 3,783 | 3,428 | 3,746 | 3,395 | 3,711 | 3,363 |
| 1987 | 7,418 | 6,848 | 7,068 | 6,425 | 6,557 | 5,960 | 3,892 | 3,528 | 3,818 | 3,460 | 3,746 | 3,395 |
| 1988 | 7,596 | 7,025 | 7,217 | 6,562 | 6,603 | 6,003 | 4,005 | 3,629 | 3,890 | 3,526 | 3,781 | 3,426 |
| 1989 | 7,779 | 7,206 | 7,370 | 6,700 | 6,645 | 6,045 | 4,120 | 3,734 | 3,964 | 3,592 | 3,817 | 3,458 |
| 1990 | 7,966 | 7,392 | 7,526 | 6,842 | 6,697 | 6,088 | 4,239 | 3,842 | 4,039 | 3,661 | 3,852 | 3,491 |

Appendix III

Table 3

*Projected Enrolments (by Sex) in Primary and Middle School:
1975 through 1990*

| Period | 1975—80 | 1980—85 | 1985—90 |
|----------------------------------|------------|------------|------------|
| <i>Assumption I</i> | | | |
| Number of births (in five years) | 16,817,229 | 18,558,580 | 20,459,887 |
| Population growth rate (%) | (3.0) | (2.9) | (2.8) |
| Crude birth rate (per thousand) | 44.4 | 42.4 | 40.6 |
| Crude death rate (per thousand) | 14.4 | 13.4 | 12.6 |
| <i>Assumption II</i> | | | |
| Number of births (in five years) | 16,092,238 | 17,362,482 | 18,321,805 |
| Population growth rate (%) | (2.83) | (2.67) | (2.5) |
| Crude birth rate (per thousand) | 42.7 | 40.2 | 37.3 |
| Crude death rate (per thousand) | 14.4 | 13.5 | 12.3 |
| <i>Assumption III</i> | | | |
| Number of births | 15,282,022 | 15,449,882 | 16,033,885 |
| Population Growth rate (%) | (2.67) | (2.33) | (2.2) |
| Crude birth rate (per thousand) | 40.7 | 36.4 | 33.8 |
| Crude death rate (per thousand) | 14.0 | 13.1 | 11.8 |

Total births in 15 years

| | | |
|--------------------------|---|------------------|
| (a) Under Assumption I | = | 55,835,696 |
| (b) Under Assumption II | = | 51,776,525 |
| (c) Under Assumption III | = | 46,765,789 |
| Difference (a) — (b) | = | 4,059,171 births |
| Difference (a) — (c) | = | 9,069,907 births |

Table 4

Projected Enrolments (by Sex) in Primary and Middle Schools: 1975 through 1990

(in thousands)

| Years | Primary School Enrolments | | | | | | Middle School Enrolments | | | | | |
|-------|---------------------------|--------|---------------|--------|----------------|--------|--------------------------|--------|---------------|--------|----------------|--------|
| | Assumption I | | Assumption II | | Assumption III | | Assumption I | | Assumption II | | Assumption III | |
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1975 | 4,013 | 2,107 | 4,013 | 2,107 | 4,013 | 2,107 | 1,335 | 644 | 1,335 | 644 | 1,335 | 644 |
| 1976 | 4,478 | 2,472 | 4,478 | 2,472 | 4,478 | 2,472 | 1,581 | 820 | 1,581 | 820 | 1,581 | 820 |
| 1977 | 4,947 | 2,883 | 4,947 | 2,883 | 4,947 | 2,883 | 1,836 | 1,003 | 1,836 | 1,003 | 1,836 | 1,003 |
| 1978 | 5,453 | 3,308 | 5,453 | 3,308 | 5,453 | 3,308 | 2,103 | 1,194 | 2,103 | 1,194 | 2,103 | 1,194 |
| 1979 | 5,985 | 3,753 | 5,985 | 3,753 | 5,985 | 3,753 | 2,380 | 1,393 | 2,380 | 1,393 | 2,380 | 1,393 |
| 1980 | 6,176 | 4,222 | 6,176 | 4,222 | 6,176 | 4,222 | 2,669 | 1,601 | 2,669 | 1,601 | 2,669 | 1,601 |
| 1981 | 6,346 | 4,626 | 6,292 | 4,656 | 6,233 | 4,612 | 2,997 | 1,835 | 2,997 | 1,835 | 2,997 | 1,835 |
| 1982 | 6,520 | 5,218 | 6,401 | 5,105 | 6,290 | 5,009 | 3,344 | 2,082 | 3,344 | 2,082 | 3,344 | 2,082 |
| 1983 | 6,700 | 5,706 | 6,530 | 5,569 | 6,347 | 5,413 | 3,452 | 2,344 | 3,452 | 2,344 | 3,452 | 2,344 |
| 1984 | 6,844 | 6,319 | 6,653 | 6,049 | 6,406 | 5,824 | 3,562 | 2,620 | 3,562 | 2,620 | 3,562 | 2,620 |
| 1985 | 7,073 | 6,509 | 6,778 | 6,162 | 6,465 | 5,877 | 3,677 | 2,912 | 3,677 | 2,912 | 3,677 | 2,912 |
| 1986 | 7,243 | 6,677 | 6,921 | 6,293 | 6,510 | 5,919 | 3,783 | 3,209 | 3,746 | 3,178 | 3,711 | 3,147 |
| 1987 | 7,418 | 6,848 | 7,068 | 6,425 | 6,557 | 5,960 | 3,892 | 3,528 | 3,918 | 3,460 | 3,746 | 3,395 |
| 1988 | 7,596 | 7,025 | 7,217 | 6,562 | 6,603 | 6,003 | 4,005 | 3,629 | 3,890 | 3,526 | 3,781 | 3,426 |
| 1989 | 7,779 | 7,206 | 7,370 | 6,700 | 6,645 | 6,045 | 4,120 | 3,734 | 3,964 | 3,592 | 3,111 | 3,458 |
| 1990 | 7,966 | 7,392 | 7,526 | 6,842 | 6,697 | 6,088 | 4,239 | 3,842 | 4,039 | 3,661 | 3,852 | 3,491 |

Appendix III

Table 5

Year-Wise Increments (by Sex) in Projected Primary and Middle School Enrollments: 1975 through 1990
(in thousands)

| Years | Year-wise increments in Primary School Enrollments | | | | Year-wise increments in Middle School Enrollments | | | | | | | |
|-------|--|--------|---------------|--------|---|--------|--------------|--------|---------------|--------|----------------|--------|
| | Assumption I | | Assumption II | | Assumption III | | Assumption I | | Assumption II | | Assumption III | |
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1975 | — | — | — | — | — | — | — | — | — | — | — | — |
| 1976 | 465 | 365 | 465 | 365 | 465 | 365 | 246 | 176 | 246 | 176 | 246 | 176 |
| 1977 | 469 | 411 | 469 | 411 | 469 | 411 | 255 | 183 | 255 | 183 | 255 | 183 |
| 1978 | 506 | 425 | 506 | 425 | 506 | 425 | 265 | 191 | 265 | 191 | 265 | 191 |
| 1979 | 532 | 445 | 532 | 445 | 532 | 445 | 277 | 199 | 277 | 199 | 277 | 199 |
| 1980 | 191 | 469 | 191 | 469 | 191 | 469 | 289 | 208 | 289 | 208 | 289 | 208 |
| 1981 | 170 | 404 | 116 | 434 | 57 | 390 | 328 | 234 | 328 | 234 | 328 | 234 |
| 1982 | 174 | 592 | 109 | 449 | 57 | 397 | 347 | 247 | 347 | 247 | 347 | 247 |
| 1983 | 180 | 488 | 129 | 464 | 57 | 404 | 108 | 262 | 108 | 262 | 108 | 262 |
| 1984 | 144 | 613 | 123 | 480 | 59 | 411 | 110 | 276 | 110 | 276 | 110 | 276 |
| 1985 | 229 | 190 | 125 | 113 | 59 | 53 | 115 | 292 | 115 | 292 | 115 | 292 |
| 1986 | 170 | 168 | 143 | 131 | 45 | 42 | 106 | 297 | 69 | 266 | 34 | 235 |
| 1987 | 175 | 171 | 147 | 132 | 47 | 41 | 109 | 319 | 72 | 282 | 35 | 248 |
| 1988 | 178 | 177 | 149 | 137 | 46 | 43 | 113 | 101 | 72 | 125 | 35 | 31 |
| 1989 | 183 | 181 | 153 | 138 | 42 | 42 | 115 | 105 | 74 | 61 | 36 | 32 |
| 1990 | 187 | 186 | 156 | 142 | 52 | 43 | 119 | 108 | 75 | 69 | 35 | 33 |

Table 6

Projected Social Costs of Single-Shift Primary and Middle School Education (by Sex): 1975 through 1990
(million rupees)

| Years | Primary | | | | | | Middle | | | | | |
|--------|--------------|--------|---------------|--------|----------------|--------|--------------|--------|---------------|--------|----------------|--------|
| | Assumption I | | Assumption II | | Assumption III | | Assumption I | | Assumption II | | Assumption III | |
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1975 | 1256 | 735 | 1256 | 735 | 1256 | 735 | 633 | 328 | 633 | 328 | 633 | 328 |
| 1976 | 1402 | 863 | 1402 | 863 | 1402 | 863 | 744 | 418 | 744 | 418 | 744 | 418 |
| 1977 | 1548 | 1006 | 1548 | 1006 | 1548 | 1006 | 870 | 512 | 870 | 512 | 870 | 512 |
| 1978 | 1707 | 1154 | 1707 | 1154 | 1707 | 1154 | 997 | 609 | 997 | 609 | 997 | 609 |
| 1979 | 1873 | 1310 | 1873 | 1310 | 1873 | 1310 | 1128 | 710 | 1128 | 710 | 1128 | 710 |
| 1980 | 1933 | 1473 | 1933 | 1473 | 1933 | 1473 | 1265 | 817 | 1265 | 817 | 1265 | 817 |
| 1981 | 1986 | 1614 | 1969 | 1625 | 1951 | 1610 | 1421 | 936 | 1421 | 936 | 1421 | 936 |
| 1982 | 2041 | 1821 | 2004 | 1782 | 1969 | 1748 | 1585 | 1062 | 1585 | 1062 | 1585 | 1062 |
| 1983 | 2097 | 1991 | 2044 | 1944 | 1987 | 1889 | 1636 | 1195 | 1636 | 1195 | 1636 | 1195 |
| 1984 | 2142 | 2205 | 2082 | 2111 | 2005 | 2033 | 1688 | 1336 | 1688 | 1336 | 1688 | 1336 |
| 1985 | 2214 | 2272 | 2122 | 2151 | 2024 | 2051 | 1743 | 1485 | 1743 | 1485 | 1743 | 1485 |
| 1986 | 2267 | 2330 | 2166 | 2196 | 2038 | 2066 | 1793 | 1637 | 1776 | 1621 | 1759 | 1605 |
| 1987 | 2322 | 2390 | 2212 | 2242 | 2052 | 2080 | 1845 | 1799 | 1810 | 1765 | 1776 | 1731 |
| 1988 | 2378 | 2452 | 2259 | 2290 | 2067 | 2095 | 1898 | 1851 | 1844 | 1798 | 1792 | 1747 |
| 1989 | 2435 | 2515 | 2387 | 2338 | 2080 | 2110 | 1953 | 1904 | 1879 | 1832 | 1809 | 1764 |
| 1990 | 2493 | 2580 | 2355 | 2388 | 2096 | 2125 | 2009 | 1959 | 1914 | 1867 | 1826 | 1780 |
| Total: | 32094 | 28711 | 31239 | 27608 | 29988 | 26348 | 23213 | 18538 | 22938 | 18291 | 22677 | 18035 |

Table 7
Projected Social Costs of Double-Shift Primary and Middle School Education (by Sex): 1975 through 1990
 (million rupees)

| Years | Primary | | | | | | Middle | | | | | |
|---------------|--------------|--------|---------------|--------|----------------|--------|--------------|--------|---------------|--------|----------------|--------|
| | Assumption I | | Assumption II | | Assumption III | | Assumption I | | Assumption II | | Assumption III | |
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1975 | 963 | 506 | 963 | 506 | 963 | 506 | 474 | 229 | 474 | 229 | 474 | 229 |
| 1976 | 1075 | 593 | 1075 | 593 | 1075 | 593 | 561 | 291 | 561 | 291 | 561 | 291 |
| 1977 | 1187 | 692 | 1187 | 692 | 1187 | 692 | 652 | 356 | 652 | 356 | 652 | 356 |
| 1978 | 1309 | 794 | 1309 | 794 | 1309 | 794 | 747 | 424 | 747 | 424 | 747 | 424 |
| 1979 | 1436 | 901 | 1436 | 901 | 1436 | 901 | 845 | 495 | 845 | 495 | 845 | 495 |
| 1980 | 1482 | 1013 | 1482 | 1013 | 1482 | 1013 | 947 | 568 | 947 | 568 | 947 | 568 |
| 1981 | 1523 | 1110 | 1510 | 1117 | 1496 | 1107 | 1064 | 651 | 1064 | 651 | 1064 | 651 |
| 1982 | 1565 | 1252 | 1536 | 1225 | 1510 | 1202 | 1187 | 739 | 1187 | 739 | 1187 | 739 |
| 1983 | 1608 | 1369 | 1567 | 1337 | 1523 | 1299 | 1225 | 832 | 1225 | 832 | 1225 | 832 |
| 1984 | 1643 | 1517 | 1597 | 1452 | 1537 | 1398 | 1265 | 930 | 1265 | 930 | 1265 | 930 |
| 1985 | 1698 | 1562 | 1627 | 1479 | 1552 | 1410 | 1305 | 1034 | 1305 | 1034 | 1305 | 1034 |
| 1986 | 1738 | 1602 | 1661 | 1510 | 1562 | 1421 | 1343 | 1139 | 1330 | 1120 | 1317 | 1117 |
| 1987 | 1780 | 1644 | 1696 | 1542 | 1574 | 1430 | 1382 | 1252 | 1355 | 1228 | 1330 | 1205 |
| 1988 | 1823 | 1686 | 1732 | 1575 | 1585 | 1441 | 1422 | 1288 | 1381 | 1252 | 1342 | 1216 |
| 1989 | 1867 | 1729 | 1769 | 1608 | 1595 | 1451 | 1463 | 1326 | 1407 | 1275 | 1355 | 1228 |
| 1990 | 1912 | 1774 | 1806 | 1642 | 1607 | 1461 | 1505 | 1364 | 1434 | 1300 | 1367 | 1239 |
| Total: | 24609 | 19744 | 23953 | 18986 | 22993 | 18119 | 17387 | 12918 | 17179 | 12732 | 16983 | 12554 |

Table 8

Projected Government Outlays on Single-Shift Primary and Middle School Education (by Sex): 1975 through 1990
(million rupees)

| Years | Primary | | | | | | Middle | | | | | |
|---------|--------------|--------|---------------|--------|----------------|--------|--------------|--------|---------------|--------|----------------|--------|
| | Assumption I | | Assumption II | | Assumption III | | Assumption I | | Assumption II | | Assumption III | |
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1975 | 401 | 211 | 401 | 211 | 401 | 211 | 214 | 103 | 214 | 103 | 214 | 103 |
| 1976 | 927 | 696 | 927 | 696 | 927 | 696 | 627 | 434 | 627 | 434 | 627 | 434 |
| 1977 | 978 | 794 | 978 | 794 | 978 | 794 | 682 | 475 | 682 | 475 | 682 | 475 |
| 1978 | 1066 | 854 | 1066 | 854 | 1066 | 854 | 739 | 520 | 739 | 520 | 739 | 520 |
| 1979 | 1147 | 922 | 1147 | 922 | 1147 | 922 | 802 | 565 | 802 | 565 | 802 | 565 |
| 1980 | 815 | 999 | 815 | 999 | 815 | 999 | 866 | 614 | 866 | 614 | 866 | 614 |
| 1981 | 810 | 960 | 748 | 1000 | 682 | 941 | 979 | 696 | 979 | 696 | 979 | 696 |
| 1982 | 831 | 1250 | 752 | 1033 | 688 | 989 | 1062 | 758 | 1062 | 758 | 1062 | 758 |
| 1983 | 855 | 1171 | 786 | 1128 | 694 | 1038 | 716 | 539 | 716 | 539 | 716 | 539 |
| 1984 | 868 | 1386 | 792 | 1195 | 702 | 1088 | 737 | 894 | 737 | 894 | 737 | 894 |
| 1985 | 943 | 885 | 807 | 755 | 708 | 653 | 763 | 968 | 763 | 968 | 763 | 968 |
| 1986 | 899 | 875 | 839 | 790 | 697 | 644 | 766 | 1024 | 704 | 966 | 646 | 908 |
| 1987 | 922 | 895 | 858 | 805 | 704 | 646 | 789 | 1113 | 720 | 1039 | 652 | 970 |
| 1988 | 943 | 921 | 875 | 825 | 707 | 653 | 813 | 755 | 731 | 779 | 658 | 601 |
| 1989 | 966 | 944 | 895 | 840 | 708 | 656 | 834 | 778 | 746 | 689 | 666 | 608 |
| 1990 | 990 | 968 | 914 | 859 | 724 | 662 | 859 | 801 | 760 | 705 | 669 | 616 |
| Total : | 14361 | 14731 | 13600 | 13706 | 12348 | 12446 | 12248 | 11037 | 11848 | 10744 | 11478 | 10269 |

Table 9

Projected Government Outlays in Double-Shift Primary, Middle and Total (Primary and Middle) School Education (Both Sexes): 1975 through 1990
(million rupees)

| Years | Primary Education | | | Middle Education | | | Total (Primary and Middle) | | |
|--------|-------------------|---------------|----------------|------------------|---------------|----------------|----------------------------|---------------|----------------|
| | Assumption I | Assumption II | Assumption III | Assumption I | Assumption II | Assumption III | Assumption I | Assumption II | Assumption III |
| 1975 | 612 | 612 | 612 | 317 | 317 | 317 | 929 | 929 | 929 |
| 1976 | 1205 | 1205 | 1205 | 747 | 747 | 747 | 1952 | 1952 | 1952 |
| 1977 | 1324 | 1324 | 1324 | 830 | 830 | 830 | 2154 | 2154 | 2154 |
| 1978 | 1448 | 1448 | 1448 | 919 | 919 | 919 | 2367 | 2367 | 2367 |
| 1979 | 1575 | 1575 | 1575 | 1013 | 1013 | 1013 | 2588 | 2588 | 2588 |
| 1980 | 1445 | 1445 | 1445 | 1111 | 1111 | 1111 | 2556 | 2556 | 2556 |
| 1981 | 1451 | 1433 | 1359 | 1257 | 1257 | 1257 | 2708 | 2690 | 2616 |
| 1982 | 1645 | 1494 | 1409 | 1378 | 1378 | 1378 | 3023 | 2872 | 2787 |
| 1983 | 1652 | 1574 | 1459 | 1245 | 1245 | 1245 | 2897 | 2819 | 2704 |
| 1984 | 1782 | 1641 | 1512 | 1321 | 1321 | 1321 | 3103 | 2962 | 2833 |
| 1985 | 1616 | 1440 | 1304 | 1404 | 1404 | 1404 | 3020 | 2844 | 2708 |
| 1986 | 1600 | 1490 | 1297 | 1464 | 1395 | 1329 | 3064 | 2885 | 2626 |
| 1987 | 1640 | 1521 | 1306 | 1555 | 1470 | 1385 | 3195 | 2991 | 2691 |
| 1988 | 1681 | 1554 | 1314 | 1406 | 1356 | 1210 | 3087 | 2910 | 2524 |
| 1989 | 1723 | 1586 | 1321 | 1445 | 1330 | 1223 | 3168 | 2916 | 2544 |
| 1990 | 1765 | 1620 | 1337 | 1488 | 1356 | 1233 | 3253 | 2976 | 2570 |
| Total: | 24164 | 22962 | 21227 | 18900 | 18449 | 17922 | 43064 | 41411 | 39149 |

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