CHAPTER VII

SUMMARY, FINDINGS AND CONCLUSION

INTRODUCTION

7.1.1. The importance of Education in economic development has been realised by the economists since the period of Adam Smith. Amadou-Mahtar M'Bow, the Director General, UNESCO has rightly said in the meeting of senior officials of the Ministry of Education of the 25 least developed countries, Paris (8th September 1975), "Education is regarded as a prime factor in development, not only because it provides the means of training the national leaders, and specialists who are essential in the conditions of present-day technology, but also because it is an essential element in enabling a nation's people as a whole to arrive at a better appreciation of their situation

and of the constraints to which it is subject, so that they may more successfully take charge of their own destiny." [1] It is considered as a vital sub-system of the economic system. The global public expenditure as percentage of Gross National Product has increased from 5 percent in 1965 to 5.7 percent in 1972. The percentage of annual average increase is greater in respect of public expenditure than that of the Gross National Product. Education enables to transfer new skills to the members of the labour force so that they can make use of new productive techniques which are related to economic development. Education also influences economic development through changing the attitude of consumers, workers and management.

7.1.2. Primary Education which precedes secondary, tertiary levels of education becomes the lever of development, because the basic skills in reading, writing and computation imparted in primary stage are indispensable for the formation and development of specific skills. The end result of Primary Education is 'effective permanent literacy' which leads to mobility, productivity and innovativeness.

7.1.3. Mary Bowman and C.A.Anderson established the relationship between literacy and Gross National Product. They found that countries which had Gross National Product over $ 300 invariably had literacy over 40 percent.

7.1.4. In India, Chaudhry obtained a positive relationship between literacy and yield per worker, literacy and

1. United Nations Economic & Social Council E/ICEF/L.1958 dated 15th February 1977. p.9.

yield per acre and primary education and yield per acre. He also analysed the other causal links. He found education of farmers and demand for fertilizers are positively correlated.

7.1.5. Using a Cobb Douglas production function Baldev Singh showed that the level of farm production is significantly higher on farms where the decision maker is literate.

7.1.6. A rank order correlation analysis made by us in respect of developmental districts of Tamil Nadu clearly showed significant positive correlation between agricultural production per work force in agriculture and literacy. The coefficient was .4295.

Limitations

7.1.8. B.Myint says education may also play a dysfunctional role. For example, literate village youths may become averse to farming. He also points out that primary education plays only a passive role as compared to the active roles of higher and technical education.

7.1.9. Gautam Mathur argues that correlation is not causation. He stresses the need to demonstrate a double relationship between literacy and agricultural productivity.

Education and Family Planning

7.1.10. L.A.Brown found that family planning programme and other developmental activities are successful in countries where the population had gained access to education and other modern economic services. His analysis on fertility

levels of women, established definite relationship between education level and family size.

7.1.11. P.R.Gopinathen Nair recently found that education together with public health facilities formed an essential precondition for bringing down birth rate in Kerala.

7.1.12. Leela Gulati also concluded in a similar study that a mere shift in the age of marriage had no effective impact on birth rates in Kerala without well dispersed medical and public health services as well as positive facilities for female education.

7.1.13. Bhaskar D.Misra, using data on Indian states, found a positive relationship between family planning performance and literacy percentage and Gross National Product and a negative relationship between literacy rates and crude birth and death rates.

7.1.14. These studies indicate an inter-relationship among primary education, literacy, agricultural productivity and family planning which produces a significant impact on other developmental programmes. Further denying Primary Education to the common man takes away from him certain rights so essential for democracy. Amadou-Mahtar M'Bow, Director General, UNESCO said "In the poorer countries, about half the population aged 15 and over is illiterate and thus cut off from direct access to the sources of knowledge and denied the possibility of exercising certain of their rights to the full, for which in modern societies a minimum of instruction is required." [2]

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2. United Nations Economic & Social Council. Ibid. p.9.

GROWTH OF PRIMARY EDUCATION IN TAMIL NADU

7.2.1. The public expenditure on Primary Education at all India level increased from Rs 44.30 crores in 1950-51 to Rs 500 crores (estimate) in 1973-74, but the percentage of expenditure on Primary Education to total expenditure decreased from 38.73 to 37.04 over the same period. The expenditure on Primary Education as percentage of Gross National Product increased from 0.43 to 0.96 over the period, which implies that the effort taken is substantial.

7.2.2. An inter-state comparison shows that efforts taken by Tamil Nadu figure better in comparison to the efforts taken at all India level. The percentage of education budget to Net Domestic Product was 3.26 for Tamil Nadu as against 3 percent for all India.

7.2.3. The absolute expenditure on Primary Education in Tamil Nadu increased from Rs 658 lakhs in 1956-56 to the phenomenal figure of Rs 5867 lakhs in 1975-76, but in percentage to total expenditure on education, it decreased from 60.2 percent to 50.4 percent whereas the percentages and absolute expenditure uniformly increased at the secondary and tertiary levels. There is therefore a definite need to reverse the trend in view of importance of primary education for economic and social development and also because of the fact that primary education covers a wider base.

Enrolment ratio in Primary Education in India

7.2.4. The total enrolment ratios in 1950-51 for lower primary and higher primary levels were 42.6 and 12.9

respectively. They increased to 63.8 and 36.00 in 1973-74. This achievement is quite impressive but the ratio for higher primary level is far less than the ratio for lower primary level. Percentage variations over previous years show that the impact reached maximum in the year 1965-66 for both levels.

7.2.5. An inter-state comparison shows that the enrolment ratios forTamil Nadu are considerably better than the enrolment ratios at all India level. There is definite positive relation between enrolment in lower primary level and higher primary level (r = 0.7314). The coefficient of variation was greater for higher primary levels.

7.2.6. A multiple correlation analysis between enrolment ratios at lower and higher primary levels of India with socio-economic correlates, indicated a definite relationship. It was found that the variations in enrolment are influenced by the school facilities provided, the literacy level attained by the people (parents) especially by their female members, the number of inhabited villages and the rural urban composition of the people, the proportion of incidence of scheduled caste and scheduled tribe population, per capita revenue resources of the states, per capita income and per capita expenditure on primary education.

7.2.7. A comparison with all India growth trends in enrolment shows that progress in Tamil Nadu in this sphere is more impressive at the higher primary level.

7.2.8. An inter-temporal analysis of enrolment in primary level in Tamil Nadu shows that there is an inexplicable deceleration in enrolment at higher primary level since

1970-71. It may be due to the strong impact of poverty of the parents forcing them to retain the children in odd jobs to supplement their earnings.

7.2.9. In respect of Tamil Nadu, a multiple correlation analysis between enrolment ratios at lower and higher primary levels of education in Tamil Nadu with socio-economic correlates of Tamil Nadu, clearly showed that enrolment ratios interdepend on school facilities provided, literacy of the people and females and that the rural population, number of villages, incidence of scheduled caste and scheduled tribe population and agricultural workers act against the grainsof educational expansion.

7.2.10. A study using coefficient of variation carried out to identify the divergence or convergence of enrolment in districts over the period 1960-61 to 1975-76, at lower primary level showed there is convergence in respect of girls' enrolment. Similar trend is not discernible in respect of boys.

7.2.11. Indepth analysis in respect of scheduled caste and scheduled tribe whose non-enrolment acts as a major constraint in universalisation of primary education revealed the following facts :

(a) There is considerable disparity in literacy rates Scheduled caste = 21.8 percent, Scheduled tribe = 9.3 percent, Non-scheduled caste and scheduled tribe = 43.6 percent.

(b) Relative rates of literacy is less than 0.3 for scheduled tribes.

(c) The inequalities between scheduled castes and scheduled tribes and non-scheduled castes and scheduled tribes progressively widen along with levels of education.

(d) Relative schooling rates are less than 0.7 for scheduled castes and less than 0.4 for scheduled tribes.

(e) There is likely to be a substantial reduction in the disparities in future as the relative schooling rates are higher than the relative literacy rates.

7.2.12. Another major constraint of universalisation of primary education is the education of girls. A detailed study shows that the overall growth in enrolment of girls in both the stages during the plan periods is well above that of the all India level of attainment. Yet there is wide disparity between percentage of enrolment of boys and girls and this is more pronounced at the higher primary stage.

7.2.13. An important input in improving enrolment at primary level is the school lunch programme. Studies carried out by the UNESCO and Indian Nutrition specialists established the adverse effects of malnutrition in school performance. Such poor performance due to malnutrition affects enrolment. In Tamil Nadu, 71.1 percentage of population in urban areas and 73.8 percentage of population in rural areas live below the poverty line. Therefore, provision of midday meals is a necessary incentive. A study using mean annual percentage of growth in enrolment shows distinct improvement over the decade 1955-56 to 1965-66.

FACTOR COST OF PRIMARY EDUCATION IN TAMIL NADU

7.3.1. Normally all available educational statistics deal only with public expenditure on education but sometimes they are published under the misleading general term 'costs'. 'Resources costs' in the real sense including private costs are estimated for primary education in Tamil Nadu in this study. The significant and unique features of this study are :

(i) For the first time a state-level sample survey has been conducted to ascertain private expenditure on fees, books, stationery, uniforms and other items. This avoids rough estimation of private expenditure.

(ii) Data on earnings foregone have been worked out on the basis of integrated national sample survey covering 17,636 illiterates and 13,165 persons who had passed Standard V. This also avoids rough estimation of earnings foregone.

(iii) Allocation of typewise expenditure has been made on a more rational basis in computing levelwise expenditure.

7.3.2. The total factor costs for Tamil Nadu are as per our special studies are :

	Percentage of earnings foregone included	(Rs in lakhs) Lower primary	Higher primary	Primary (Total)
Private ..	50	2446.68	3269.14	5715.82
.. ..	100	3443.29	5958.63	9401.92
Social cost ..	50	6999.63	5036.18	12035.81
.. ..	100	7996.24	7725.67	15721.91

7.3.3. Unit costs at 50 percent labour participation rate of earnings foregone are :

		(per year) Lower primary	Higher primary
		Rs	Rs
Private	..	48.40	262.23
Social	..	138.33	403.87

Private unit costs are comparatively lower than social costs.

7.3.4. The percentage of units costs to per capita Net State Domestic Product of Tamil Nadu are :

		Lower primary	Higher primary
Private	..	7.8	42.4
Social	..	22.3	65.3

7.3.5. The social cost of primary education (I to VIII standards) works out to be 6.23 percent of the Net State Domestic Product under the assumption of 100 percent participation of children (upper estimate) and 4.78 percent of the Net State Domestic Product for 50 percent participation (lower estimate).

EXTERNAL EFFICIENCY OF PRIMARY EDUCATION

7.4.1. As education absorbs nearly one-fourth of the State budget, it is important to make effective use of the resources available. This study prescribes a five pronged strategy to improve the efficiency of the system of education : (1) To provide school facilities, (2) To enrol all children in the age-group, (3) To hold those

enrolled children till the target is reached, (4) To set appropriate objectives and (5) To endeavour to achieve the objectives. A system of management by objectives is suggested.

7.4.2. The major weaknesses at this stage are 'wastage and stagnation'. There are three methods of assessing wastage : (1) Apparent cohort method, (2) Reconstructed cohort method and (3) True cohort method. Each of these methods has its own merits and demerits.

7.4.3. The largest study on wastage and stagnation carried out in India by R.C.Sharma and C.L.Sapra showed that in 1950-60, the wastage at lower primary level (I to V standards) was 65.3 percent and at the higher primary level (VI to VIII standards) it was 22 percent.

Wastage structure in Tamil Nadu

7.4.4. The detailed study on wastage carried out by the State Planning Commission in Tamil Nadu showed that the mean wastage over 1957-58 to 1970-71, upto Standard V was 82.7 percent and upto Standard VIII, it was 73 percent. That is out of 100 enrolled in Standard I only 27 reach Standard VIII, the rest either dropout or stagnate. The study also revealed that the percentage of wastage was higher in respect of girls.

7.4.5. An inter-district analysis made in respect of wastage in education upto Standard V over the period 1970-74 showed that the incidence was maximum in the backward districts of Dharmapuri and Salem and the wastage percentage was as high as 50 to 60 percent. Kanyakumari was the district with the lowest percentage of 27.

7.4.6. A case study of Government Primary School, Kothaigraman (Kanyakumari District) carried out under Reconstructed cohort method suggested by UNESCO, showed that the input/output ratio was 1.8. The reciprocal of this ratio known as coefficient of efficiency, works out to be 0.55, the optimum being 1.00.

7.4.7. Because of the incidence of educational wastage, scarce resources are often wasted and hence unit costs go on escalating. P.R.Gopinathan Nair computed in his paper 'effective costs of education in India' the state-wise excess cost of education for a functional literate person (4 year of schooling) and for a person who had completed the primary stage of education (7 years completed and reached standard VIII). At the all India level, the total excess cost was 85.7 percent for the former category and it was 127.2 percent for the latter. The respective excess costs for Tamil Nadu were 69.5 percent and 149.7 percent.

7.4.8. We estimated the cost of wastage in Tamil Nadu, adopting the method followed by R.C.Sharma and C.L.Sapra and found that the wastage over the period 1957-58 to 1960-61 (4 years) was Rs 150.19 lakhs. Similar computation of excess cost upto primary level (VIII Standard) worked out to be Rs 211.05 lakhs.

7.4.9. It is found that poor economic status of parents, inability by the management to provide better facilities in schools are the major factors contributing to wastage. C.B.Padmanabhan analysed in his paper 'Output of primary school in different states' that the output in primary schools is predominantly influenced by the economic factors particularly the level of per capita Gross National

Product and the contribution made by the industrial sector to per capita income.

7.4.10. Another study carried out by the agricultural research centre, University of Delhi, confirmed that the external factors like income and caste are possibly far more relevant in explaining wastage in primary education rather than the set of internal factors affecting quality of education.

7.4.11. Special studies carried out in Tamil Nadu also confirmed to the above findings. The poor economic status was a major factor. Incidence of wastage is higher among Scheduled Caste, Scheduled Tribe and Backward Class pupils and in rural areas.

7.4.12. A special study undertaken by the Indian Institute of Public Opinion, New Delhi, for the UNICEF, showed that 71 percent of the dropouts parents income in Dharmapuri was only upto Rs 100 per mensem.

7.4.13. A current study on dropouts carried out at the Santhome Out of School Project in Tamil Nadu showed that 72 percent of the dropouts belonged to families with income less than Rs 100 per mensem. The wastage aspect was pronounced in respect of children whose parents are less educated. The dropouts themselves have recorded that poverty was the main cause for their discontinuing education. 77 percent of the dropouts in the project belonged to scheduled castes, scheduled tribes and backward communities.

7.4.14. A District level study carried out in Coimbatore also showed similar results. 60 percent of the dropouts

belonged to families with income below Rs 1000 per annum. The headmasters of primary schools in this area considered that 74 percent of dropouts and 84 percent of stagnation were directly due to economic causes. The study also revealed that the dropout percentage declined in respect of the midday meal beneficiaries (only 2.1 percent of dropouts).

7.4.15. Practical measures : Streamlining the curriculum to suit the felt needs of the society is essential. Teaching methods should also be modified to individualise instruction. Accountability should be introduced in managerial system. Meaningful research should also be undertaken to pinpoint specific areas and zones of weakness.

SPECIAL STUDIES ON PUPIL-TEACHER RATIO

7.5.1. In Tamil Nadu an analysis of Education Expenditure reveals that we spend more than 80 percent of the budget amount on salaries to teachers and therefore this becomes the vital area which requires attention in bringing cost-effectiveness. Pupil-teacher ratio is the index to measure the teacher provision.

7.5.2. 70 percent of the primary schools in Tamil Nadu are managed by elected local bodies known as Panchayat Unions. An indepth study carried out in 24 schools in 4 sample blocks (Panchayat Unions) showed that there are practices which act against the principle of cost-effectiveness. Once these areas are tightened up there will be a definite improvement.

7.5.3. Monthly average attendnce of pupils in a school is not taken as the basis for sanctioning new teachers; instead, the average attendance in all schools in the Union is considered as criteria and this is not rational. This also resulted in disparities in sanction of teachers' posts in Panchayat Union schools. In 24 schools surveyed, only 7 schools had teachers as per norms.

7.5.4. Random check attendance showed that the actual attendance was less than the reported attendance and on applying norms for teaching grant it was found that 8 percent of staff were maintained eventhough they were surplus. This was probably due to boosting of the attendance figures which was found upto 32 percent but so much of disparity was not reported during the visit by the Inspecting Officers.

7.5.5. There was definitely a tendency to exaggerate the actual attendance as grants of teachers' posts are linked with attendance. In fact, in 4 schools there was no sufficient strength as per Government norms but still the schools were there without closure which amounts to wastage of resources as per the existing norms.

7.5.6. Further, as already seen, taking the whole Panchayat Union as basis for assessment of teaching grant, results in uneven distribution of teachers in schools. This mars the efficiency of the system because certain schools are under-staffed though there are sufficient. teachers in the Block, while certain schools 'suffered' from surplus teachers.

7.5.7. In another study relating to schools coming under all managements it was found that number of effective

school places (actual accommodation) act as a limiting factor in sanctioning teachers' posts. In some of the schools even though the average attendance of pupils required allotment of more teachers, optimalnumber of teachers cannot be allowed because of lack of accommodation in terms of effective school places. Accommodation is not there. But children over and above the accommodation are admitted. Strangely, teachers are sanctioned for the accommodation available. This affects teachers. But this is an urban phenomenon. The rural picture is different.

7.5.8. A recent quick survey carried out by us showed that (a) the average attendance falls short of enrolment by 10 to 50 percent and (b) this shortage was more in respect of Panchayat Union schools in rural areas than the schools under other managements in urban areas.

7.5.9. A special state level survey also showed that the percentage of average attendance in Panchayat Union schools was least: 70.3 percent for lower primary level and 72.0 percent for higher primary level.

7.5.10. Pupil-teacher ratio was also least in Panchayat Union schools. 27 for lower primary level and 19 for higher primary level.

7.5.11. On the basis of the experience gained through the studies, it is suggested to implement an alternative pupil-teacher ratio. Kothari Commission (1964-1966) recommended 50 and 35 as pupil-teacher ratio for lower and higher primary levels. The State Planning Commission (Tamil Nadu) recommended 37 and 33 respectively.

7.5.12. An exercise in costing showed that about 70 lakhs could be saved by adopting the pupil-teacher ratio recommended by the Task Force on Education Science and Technology, State Planning Commission for which Dr.Malcolm S.Adiseshiah was the chairman.

7.5.13. The following recommendations are made :

(a) To implement the norms set by the State Planning Commission

(b) To rationalise the system of sanctioning teaching grant to Panchayat Union schools

(c) To introduce check-measures over attendance in Panchayat Union schools

(d) To absorb excess teachers in due course in future vacancies

(e) To introduce a system of better management.

ASSESSING THE ECONOMIC CONTRIBUTION OF PRIMARY EDUCATION IN TAMIL NADU

7.6.1. A study of progressive rates of growth of primary education and higher education shows that higher education in India has expanded at a much faster pace than primary education.

7.6.2. Educational economists hypothesise that if the modern sector-traditional sector income differential is greater, the demand for education will also be greater. A study using Indian data, showed that there is positive correlation between the modern-tradition-sector-wage-differential and educational demand as represented by enrolment ratios. The coefficients are positive in respect

of both lower and higher primary levels and it is significant at 0.01 level for higher primary level (r=0.473).

Inter-temporal comparison

7.6.3. S.C.Goel made a correlation analysis between enrolment ratios and State Domestic Product of different states over the period 1960-61 to 1966-67. It was found that the correlation was significant and high almost in all states. This tested the hypothesis that the aggregate private demand for education goes up with the growth of per capita income, provided education yields greater capacity to enjoy culture and leisure than the monetary and non-monetary satisfactions derived from investment in physical or share capital at a point of time when the decision to invest in education is taken.

Inter-State comparison

7.6.4. A correlation analysis made between the enrolment ratio at primary level and per capita income for different states separately for two periods, 1960-61 and 1966-67, gave us the following findings :

7.6.5. The coefficient of correlation (r) and rank correlation (rs) between education and growth in one state education and growth in another state showed that r = .30 and rs = .28 in 1960-61. They are .41 and .62 for 1966-67. It is noted that the coefficients of correlation are higher in 1966-67 than in 1960-61, which could either be interpreted as the effect of education on income or as better adjustment between the demand for education and per capita income.

Literacy and per capita income

7.6.6. A rank order analysis made by us between per capita Net State Domestic Product and percentage of literacy in 1970-71 showed significant correlation. The rank correlation coefficient is .475 which implies the positive relationship between literacy and income and the magnitude of correlation is moderate. It can be either way; Gross National Product influencing literacy level and literacy percentage affecting the Gross National Product.

Opinionnaire on literate farmers

7.6.7. To test the hypothesis further by a micro study, we studied the performance of literate farmers by using an opinionnaire to Agricultural Extension Officers and Researchers. They were normally in contact with 41,570 farmers per annum. They opined that in all aspects literate farmers performed better. The total favourable weighted scores is 78. Itemwise analysis shows over 82 percent of favourable entries.

State sample on earnings

7.6.8. An analysis on earnings of persons according to qualification as collected through National Sample Survey (1971) showed wage differentials. Lower primary school completers (I to V standards) earn Rs 606 per annum. more than illiterates and higher primary school completers (VIII standard) earn Rs 189 per annum more than lower primary school completers.

Shankar Nagar (Cement complex)

7.6.9. Another study (1976) specially undertaken by us covering all workers of the India Cement Factory, Shankar

Nagar, Tamil Nadu showed the following earning differentials :

Earning differential of lower primary school completers over illiterates	.. Rs 35.3 p.m.
Earning differential of higher primary school completers over lower primary school completers	.. Rs161.3 p.m.

Kaienlavan Study—Effects on family size

7.6.10. Literacy effect on size of the family is the most crucial result at a juncture when our economy is threatened by population explosion. As seen in global studies, our micro study also established the hypothesis that as general education of individuals improved, the family size decreased. The percentage of workers with 7 to 10 members was 60 in case of illiterates and it was 10.5 in case of middle school completers.

Productivity and education

7.6.11. An opinionnaire administered on foremen who are the supervisors of workers in the same factory proved the hypothesis that primary education improved the quality of work and productivity. Interest in knowing more techniques scored 89.5 percent the highest. Even the least score was 80.3 percent for attitude to work.

Effects of education on construction workers

7.6.12. We studied (1976) from the responses of contractors who engaged totally 1,412 workers, the effect of education on construction workers. The salient findings are :

(i) Earnings increased with qualification

(ii) Primary education is a pre-requisite for supervisor/maistry's job (more than 90 percent consider)

(iii) Workers with primary education do quality work.

Unit costs of primary education

7.6.13. The unit costs relating to primary education in Tamil Nadu are given below :

	Lower primary	Higher primary
	Rs	Rs
(a) Private unit costs (100 percent participation) ..	68.10	477.61
(b) Institutional unit costs ..	89.90	141.36
(c) Social unit costs (100 percent participation) ..	158.33	619.25

Rates of return

7.6.14. Based on the unit costs, rates of return for I to V standards and I to VIII standards have been worked out :

RATES OF RETURN ON PRIMARY EDUCATION IN TAMILNADU, 1970-71

Qualification	Years	Rates of return	
		Private	Social
Lower primary education over illiterates	5	39.6	22.4
Primary education over illiterates	8	14.2	11.1

Findings

7.6.15. (i) The social rates of return are less than the private rates of return, as the Government shares the major portion of education expenditure at primary level.

(ii) The rate of return is greater in respect of lower primary level (5 years of schooling) than in the case of higher primary level, i.e., (VIII standard completers with 8 years of schooling).

(iii) The private rates of return from one level to the other decreased more steeply than the social rates of return and this poses a constraint to improving enrolment at higher primary level and in attaining the universalisation of primary education upto VIII standards.

(iv) If the normal bank rate is considered as 8 percent the rates of return of lower primary level is more profitable than the rates for complete primary level (VIII standard).

Conclusion

7.7. This fascinating study of 'The Economic Aspects of Growth of Primary Education in Tamil Nadu' has revealed in no unmistakable terms the facts about the spread of primary Education in Tamil Nadu, its areas of functional economic impact and also its dismal dysfunctional zones. Our studies and indepth investigations have clearly borne out of the fact that Primary Education has an impact on economic and social levels and it acts as a catalytic

agent for the upward mobility of the wage earner. We have also suggested various measures to plug the loop-holes so that the huge amounts spent from the public exchequer may have better returns leading to greater academic and economic satisfaction, at the same time bringing down to the minimal level, the diverse factors plaguing the Primary Education set up in Tamil Nadu.